

**BEML LIMITED**

(A Govt. of India Mini Ratna Company under Ministry Of Defence)  
BANGALORE COMPLEX, POST BOX: 7501, NEW THIPPASANDRA POST,  
BANGALORE-560075

**NOTICE INVITING TENDER**

**BEML SRM E-Tender No: 6300040481 dated 20/04/2026; Due date 27/04/2026 @ 17:00 HRS**

**Subject: Procurement of “Cable Accessories & Electrical Accessories” for Standard Gauge High Speed Train Project (Chair Car - Design/Operating Speed 280/249 kmph).**

**This Tender consists of the following documents:**

- (a) Notice Inviting Tender (NIT)
- (b) Non-Disclosure Agreement
- (c) BEML Drawings & TDC:
- (d) ReverseAuction\_Terms (Applicable in case Reverse Auction Event is conducted)

Bidders may submit their queries on the NIT document, if any, by email to [ravikumar.adepu@bemltd.in](mailto:ravikumar.adepu@bemltd.in) / [Prasanna.n@bemltd.in](mailto:Prasanna.n@bemltd.in) or contact on 080-25022639 / 080-25022634

Quotations are invited from Original Equipment Manufacturer (OEM) for Railway Rolling stock having experience in design, manufacturing, testing and commissioning in accordance with the enclosed terms and conditions by the due date mentioned below”

Quotations should be submitted in Two-Bid system in SRM PLATFORM portal as below:

- 1) Technical Bid
- 2) Commercial Bid

**Enclosure :** As above.

**Note: - The tender consists of 42 no. of pages including this page.**

No representation would be entertained on any errors if found in the NIT. However, vendors to bring such errors/omissions to the notice of BEML for necessary corrective action.

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### DETAILS OF THE TENDER

1. This "Notice Inviting Tender" hereinafter referred to as the 'NIT' is designated as the tender for **Procurement of "Cable Accessories & Electrical Accessories" for Standard Gauge High Speed Train Project (Chair Car - Design/Operating Speed 280/249 kmph).**
2. The Bidders are advised to carefully go through the General Terms and Conditions that has been enclosed along with this NIT.
  - a. All entries in the NIT shall be in English either typed or written legibly. Erasing, over-writings and use of correction fluids are not permitted. All cancellations and insertions if any should be duly signed / attested by bidder concerned.
  - b. All the documents shall be uploaded in BEML SRM Platform.
  - c. In case, it comes to the knowledge of BEML that the bidder has submitted false information before awarding of contract then the offer would be rejected.
  - d. In the event, it comes to the knowledge of BEML that the successful bidder has submitted false information, subsequent to the award of contract, the contract shall be cancelled/short closed by the company and shall invoke Risk purchase clause with liabilities on such bidder for the entire contract quantity.
3. In case any person/persons, Company, firm, Associations having any litigation, arbitration cases between themselves and BEML Ltd, pending before any court of law/ Arbitrator shall not be eligible to participate in this tender.
4. Non-compliance with any of the tender conditions, incomplete offers, conditional and ambiguous offers are not acceptable and liable for rejection.
5. BEML reserves the right to accept or reject all tenders or any tender in part or full without assigning any reasons thereto, which is final & binding on the Bidder.
6. Bids of firms having any history of pending litigations, default in and Risk purchase against previous orders of BEML (including all Divisions) are liable for rejection at any stage if found at later stage. Hence, Bidders are requested to cross-check at their end before participation in the Tender.
7. **The tender consists of two parts as indicated below:**

Sl. No.	Nature of Bid	Mode of Submission	Details
1	<b>Technical Bid</b>	<b>BEML SRM platform</b>	<ul style="list-style-type: none"> <li>• Integrity pact. Bidders should upload duly filled, signed &amp; stamped with two witnesses in Integrity Pact if the bid submission value is more than Rs 1 Cr. If the bid submission value is less than 1 Cr, Self-declaration has to be submitted on Bidder's letter head by the bidder stating "Integrity Pact is not submitted as the bid submission value is less than 1 Cr".</li> <li>• Non-Disclosure Agreement as per prescribed format provided by BEML</li> <li>• Clause by Clause Compliance to BEML Drawings &amp; Technical Delivery Conditions (TDC)</li> <li>• Detailed BoM to be provided/submitted against each tendered line item along with technical bid</li> <li>• Clause by Clause compliance to General terms &amp;</li> </ul>

			conditions of NIT. <ul style="list-style-type: none"> <li>• Clause by Clause compliance to Annexure-X.</li> <li>• Confidentiality agreement</li> <li>• MII (Make in India) declaration.</li> <li>• Compliance to Land Border Clause</li> </ul>
2	Commercial Bid	BEML SRM platform	Price details in specified field on BEML SRM platform.

### 8. Details of Items, Services & Required Delivery Schedules:

<b>TABLE – 1 (A) : CABLE ACCESSORIES</b>										
Sl.no.	Part No.	Description	UoM	Qty/Car				MOCK UP	QTY/TS	Qty required (2 TS+ 1 MOCK UP)
				DTC	MC	TC-Std	TC-Ex			
1	84320622	CONDUIT CLAMP - BGPM-1X10	NO	1	0	17	17	1	36	73
2	84320623	CONDUIT CLAMP - BGPM-1X12	NO	50	14	41	41	50	238	526
3	84320624	CONDUIT CLAMP - BGPM-1X17	NO	101	81	67	67	101	660	1421
4	84320625	CONDUIT CLAMP - BGPM-1X23	NO	12	25	56	56	12	236	484
5	84320626	CONDUIT CLAMP - BGPM-1X29	NO	9	12	5	5	9	76	161
6	84320627	CONDUIT CLAMP - BGPM-1X36	NO	12	42	46	46	12	284	580
7	84320628	CONDUIT CLAMP - BGPM-1X48	NO	6	4	15	15	6	58	122

8	84320629	CONDUIT CLAMP - BGPM-2X12	NO	9	37	40	40	9	246	501
9	84320630	CONDUIT CLAMP - BGPM-2X17	NO	40	32	35	35	40	278	596
10	84320631	CONDUIT CLAMP - BGPM-2X23	NO	25	24	41	41	25	228	481
11	84320632	CONDUIT CLAMP - BGPM-2X29	NO	3	27	26	26	3	166	335
12	84320633	CONDUIT CLAMP - BGPM-2X36	NO	10	47	43	43	10	294	598
13	84320634	CONDUIT CLAMP - BGPM-2X48	NO	6	3	3	3	6	30	66
14	84320636	CONDUIT CLAMP - BGPM-3X12	NO	0	3	1	1	0	14	28
15	84320637	CONDUIT CLAMP - BGPM-3X17	NO	10	7	23	23	10	94	198
16	84320638	CONDUIT CLAMP - BGPM-3X23	NO	3	25	21	21	3	148	299
17	84320639	CONDUIT CLAMP - BGPM-3X29	NO	26	37	44	44	26	288	602
18	84320640	CONDUIT CLAMP - BGPM-3X36	NO	20	36	43	43	20	270	560
19	84320641	CONDUIT CLAMP - BGPM-4X12	NO	4	4	3	3	4	30	64
20	84320642	CONDUIT CLAMP - BGPM-4X17	NO	10	6	21	21	10	86	182

21	84320643	CONDUIT CLAMP - BGPM-4X23	NO	52	8	19	19	52	174	400
22	84320644	CONDUIT CLAMP - BGPM-4X36	NO	8	8	20	20	8	88	184
23	84320645	ADAPTER - BGPMK-12/ 9 - 5	NO	25	22	6	6	25	150	325
24	84320646	ADAPTER - BGPMK-17/15-11	NO	36	20	37	37	36	226	488
25	84320647	ADAPTER - BGPMK-23/20-16	NO	1	33	17	17	1	168	337
26	84320648	ADAPTER - BGPMK-29/22-18	NO	0	21	8	8	0	100	200
27	84320649	ADAPTER - BGPMK-29/25-21	NO	0	12	21	21	0	90	180
28	84320650	ADAPTER - BGPMK-36/28-24	NO	0	0	55	55	0	110	220
29	84320651	ADAPTER - BGPMK-48/43-39	NO	0	1	20	20	0	44	88
30	84320680	ADAPTER - BGPMK-23/18-14	NO	0	1	16	16	0	36	72
31	84320652	REDUCER - BGPMR-12T/17	NO	19	4	23	23	19	100	219
32	84320653	REDUCER - BGPMR-17GT/23	NO	10	47	21	21	10	250	510
33	84320654	REDUCER - BGPMR-23GT/29	NO	3	50	14	14	3	234	471
34	84320655	REDUCER - BGPMR-29GT/36	NO	7	44	63	63	7	316	639
35	84320656	REDUCER - BGPMR-36GT/48	NO	6	6	7	7	6	50	106
36	84320657	REDUCER - BGPMR-10T/17	NO	3	0	0	0	3	6	15

<b>TABLE – 1 (B) : ELECTRICAL ACCESSORIES</b>											
S/n	Part NO	Description	Uom	Qty/Car				Qty for 1 Train Set	Qty for 2 Train Set	Qty for 1 Mock Up Car	Qty for 2 Train Set +1 Mock Up Car
				DTC	MC	TC-Std	TC-Ex				
<b>I) END FITTINGS</b>											
1	84320601	End Fitting - M20NW12	No	18	20	17	17	150	300	18	318
2	84320602	End Fitting - M20NW17	No	23	19	40	40	202	404	23	427
3	84320603	End Fitting - M25NW23	No	23	16	9	9	128	256	23	279
4	84320604	End Fitting - M32NW23	No	47	53	57	57	420	840	47	<b>887</b>
5	84320605	End Fitting - M32NW29	No	3	19	15	15	112	224	3	227
6	84320606	End Fitting - M40NW29	No	-	17	28	28	124	248	-	248
7	84320607	End Fitting - M40NW36	No	-	8	9	9	50	100	-	100
8	84320608	End Fitting - M50NW36	No	29	45	41	41	320	640	29	<b>669</b>
9	84320609	End Fitting - M50NW48	No	3	3	3	3	24	48	3	51
10	84320610	End Fitting - M63NW48	No	-	-	10	10	20	40	-	40
<b>II) CONDUITS</b>											
11	84320611	Conduit - NW7	M	25	-	-	-	50	100	25	125
12	84320612	Conduit - NW10	M	65	73	40	40	502	1,004	65	1,069
13	84320613	Conduit - NW12	M	80	143	72	72	876	1,752	80	1,832
14	84320614	Conduit - NW17	M	208	171	200	200	1,500	3,000	208	3,208
15	84320615	Conduit - NW23	M	255	321	228	228	2,250	4,500	255	4,755
16	84320616	Conduit - NW29	M	192	238	206	206	1,748	3,496	192	3,688
17	84320617	Conduit - NW36	M	141	204	201	201	1,500	3,000	141	3,141
18	84320618	Conduit - NW48	M	14	20	20	20	148	296	14	310
<b>III) CABLE GLANDS</b>											
19	84320619	Cable Gland - M16 x 1.5	No	-	4	-	-	16	32	-	32

20	84320620	Cable Gland - M32 x 1.5	No	-	12	8	8	64	128	-	128
21	84320621	Cable Gland - M32(L) x 1.5	No	-	9	19	19	74	148	-	148
<b>IV)EXTERNAL CONDUIT FITTING_Y-PIECE</b>											
22	84320658	Conduit Fitting -Y-Piece - YPS404028	No	3	20	10	10	106	212	3	<b>215</b>
23	84320659	Conduit Fitting -Y-Piece - YPS201616	No	5	28	14	14	150	300	5	<b>305</b>
24	84320660	Conduit Fitting -Y-Piece - YPS120808	No	5	40	3	3	176	352	5	<b>357</b>
<b>V)PMI CLAMPS</b>											
25	84320661	PMI Clamp - NW12	No	51	138	61	61	776	1,552	51	<b>1,603</b>
26	84320662	PMI Clamp - NW17	No	22	43	45	45	306	612	22	<b>634</b>
<b>VI) EXTERNAL CONDUIT FITTING_T-PIECE</b>											
27	84320663	Conduit Fitting -T-Piece - TPS161616	No	36	50	50	50	372	744	36	780
28	84320664	Conduit Fitting -T-Piece - TPS081208	No	8	-	-	-	16	32	8	40
29	84320665	Conduit Fitting -T-Piece - TPS121612	No	8	-	-	-	16	32	8	40
30	84320666	Conduit Fitting -T-Piece - TPS161212	No	8	-	-	-	16	32	8	40
31	84320667	Conduit Fitting -T-Piece - TPS161216	No	8	-	-	-	16	32	8	40
32	84320668	Conduit Fitting -T-Piece - TPS201612	No	8	-	-	-	16	32	8	40

33	84320669	Conduit Fitting -T-Piece - TPS281220	No	8	-	-	-	16	32	8	40
34	84320670	Conduit Fitting -T-Piece - TPS281620	No	8	-	-	-	16	32	8	40
<b>VII) LOCK NUTS</b>											
35	84320671	Lock Nut - GMM-M20	No	41	37	60	60	350	700	41	<b>741</b>
36	84320672	Lock Nut - GMM-M25	No	68	-	-	-	136	272	68	<b>340</b>
37	84320673	Lock Nut - GMM-M32	No	2	84	95	95	530	1,060	2	<b>1,062</b>
38	84320674	Lock Nut - GMM-M40	No	29	20	19	19	176	352	29	<b>381</b>
39	84320675	Lock Nut - GMM-M50	No	3	67	36	36	346	692	3	<b>695</b>
40	84320676	Lock Nut - GMM-M63	No	2	2	4	4	20	40	2	<b>42</b>
<b>PMI CLAMP</b>											
41	84320677	PMI CLAMP - NW7	NO	51	58	58	58	450	900	51	<b>951</b>
42	84320678	PMI CLAMP - NW10	NO	100	150	150	150	1,100	2,200	100	<b>2,300</b>
43	84320679	CONDUIT FITTING -T-PIECE - TPS161616	NO	4	3	8	8	36	72	4	<b>76</b>

Make: ABB make (ABB part numbers as per Drawings)

**Total 79 Items.**

**Further, considering the proto type development, there would be increase / decrease in the tendered quantity and the same has to be accommodated in the subsequent stages of tender / contract. However, finalized prices are firm till completion of supplies. Bidders to note that post tender price increases will not be permitted / considered.**

<b>TABLE - 2</b>	
<b>Tentative delivery schedule</b>	
<p>“Cable Accessories &amp; Electrical Accessories”: Supply Scope:</p>	<p>Mock Up – May’26 1<sup>st</sup> Train Set - May’26 2<sup>nd</sup> Train Set - Oct’26.  Bidders have to accommodate Preponement or Postponement of delivery schedules based on actual production as per BEML requirement.</p>

<b>TABLE - 3</b>	
SL No.	Description
1	Defect Notification Period: <b>DNP starts from date of supply of materials and ends after 30 months from the date of placement of trains into revenue service.</b>
2	Design and customization of product/sub system to meet requirement, at the cost of this project shall not be used by BEML’s supplier(s) in any other project other than BEML and ICF.
3	There will be additional requirement of <b>Cable Accessories &amp; Electrical Accessories</b> for repair/replacement during CAMC period (15 Years) of revenue service. The supplier has to give concurrence for the additional requirement & support on as & when required basis.  CAMC will start after successful completion of Defect Notification Period (DNP).

**SUBMISSIONS OF TECHNICAL BID**

<p>Technical Bid submission Conditions</p>	<p><b>TECHNICAL BID (Without Price/Price Details)</b> shall be uploaded and submitted in the BEML SRM Platform, wherein only technical Bid /technical information in BEML SRM Platform shall be uploaded as indicated below:</p> <ol style="list-style-type: none"> <li>a. Bidders should upload Integrity Pact (duly filled, signed &amp; stamped with two witnesses) <b>[Appendix – A]</b>.</li> <li>b. Bidders to refer Technical Specifications (<b>Drawings &amp; Technical Delivery Conditions (TDC)</b>) enclosed along with this tender document.</li> </ol> <p>Bidders should upload the following documents duly filled, signed &amp; stamped under technical bid.</p> <ol style="list-style-type: none"> <li>c. Compliance to BEML Drawings &amp; Technical Delivery Conditions (TDC) <b>[Appendix – I]</b></li> <li><b>d. Detailed BoM to be provided/submitted against each tendered line item along with technical bid</b></li> <li>e. Bidder to upload enclosures related to technical &amp; other information deemed appropriate in respect of this tender on the letter head of the company, if any.</li> <li>f. Photographs / Drawings if any, may be uploaded.</li> <li>g. Bidders to refer “<b>GENERAL TERMS AND CONDITIONS (GTC)</b>” enclosed along with this tender document and upload following documents duly filled, signature &amp; stamped under technical bid.       <ol style="list-style-type: none"> <li>a. Clause by clause compliance of GTC duly filled, signed &amp; stamped along with the supporting documents as specified therein. <b>[Appendix – C] &amp; Annexure-X</b></li> <li>b. Confidentiality agreement filled &amp; signed in plain paper <b>[ Appendix – E]</b></li> <li>c. MII (Make in India), Local content declaration <b>[Appendix – F]</b></li> <li>d. Compliance to Land Border Certificate Clause <b>[ Appendix – G]</b></li> <li>e. Compliance to Submission of Non-Disclosure Agreement. <b>[ Appendix-B]</b>.</li> </ol> </li> <li>h. BEML at its sole discretion reserves the right to seek the hard copies of the documents which are already been uploaded in BEML SRM, through Courier / post pertaining to technical bid of this tender enquiry at a later date, if required.</li> <li>i. In such cases, only the documents uploaded in BEML SRM Platform in original has to be couriered at the request of BEML. Any irrelevant documents furnished through courier will not be considered.</li> </ol>
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**SUBMISSIONS OF COMMERCIAL BID**

The price bid to be submitted through BEML SRM Portal. The following details are to be entered in the BEML SRM Portal.

Line Item No.	Stock Number	Material Description	Total Qty	Unit Price	Extended Value
<b>Details As per Table 1 (A) &amp; 1 (B)</b>  <b>Having 79 Individual Line items</b>  <b>Price details against each line item to be submitted</b>				This is Format for reference only.  Commercial bid document should not be enclosed during Technical Bid Submission.  If uploaded the Quotation submitted by bidder will be liable for rejection without any discretion.	

**Note:**

1. Bidder has to quote for all the items. Commercial evaluation will be based on total bid value for all the items put together.
2. Reverse Auction shall be conducted if Minimum 2 technically accepted firms received & Reverse auction will be as per BEML SRM norms.(refer document **ReverseAuction\_Terms**)
3. Commercial Ranking shall be arrived based on the Grand Total of all the tendered items in above Table (1). The bidder whose offer is lowest will be considered as L1.
4. The commercial bids of the vendors will be opened subject to technical acceptance based on Technical bid evaluation.
5. Bidder should quote for all tendered line items. Bidders / Bids having partial participation will be rejected.

[ANNEXURE – VI]

**GENERAL TERMS & CONDITIONS (GTC) FOR PROCUREMENT OF MATERIALS:**

**1. DEFINITIONS & INTERPRETATIONS**

- 1.1 The Purchaser' means "(include company name and address)" (A Government of India Undertaking) incorporated under the Companies Act having its registered office at "BEML Soudha, No 23/1, 4<sup>th</sup> main, S.R. Nagar, Bengaluru – 560027" and shall be deemed to include its successors and assignee.
- 1.2 Supplier' means a person having been included in a contract as a Contractor and also means a firm or company with whom the order for supply/execution of work is placed and shall be deemed to include the supplier's successors, (approved by BEML Ltd.,) representatives, heirs, executors and administrators. The supplier may also be referred to as the supplier, Contractor or vendor.
- 1.3 Parties to the Contract' shall mean the Supplier and the Purchaser as named in the main body of the Purchase Order.
- 1.4 Tender' means and includes quotation, invitation to tender and all other documents like drawings, specifications, quality plan, etc that form part of the tender document.
- 1.5 Acceptance of Tender' Means the letter of memorandum communicating supplier, the acceptance of the Tender and includes advance acceptance of this tender.
- 1.6 Purchase Orders / Contract' means and includes the invitation to tender, instruction to Tenderers, acceptance of tender, Letter of intent / letter of award, the general terms and conditions of Purchase Order / contract, special conditions of Purchase Order /contract, particulars, descriptions, specifications, schedule of prices, quantities, quality plan, drawings enclosed and other condition specified in the acceptance of tenders and includes the repeat order which has been accepted or acted upon by / for the supplier for the supply of stores and includes an order for performance of service and includes amendments, if any, that may take place subsequent to the discussions, negotiations, mutual agreement if any.
- 1.7 Stores / Materials / Services' means the goods or services as described in Procurement Technical Specification (P.T.S.) and in the Purchase Order which the supplier has agreed to supply under the Purchase Order.
- 1.8 Specification means technical specifications of the Equipment / Material as set forth in Procurement technical specification (PTS) / technical drawings, which is part of tender
- 1.9 End-Customer / End-user means: ICF / Indian Railways / Rolling Stock Corporations.
- 1.10 Words in singular include the plural & vice-versa.
- 1.11 Words imparting the masculine gender shall be taken to include the feminine gender and words imparting persons shall include any firm, company or associations or body of individuals whether incorporated or not.

1.12 The heading of these conditions shall not affect the interpretations or construction thereof of the contract.

## **2. SUBMISSION OF THE TENDER:**

### **Tender is in TWO-BID system (Technical & Commercial Bid)**

Bids should be submitted online mode only as follows:

#### **a) Submission of Technical bid (without price):**

- i. The Bidder should upload all the requisite technical documents along with respective supporting documents and other information deemed appropriate in respect of the Tender.
- ii. The price details/commercial bid details should not be given in the Technical bid. If any of the bidder have given any price/commercial details in the Technical bid, their offer is liable for rejection and will not be considered.
- iii. Technical Bid will be opened on (date and time of bid opening) and the commercial Bids of those bidders whose technical bid is accepted only will be opened later.

#### **b) Submission of Commercial bid:**

- i. The commercial bids of the vendors will be opened subjected to technical acceptance of offers only.
- ii. Price details in specified field on BEML SRM Platform to be submitted.
- iii. If dealers are submitting the bids in place of OEM, Dealer should submit Authority letter from manufacturer.
- iv. BEML reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at any of BEML projects / units.
- v. Bidders participating in the tender should declare in their offer that whether they have been black-listed / kept on hold for a specified period / given Business holiday for a specified period by any Public sector undertaking or Government departments. The reasons for such action with details and the current status of such hold shall be furnished to BEML.
- vi. In case any person/persons, Company, firm, Associations having any litigations, arbitration cases between themselves and BEML Ltd, pending before the Court / Arbitrator or initiated litigations/arbitrations in connection with any contract / tender issued by BEML Ltd and any contractor has defaulted against the BEML's orders are not eligible to participate in this tender.
- vii. BEML may decide to scrap the tender/refloat the tender without assigning any reasons thereof before LOI/PO is committed. BEML reserves the right to accept, split, divide, negotiate, cancel or reject any tender or reject all tenders at any time prior to the award of the contract without incurring any liability to the affected tenderers or any obligation to inform affected tenderer, the grounds of such action.
- viii. BEML reserves the right to verify, in its sole discretion, any information given by the bidders independently through any third party agencies. During this process, if it is found that any of the information given by the bidder is false / misleading, offers of such bidders would be out rightly rejected.

- ix. BEML also reserves the right to independently assess the capability and capacity of the bidder for execution of the order/contract. BEML's decision on any matter regarding short listing of bidders shall be final.
- x. The RFx / Notice Inviting Tender is not an offer or a contract.
- xi. Bidders will not be compensated or reimbursed for the costs incurred in preparing Proposals. Proposals shall become BEML property.
- xii. BEML's decision is final for Evaluation of the offers.

### 3. PURCHASE PREFERENCES:

**Preference to Make in India products:** Preference shall be given to Class-I local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products.

The 'Class-I local supplier (Local content more than 50%) / Class-II local supplier (Local content more than 20% less than 50%) at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for Class-I local supplier / Class-II local supplier, as the case may be. They shall also give the details of the location(s) at which the local value addition is made.

**In cases of procurement for a value in excess of Rs.10 crores, Class-I local supplier / Class-II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving percentage of local content.** Bidders to upload signed & sealed [ **Appendix - F** ]

4. **SUPPLIERS SHARING LAND BORDER WITH INDIA:** Public Procurement Division order vide F.No. 6/18/2019-PPD dated 23.07.2020 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products, shall be applicable for bidders / suppliers sharing land border with India. Bidders to upload signed & sealed [ **Appendix - G** ], in compliance to Annex- III of the said Order.

### 5. DELIVERY TERMS:

- i) F.O.R (Free on Road), BEML Bangalore complex for supply scope. Freight & transit insurance to supplier's account.
- ii) For Spares / Comprehensive Annual Maintenance Contract (CAMC):  
F.O.R (Free on Road), Customer Nominated Site / Depot (or) BEML Bangalore complex for supply scope. Freight & transit insurance to supplier's account.

**6. PAYMENT:**

Category	Payment Terms
Supply Scope (Materials)	<p>1) Supplier will raise GST invoice for 100% value. BEML will pay <b>80%</b> of Invoice Value with 100% GST in 60 days / 45 days (MSE firms) from the date of receipt of material at BEML subject to material acceptance by BEML.</p> <p>2) Balance <b>20%</b> payment in 60 days / 45 days (MSE firms), from the date of successful completion of testing &amp; commissioning activities as per BEML requirement duly certified by BEML R&amp;D /BEML NOMINATED AGENCY/ICF/ICF NOMINATED AGENCY.</p> <p>In case of MSE Firms, The firm may also opt for 20% payment to be released immediately along with 80% payment in which case, Firm has to submit ADVANCE BANK GUARANTEE for 20% of the payment/amount to fulfil the contractual obligations.</p> <p>"For MSME vendors, payments after 01.04.2026 will be made through <b>TReDS</b> platform only as per Government guidelines." Hence, Firms have to complete registration formalities in <b>TReDS</b> Platform as applicable and submit the registration details.</p>

Bidders to indicate the category of their firm under Micro/Small/Medium/Major industries with necessary documentary proof of evidence for purpose of evaluation and our data updation.

**The payment is further subject to the following:**

- a) The Invoice shall be compliant with GST laws.
- b) GST liability is to be discharged and ensure filing of outward supply details on GSTN portal within timeline prescribed.
- c) Any debit note/supplementary invoice if any, is to be raised within September month following the respective financial year of filing of annual return by BEML, whichever is earlier.
- d) Any loss of tax credit due to the reason attributable to supplier shall be recovered from supplier along with applicable interest and penalty.

- e) Bidders to indicate the GST and other levies applicable. GST shall be paid only after confirmation of payment of GST by vendors on GST Website.
- f) Relevant TDS / TCS as applicable shall be deducted as per prevailing Income Tax / GST / GOI notifications.

**7. PRICE BID VALIDITY:** The Bid should be valid as per the details provided in below Table. BEML's acceptance of the tender at the quoted / negotiated rates will be binding on the tenderer during the tenure of contract.

SL No	Category	Price Bid Validity Should be Up to
1	i) Supply Scope (Mock Up & 2 Train Sets Materials) ii) Non-Recurring Costs (NRC)	<b>180 days from the date of tender opening.</b>

### 8. FIRM PRICE

The prices remain firm for the entire supplies of the purchase order and no escalation shall be entertained under any circumstances. The prices are to be firm & no increase in finalized price will be entertained after awarding contract during the period of Contract for any reasons whatsoever.

**9. INSPECTION:** By BEML/BEML NOMINATED AGENCY/ICF/ICF NOMINATED AGENCY

### 10. WARRANTY:

- a) The supplied goods/stores to the purchaser under the contract shall be of the highest grade, free of all the defects & faults in material and of the best quality, manufacture and workmanship and consistent with the established and generally accepted standards for materials of the type ordered and in full conformity with the contract specification, drawing or sample, if any and shall, if operable, operate properly throughout warranty period.

Any defect/fault & non-conformance to standards & descriptions as aforesaid, found during warranty period shall be rectified /repaired/replaced free of cost & at supplier's risk to the complete satisfaction of BEML / End user, within reasonable time at the ultimate destination.

The said goods/stores shall be warrantied /guaranteed **from date of supply of materials and ends after 30 months from the date of placement of trains into revenue service.**

In case of any contradiction in the terms and condition with respect to warranty appearing in Indian Railway standard (IRS) condition of contract and specifications, the later will prevail

**b) Guarantee / Warranty replacement:**

Guarantee / Warranty replacement shall be dispatched on "F.O.R – BEML Stores / designated destination" basis for replaceable items during warranty period.

- c) The provisions of this Warranty shall be without prejudice to and shall not be deemed or construed so as to limit or exclude any rights or remedies which the BEML may have against the supplier, whether in tort or otherwise.

- d) If any defect or damage is one requiring immediate attention from safety / environmental view point / operational viewpoint, the BEML has the authority to proceed with rectification in any manner suitable and deduct such sums from the suppliers Bill or purchase order whichever is active.

#### 11. PERFORMANCE BANK GUARANTEE (PBG):

- a) Firm shall submit Performance Guarantee for amount equivalent to **10%** of the Contract value. This performance guarantee shall be in the form of Bank Guarantee executed and submitted through any scheduled commercial Bank authorized by RBI. The Performance bank guarantee shall be valid up to Warranty period plus 6 months claim period. Format for PBG is attached as Appendix- D for reference.
- b) PBG shall be returned back only after completion of warranty period from date of last supply and if there is no defect /failure/negligence on part of contractor, complaints and / or any claims notified to the contractor within expiry of such date.
- c) The performance bank guarantee has to be furnished by the supplier as per prescribed format covering the entire supplies to be made against this order within 60 days from the date of receipt of purchase order from BEML but not later than 30 days before commencement of supplies pertaining to first delivery schedule indicated in the purchase order.
- d) In the absence of performance bank guarantee to be submitted by the supplier as per contract terms, BEML will not open Letter of Credit (LC) in the cases of LC in favor of supplier pertaining to the shipment / stores to be supplied as per first delivery schedule indicated in the purchase order. Any delay in submission of performance bank guarantee by the supplier, the subsequent delay in opening in Letter of Credit by BEML and supplies to be effected by the supplier are to the account of the supplier, which attracts liquidated damage charges as per contract terms.
- e) No claim shall lie against BEML Ltd., in respect of interest on cash deposits or Govt. Securities depreciation thereof.
- f) BEML shall be entitled to and it shall be lawful on its part to encash the Bank Guarantee in whole or in part in the event of any default, failure or neglect on the part of the supplier in the fulfillment or performance in all respect of the Purchase Order.
- g) The Bank Guarantee shall be established through **Structured Financial Messaging System (SFMS)** mode from a Scheduled Commercial Bank authorized by RBI in India as defined by RBI.
- h) A separate copy of the BG has to be sent by the issuing bank to the Purchaser's bank through SFMS. The details of Purchaser's bank are as under:

**STATE BANK OF INDIA**  
**Overseas Branch, No.65,**  
**St. Marks Road,**  
**Bangalore – 560001**  
**IFSC Code: SBIN0006861**

- i) Following codes are to be used by issuing bank for the purpose of Confirmation and amendment in Bank Guarantees:

Code	Purpose
MT760	Confirmation of Bank Guarantee
MT767	Amendment in Bank Guarantee

- j) Bank Guarantee issued on the SFMS platform with any other code other than mentioned above for the purpose shall not be acceptable to the Purchaser.
- k) The Bank Guarantee validity shall be extended as required till the completion of all contractual and warranty obligations in Full.
- l) In case BEML is constrained to extend the Performance Bank Guarantee beyond the warranty period submitted to its customer due to the failure of aggregates attributable to the supplies made by the bidder then the costs involved to BEML for such PBG extensions shall be borne by the supplier.
- m) **PBG to be executed digitally through NeSL platform.**
- n) **UIN Number of BEML, Bengaluru Complex for executing E-PBG is NCTGC2534P**

## 12. RIGHT TO VARY QUANTITIES &-QUANTITY OPTION CLAUSE:

- a) *Purchaser shall be entitled to increase the order quantity by 50 percent anytime during the currency of the contract, such that the contractor has reasonable time/notice for executing such increase.*
- b) BEML reserves the right to increase or decrease the quantity specified in the schedule of requirements without any change in the unit price or other terms and conditions within the agreed delivery schedule.

## 13. LIQUIDATED DAMAGES CLAUSE:

If the contractor fails to deliver the stores or any consignment thereof within the period prescribed for such delivery, BEML shall be entitled at their option to accept the delayed supply and to recover from the supplier as agreed liquidated damages, and not by way of penalty, a sum of 0.5% of the price of any stores per week subject to a maximum of 10% of the value of the purchase order which the supplier has failed to deliver as aforesaid for each week or part thereof during which the delivery of such stores may be in arrears.

The LD will be charged on the value of the affected delivery schedule excluding statutory levies, freight and insurance wherever not included in the price.

## 14. RISK PURCHASE CLAUSE:

The time and the date of delivery of the stores stipulated in the PO shall be deemed to be the essence of PO and delivery must be completed not later than the date specified therein. Shall the supplier fail to deliver the stores or any consignment thereof within the period prescribed for such delivery, BEML shall be entitled at their option either;

- a. To purchase elsewhere, without notice to the supplier on the account and at the risk and cost of the supplier the stores not delivered or other of a similar description (where stores exactly complying with the description and readily procurable) without cancelling the PO in respect of consignment not due for delivery

**or**

- b. To cancel the purchase order.

In the event of action being taken under clause (a) or (b) above, the supplier shall be liable for any loss, which BEML may sustain on that account but the supplier shall not be entitled to any gain or purchases made against default. As soon as it is apparent that the scheduled dates cannot be adhered to, an application shall be sent by the supplier to BEML, well before the expiry of the delivery period specified in the purchase order. Without prejudice to the foregoing rights, if such failure to deliver in proper time as aforesaid shall have arisen from any cause which BEML may admit as a reasonable ground for an extension of the time (and their decision shall be final) they may allow such additional time as they may consider justified by circumstances of the case. Delivery required to be made in lots shall be made in lots only and any extra deliveries involved either on account of repeated rejections or variance in supply of lots shall be liable for service charges of 5% of the purchase order value for each extra delivery.

#### **15. SECRECY AND CONFIDENTIALITY:**

- a) All the information, know-how, technical data, specification and drawing models or specimens furnished by BEML for the purpose of or in connection with the manufacture and supply of the stores hereby tendered constitute the property of BEML and the supplier shall keep them in strict confidence and he shall not divulge the same to anyone else except under the authority and for the purpose of BEML. All such documents, data, drawing, models and specimens are the property of BEML and shall be returned when done with or when demanded by BEML.
- b) The supplier shall not supply the components / spares exclusively manufactured for BEML with the Technical Data / Specifications / assistance furnished by BEML and shall not disclose my initiations, development of adaptations thereof to anyone else except with the written consent of BEML.
- c) BEML shall be entitled to prevent breach of the above and to claim damages in case of any breach. It is hereby mutually agreed that for breach of this agreement the Vendor shall pay, without actual proof of damages, a liquidated amount of Rs. 1.00 Crore (Rupees One Crore only).

Confidentiality agreement is attached as **Appendix E**.

#### **16. AUTHORITY OF PERSONS SIGNING DOCUMENT**

A person signing the tender or any other document in respect of the Purchase Order shall be deemed to have power to do so on behalf of the Supplier.

#### **17. ACCEPTANCE OF ORDER**

The supplier shall send Order Acceptance within two weeks from the date of LOI / LOA / Purchase Order or such other period as specified / agreed by the Purchaser. Purchaser reserves the right to revoke the order placed if the order confirmation differs from original Purchase Order placed and the Purchaser shall only be legally bound after it has agreed explicitly in writing to be in agreement with the deviation. The acceptance of deliveries or supplies by Purchaser as well as payments made in this regard shall not imply acceptance of any deviations. The Purchase Order in whole shall be deemed to have been accepted if supplier failing to no communicate is received within two weeks.

#### **18. OTHER CONDITIONS**

- a) The firm shall take necessary permission for their employees to enter the factory premises and the firm shall arrange ESI & PF coverage to their employees/labourers if any from their end. The firm shall indicate ESI NUMBERS for the labourers hired or employed in advance in order to prepare work permit inside the factory.
- b) BEML will not have any kind of binding towards the compensation on case of injury / death to the firms employees while working in BEML premises or other wises.
- c) BEML will not have any kind of binding on damages or loss to the tools/instruments etc. brought by the firm for commissioning purpose.

**19. PRICE, INVOICING AND PAYMENT:** The agreed prices are fixed prices in the currency as specified in the Purchase Order. They shall include packing, forwarding, loading and carriage to the place specified by the Purchaser and are inclusive of all applicable taxes, duties etc. except for those specifically agreed between the supplier and purchaser. The method of invoicing shall be without prejudice to the parties; agreement as to the place of performance. Invoices shall be submitted bearing the Purchase Order number & date, item number / s and supporting documents as called for in the Purchase Order.

As soon as each shipment is made in line with the delivery schedule specified in the purchase order, the supplier shall send **one set of Original documents and three (3) sets of photocopies** each of the following documents to the address indicated below by courier service.

- i. Commercial Invoice
- ii. Delivery Challan
- iii. Packing List
- iv. BEML's Inspection clearance document(s), material test certificates and other applicable quality documents pertaining to the supplies.

**Postal Address**

The Deputy General Manager,  
BEML, Bangalore Complex,  
PB No.7501, New Thippasandra post,  
Bangalore, Karnataka, India,  
Postal Code - 560 075

**20. PROGRESS REPORT:**

The supplier shall regularly inform the progress of work and in such form as may be called for by the Purchaser from time to time. The submission and acceptance of such reports shall not prejudice the rights of the Purchaser in any manner.

**21. QUALITY & WORKMANSHIP**

The stores supplied shall be of the best quality and Workmanship shall be in strict conformity with all the drawings and specifications furnished with the Purchase Orders and shall answer to the description in all respects. All supplies shall be accompanied by supplier's works inspections / test certificates duly certifying, the Stores are in strict conformity with the drawings / specifications. However, final acceptance will be subject to inspection and approval at BEML works. Once the materials are rejected and communicated to the supplier, no request shall be entertained for re-

inspection or acceptance of the stores. However, BEML reserves the right to re-inspect the stores and consider acceptance at its discretion.

**22. QUALITY, CONDITION OF DELIVERY:** The Supplier shall guarantee that the delivery is of good quality and free from all defects and in the case of services rendered that they are performed by skilled personnel and that new materials are used. The Supplier shall guarantee that the delivery corresponds exactly with the provisions of the agreement, the reasonable expectations of Purchaser regarding the characteristics, quality and reliability of delivery. The Supplier guarantees that the delivery is suitable for the purpose for which it is intended by its very nature or which is evident from the specifications listed and from the order.

The Supplier shall guarantee that the delivery complies with legal requirements applicable in India and other (international) Government regulations, as applicable. The Supplier guarantees that the delivery complies with legal requirements applicable in India and other (international) Government regulations, as applicable. The supplier shall guarantee that the delivery complies with the customary norms and standards in the relevant branch of trade or industry. The supplier shall be responsible for compliance with applicable technical, safety, quality, environmental requirements and other regulations in relation to his product, packaging, and raw and ancillary materials.

**23. SUPPLY OF SAMPLE: (if applicable)** The Contractor shall produce samples of all materials and shall obtain approval before he places bulk order for the material for incorporation in the works. In respect of materials for which samples are not kept or detailed specifications is not given hereinafter, such materials shall comply with the latest relevant Indian Standard Specifications a published up to the date of issue of this tender. The Contractor shall on demand produce original receipts vouchers/invoices in respects of materials supplied by him.

**24. INSPECTION, TESTING & CONSEQUENCE OF REJECTION:**

The goods and stores shall be of approved design and each part /component may be inspected and tested by the Purchaser prior to shipment and shall fully comply with relevant requirements of purchaser.

Purchaser has the right to inspect the delivery. In the event of rejection, Purchaser shall inform the Supplier accordingly and Purchaser shall be entitled to replacement or repair at its discretion or may proceed to terminate or annul the agreement. All this does not affect Purchaser's right to compensation.

In case the goods / stores are rejected at the time of inspection at BEML or the rejections are notices at the time of further processing the supplier will be informed of these rejections. On receipt of this information the supplier shall immediately arrange to collect the rejected items at his cost and risk and arrange for the replacement of goods within the shortest possible time. Under no circumstances the supplier shall compel the Purchaser to rework the rejected goods.

Wherever the supplier has not collected the rejected items within 60 days from the date of intimation, BEML shall have the right to dispose the goods and all cost related to the cost of material, statutory levies incurred both in procurement and disposal shall be recovered from the

supplier from any of the bills that are due. The supplier shall have no claims whatsoever against the Purchaser for such disposal.

Purchaser or his authorized representative shall be entitled at all reasonable times during execution to inspect, examine and test at the Supplier's premises the material and workmanship of all stores to be supplied under the Contract, and if the part of the stores are being manufactured at other premises the Supplier shall obtain Purchaser's or his authorized representative's permission to inspect, examine and test as if the said stores are being manufactured at the Supplier's premises. Such inspection, examination and testing, if made shall not release the Supplier from any obligation under the Contract.

All costs related to inspections and re-inspections shall be borne by the Supplier. The cost of inspection staff / third party specified by the Purchaser shall be borne by Purchaser, unless otherwise specifically agreed. Whether the Contract provides for tests on the premises of the Supplier or any of his Sub-contractor/s, Supplier shall be responsible to provide assistance such as, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by the Purchaser only if specifically agreed.

The supplier shall give the authorized representative of the Purchaser reasonable prior notice in writing of the date on and the place at which any stores will be ready for inspection / testing as provided in the Contract.

## **25. LAWS APPLICABLE**

Domestic laws both substantive and procedure, for the time being in force including modification thereto shall govern contract. The competent Domestic courts shall have sole jurisdiction over the disputes between the BEML and the supplier. The making of all stores supplied must comply with the requirements of Domestic Acts relating to trade and merchandise marks and all the rules made under such acts.

## **26. RAW MATERIALS ARRANGEMENT**

The supplier shall make his own arrangement to procure all raw materials required and BEML shall not be responsible for any assistance in such procurement or whatsoever.

## **27. IDENTIFICATION OF ITEMS / PIECES**

The supplier shall indicate / emboss / engrave, suitable identification marks (Viz. BEML stock number, supplier code number, batch no. etc.,) on each item/piece (or) on all components at convenient non-machinable place as per drawing, wherever applicable.

Also, shall indicate BEML part number, PO No. and date in all delivery documents, invoices and correspondence, wherever applicable.

## **28. PACKING AND MARKING**

- a) Packing to be in such a way that it should avoid transit/storage/handling damage.
- b) The supplier shall package the deliveries safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea / Air / Rail

/ Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures / hooks and sling marks as may be required for easy and safe handling by mechanical means.

- c) The packing, shipping, storage and processing of the delivery must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Items packed with raw / solid wood packing material shall be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitary / Fumigation certificate. If safety information sheets exist for a delivery or the packaging, the Supplier must always supply these sheets direct (at the same time).
- d) Supplier shall indicate approximate net weight, gross weight and dimension of the package to enable BEML to determine the mode of dispatch. The packing should withstand the weather conditions during transit. The packing should not damage the contents in the package while transporting and handling. The safety and handling precautions should be clearly marked on the packages. The packing should be easily transportable without any damage. Each consignment should have individual packing list.
- e) Marking shall include the following information in sequence on the frame commensurate with the size of package.

**To: M/s. BEML Limited, Bangalore Complex,  
New Thippasandra,  
Bangalore – 560075,  
Karnataka State, India.**

**Purchase order number:**

**Shipper's mark:**

**Package number:**

**Identification number:**

**Caution marks, if applicable:**

**Net weight, gross weight and cubic measurement, whichever is appropriate for the shipment.**

- 29. APPLICABLE LAWS AND JURISDICTION OF COURTS:** Indian laws both substantive and procedure, for the time being in force including modifications thereto, shall govern Contract. The competent Indian courts shall have sole jurisdiction over disputes between purchaser and the Supplier.
- 30. JURISDICTION:** Courts of Bangalore alone shall have jurisdiction to decide any issue / dispute arising out of the Arbitration or this Purchase Order in exclusion of all other Courts. However, jurisdiction of any other court may be accepted by mutual discussion and agreement by and between BEML and the Supplier.
- 31. ARBITRATION:** Disputes if any, arising between BEML and the supplier in connection with this Purchase Order or any other matters connected herewith, the same will be mutually discussed and settled, failing which, the disputes shall be referred to a sole arbitrator to be appointed by BEML. The arbitration / proceedings shall be in accordance with the provisions of Arbitration and Conciliation Act 1996 and Rules framed there under. The place of arbitration shall be at

Bangalore or any other place mutually decided by and between BEML and the supplier and all arbitration proceedings shall be conducted in English language. The award of the sole arbitrator shall be final and binding on all the parties.

**DURING ARBITRATION:** “Supplies under this Purchase Order, if reasonably possible, may continue by mutual agreement during the dispute / Arbitration proceedings”

**32. INTELLECTUAL PROPERTY RIGHTS; LICENSES:** If any Patent design, trademark or any other intellectual property rights apply to the delivery or accompanying documentation, Purchaser shall be entitled to the legal use thereof free of charge by means of anon-exclusive, worldwide, perpetual license. All intellectual property rights that arise due to the execution of the delivery by the Supplier and by its employees or third parties involved by the Supplier for performance of the agreement belong to Purchaser. The Supplier shall be obligated to do everything necessary to obtain or establish the above mentioned rights. The Supplier guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Supplier shall also be obligated to do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties.

The Supplier shall defend and indemnify the BEML against any claims, costs or expenses incurred by reason of any infringement of alleged infringement of any letters, patent, registered design, trademarks or trade name by the use of sale of the stores / goods /material and against all costs or damages which the BEML may undergo in legal action for such infringement or for which the BEML may become liable in any such action.

The supplier shall at all times indemnify BEML and shall take all risk of accidents or damage which causes a failure of the supply. The supplier shall comply with the provisions of Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971-as modified from time to time wherever applicable and shall also indemnify the Company from and against any claims under the aforesaid Act and the Rules.

**33. BRIBES AND GIFTS:**

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the supplier or his partner, agent or servant or anyone on his or their behalf to any officer, servant, representative or agent of BEML or any person on his or their behalf in relation to the obtaining or to the execution of or any other contract with BEML shall in addition to any criminal liability which the supplier may incur, subject the supplier to the cancellation of the PO and all other contracts with BEML and also to payment of any loss or damage resulting from any such cancellation to like extent as is provided in case of cancellation under **Clause-15** hereof. Any question or dispute as to the commission of any offence under the present clause shall be settled by BEML in such manner and on such evidence of information as they may think fit and sufficient and their decision shall be final and conclusive.

**34. FORCE MAJEURE CLAUSE:**

a) Notwithstanding anything contained in the Contract, neither the Supplier nor the Purchaser shall be held responsible for total or partial non-execution of any of the contractual obligations, shall the obligation become unreasonably onerous or impossible due to occurrence of a 'Force Majeure' conditions which directly affect the obligations to be performed by the Purchaser or the Supplier. Such events include war, military operations of any nature, blockages, revolutions, insurrections, riots, civil commotions, insurgency, sabotage, acts of public enemy, fires, explosion, epidemics, quarantine restrictions, floods, earthquake, or acts

of God, restrictions by Govt. authorities over which the Supplier or the acts on which the Purchaser has no control.

- b) The party claiming to be affected by Force Majeure shall notify the other party in writing without delay, within two weeks on the intervention and on the cessation of such circumstance. Extension of time sought by the Supplier along with supporting evidence and so granted by the Purchaser for the supply / work affected, if any, shall not be construed as waiver in respect of remaining deliveries.
- c) Notwithstanding above provisions, Purchaser shall reserve the right to cancel the order/ Contract, wholly or partly, in order to meet the overall delivery schedule and make alternative arrangements including arrangements with third party for completion of deliveries and other schedules. Purchase may takeover partly processed material at a mutually agreed price.

### **35. FALL CLAUSE**

- a) The prices charged for the stores supplied under this P.O by the supplier shall in no event exceed the lowest price at which the supplier sells the stores of identical description to any other BEML Office / Division during the pendency of this PO.
- b) If at any time, during the said period, the supplier reduces the sale price of such stores or sells such stores to any other BEML Office / Division at a price lower than the price chargeable under this P.O and the price payable under this PO for the stores supplied after the date of coming into force of such reduction shall stand correspondingly reduced.

### **36. NON DISCLOSURE AND INFORMATION OBLIGATIONS:**

The supplier shall provide Purchaser with all information pertaining to the delivery in so far as it could be of importance to Purchaser. The Supplier shall not reveal confidential information to its own employees not involved with the tender / Contract & its execution and delivery or to third parties. The supplier shall not be entitled to use the Purchaser's name in advertisements and other commercial publications without prior written permission from Purchaser.

**37. ASSIGNMENT OF RIGHTS AND OBLIGATIONS; SUBCONTRACTING:** The supplier is not permitted to sub-contract the delivery or any part thereof to third parties or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from Purchaser. Any permission or approval given by the Purchaser shall, however, not absolve the supplier of the responsibility of his obligations under the contract.

**38. DIVISION OF PATRONAGE:** BEML reserves the right to avail the price offered for full quantity of the tender or part thereof or ignore the offer completely without assigning any reason whatsoever.

Splitting of Quantities not applicable considering the fact that "All the above **Cable Accessories & Electrical Accessories** items to be procured from Single Source in order to ensure fitment compatibility (Ingress protection) & uniformity."

Preference to Micro and small Enterprises (MSEs): NOT APPLICABLE considering the fact that this being first time project in India and splitting of quantities is not applicable.

**39. INTEGRITY PACT:**

The bidder / contractor should upload duly signed & stamped **Integrity Pact** (if the tender value is more than or equal to Rs.1.00 crore) as per prescribed format (**APPENDIX- A**) on plain paper as part of technical bid.

The bidder should put their authorized signature in the Integrity pact as a Contractor / bidder with their company seal along with witness's signature, name & address. **The agreement shall be in full as per format enclosed on a plain A4 size paper duly signed & stamped on all pages.**

The Integrity Pact envisages an agreement between the prospective tenderer and the buyer committing the persons/officials of both the parties not to exercise any corrupt influence on any aspect of the contract.

For the successful bidder, the integrity pact will remain valid up to 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded.

The Central Vigilance Commission (CVC) has appointed Shri Kasividyasagar & Shri Lt. Gen. Abhay Krishna as Independent External Monitor (IEM) to oversee the implementation of the Integrity Pact.

Address of IEM is as below:-

Shri Kasividyasagar, IAS (Retd.)  
House no. 55,  
Dream valley gated community,  
Manikonda, Hyderabad – 500089.  
Mobile no. +91 9771407778  
Email : [kasividyasagar@gmail.com](mailto:kasividyasagar@gmail.com)

Shri Lt. Gen. Abhay Krishna , (Retd.)  
4A-902, Gurjinder Vihar,  
AWHO Township, Sector CHI-1  
Greater Noida, UP - 201310  
Mobile no: +91 9871234353  
Email: [abhayabk@gmail.com](mailto:abhayabk@gmail.com)

**40. GST TERMS & CONDITIONS:**

1. The Supplier is required to comply with all the applicable provisions of the GST Laws/Rules/Notifications/Circulars and to furnish required documents/details within the prescribed time limit to enable BEML to claim the benefits of GST Input Tax Credit or any other benefit.
2. The Supplier is required to furnish proper Invoice/Supplementary Invoice/Debit Note/Credit Note in the form and manner prescribed under GST Laws/Rules/Notifications/Circulars containing all the particulars mentioned therein and within the prescribed time limit as per prevailing GST Laws/Rules/Notifications/Circulars. In case of non-compliance by the Supplier, BEML shall not make any payment towards GST against such invoice until it is complied with within the timeline prescribed under GST Laws/Rules/Notifications/Circulars, and also subject to BEML being in a position to avail GST Input Tax Credit as per applicable GST Laws/Rules/Notifications/Circulars.
3. In case of discrepancy in the data uploaded by the Supplier in the GSTN portal or in case of any shortages or rejection in the supply, BEML will notify the Supplier of the same. Supplier

has to rectify the data discrepancy in the GSTN portal or issue Credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the prescribed time limit to enable BEML to avail GST Input Tax Credit.

4. In case, the availment of GST Input Tax Credit by BEML is delayed for any reason other than those attributable to BEML, interest at applicable rate as prescribed under GST Laws/Rules/Notifications/Circulars for such delays shall be recovered from the Supplier.
5. In case Supplier delays declaring such invoice in his GST Return and GST Input Tax Credit availed by BEML is denied or reversed subsequently as per GST Laws/Rules/Notifications/Circulars, GST amount paid by BEML towards such reversal as per GST Laws/Rules/Notifications/Circulars shall be recoverable from Supplier along with applicable interest

If BEML has not paid/short paid to the Supplier for any invoices within the time limit prescribed under GST Laws/Rules/Notifications/Circulars due to non-compliance of GST Laws/Rules/Notifications/Circulars by Supplier or any other reason attributable to Supplier and leads to any GST Input Tax Credit reversal by BEML, any losses/expenses/cost/penalty, etc incurred by BEML shall be recoverable from the Supplier.

6. Wherever applicable, BEML will have the right to deduct “Tax Deducted at Source” at the rate prescribed under the GST Laws/Rules/Notifications/Circulars and to remit the same to the Government
7. In case of supplies made under Reverse Charge Mechanism, the Supplier needs to comply with the provisions under the GST Laws/Rules/Notifications/Circulars in terms of supply of Goods/Services and raising of invoice, so as to enable BEML to remit applicable GST to Govt., within the prescribed time limit and avail GST Input Tax Credit on the same. If the Supplier fails to comply with the above and as a result if BEML incurs any losses/expenses/cost/penalty, BEML shall be entitled to recover the same from the Supplier. Further the Supplier has to mention that “the liability of payment of GST amounting to Rs ..... is on the Recipient of Service” in the invoice raised on BEML.
8. The Supplier is required to comply with the E-Way Bill Provisions under GST Laws/Rules/Notifications/Circulars. If the Supplier fails to comply with the said provisions and as a result if BEML incurs any losses/expenses/cost/penalty, BEML shall be entitled to recover the same from the Supplier.
9. In case of materials/goods issued to Supplier for Job Work, the Job Work Supplier is required to return the goods within the time limit prescribed in the Purchase Order. If the Job Work Supplier fails to return the goods as above, BEML will be entitled to raise a GST Supply Invoice on the Job Worker Supplier with applicable interest as per the provisions of GST Laws/Rules/Notifications/Circulars. In such cases, BEML will be entitled to recover all such GST/interest on GST /losses/expenses/cost/penalty, etc. incurred by BEML along with interest from the Job Work Supplier. Further in such cases where the GST invoice has been raised by BEML, on return of such goods after the prescribed time limit, the Job Work Supplier needs to return the same under GST invoice.
10. The Supplier have the option to give one Bank Guarantee of appropriate value after considering his estimated value of GST involved in invoices raised on BEML instead of Bank Guarantee for each Contract/Invoice. In case of payment through LC, suitable provisions/clause will be inserted while opening LC to ensure compliances of above conditions. However, if at any point of time value of such Bank Guarantee falls short of GST plus interest thereof, Supplier will have to either furnish Bank Guarantee for Differential value

or such shortfall value of Bank Guarantee vis-à-vis GST plus interest thereof shall be withheld till Suppliers fulfils its obligations specified under above clauses.

BEML will be entitled to recover all losses/expenses/cost/penalty, etc. incurred by BEML along with applicable interest from the Supplier due to reasons other than those attributable to BEML.

11. If the Supplier is a Composition/Unregistered Dealer, the Supplier needs to comply with the provisions under the GST Laws/Rules/Notifications/Circulars in terms of supply of Goods/Service and raising of invoice. In case, the Supplier fails to comply with the above and as a result if BEML incurs any losses/expenses/cost/penalty, BEML shall be entitled to recover the same from the Supplier along with applicable interest.

#### **41. TDS clause:**

##### Applicability of TDS under Income Tax Act 1961:

- a) Tax deduction at source will be applicable on the supplies made by domestic vendors against service purchase orders at the rate as applicable and will be deducted from invoice at the time of accounting of invoice (or) at the time of payment, whichever is earlier as per Income Tax Act, 1961.
- b) Tax deduction at source will be applicable on the supplies made by foreign vendors against service purchase orders at the rate as applicable and will be deducted from invoice at the time of accounting of invoice (or) at the time of payment, whichever is earlier as per Income Tax Act, 1961 or as per law of land as well as Double Taxation Avoidance Agreement (DTAA) between the countries.

Under Income Tax Act, Sec "194Q - Deduction of tax at source on payment of certain sum for purchase of goods" has been introduced effective from 01-07-2021

Extracts of the new provision is brought out below:

1. Any person, being a buyer who is responsible for paying any sum to any resident year, shall, at the time of credit of such sum to the account of the seller or at the time of payment thereof by any mode, whichever is earlier, deduct an amount equal to 0.1 per cent of such sum exceeding fifty lakh rupees as income tax.
- 2) If seller does not have PAN, rate of TDS applicable in such cases is 5%. In such cases income tax return filed u/s 139.
3. Provisions of this section shall not apply to a transaction on which (a) tax is deductible under any of the provisions of this act; and (b) tax is collected under the provisions of section 206C other than a transaction to which sub-section (iH) of section 206C Applies.

##### To meet the above compliance the below points will be followed by BEML:

- TDS at applicable rate will be deducted on all purchase of goods in line with Sec 194Q of the Income Tax Act, effective from 01-07-2021.
- Rate of TDS as per the extant Govt notification is 0.1% of sum exceeding Rs.50 lakhs during the year
- Wherever PAN details are not furnished, TDS at 5% will be recovered. In such cases income tax return filed u/s 139.
- The seller shall furnish PAN details immediately if not furnished earlier.

Note: For the purpose of arriving at Rs 50lakhs as at 2 above, value inclusive of GST combining purchases made by all units of BEML will be considered.

**42. PRODUCT LIABILITY:** Supplier shall assume full responsibility for, indemnify and hold BEML and BEML's sub-contractors harmless from and against any liabilities, product liabilities, action, demand arising out of death of or injury to any person or damage to any property to have resulted from the defects of the ordered parts which are installed in BEML and BEML sub-contractors' rolling stocks either as original facility or as spare parts and replacement parts under the control of this agreement. The total liability of the bidder to BEML under the purchase order shall not exceed the total purchase order value including Service Purchase Order, if any. However, this shall not limit the liability of the contractor under any other provisions of the contract which expressly impose a greater liability.

**43. REVERSE AUCTION TERMS:** Reverse Auction shall be conducted if Minimum 2 technically accepted firms received & Reverse auction will be as per BEML norms. (refer document ReverseAuction\_Terms for details)

BEML LIMITED

**PPENDIX- A**

*(To be executed on plain paper and applicable for all tenders of value \_ Rs. 1 Crore and above)*

**INTEGRITY PACT**

**Between**

**BEML Limited (BEML) hereinafter referred to as “The Principal”**

**And**

..... **hereinafter referred to as “The Bidder/Contractor”**

**Preamble**

The Principal intends to award, under laid down organizational procedures, contract/s for

.....  
The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness / transparency in its relations with its Bidder(s) and / or Contractor(s). In order to achieve these goals, the Principal will appoint an independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

**Section 1 – Commitments of the Principal**

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:
  - a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - b) The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - c) The Principal will exclude from the process all known prejudiced persons.
- (2) If the principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or it there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

**Section 2 – Commitment of the Bidder(s)/ contractor(s)**

- (1) The Bidder(s)/ Contractor(s) commit themselves to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- a) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
  - b) The Bidder(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
  - c) The Bidder(s)/ Contractor(s) will not commit any offence under the relevant IPC/PC Act; further, the Bidder(s) / Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or documents provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
  - d) The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the Agents/ Representatives in India, if any. Similarly, the Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign Principals, if any. Further, as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed at **Appendix (A-1)**.
  - e) The Bidder(s) / Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (2) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3 – Disqualification from tender process and exclusion from future contracts**

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or any other form such as to put his reliability or creditability in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or act as per the procedure mentioned in the "Guidelines on Banning of business dealings".

### **Section 4 – Compensation for Damages**

- (1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- (2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

**Section 5 – Previous Transgression**

- (1) Bidders to disclose any transgression with any other public / government organisation that may impinge on the anti-corruption principle. The date of such transgression, for the purpose of disclosure by the bidders in this regard, would be the date on which cognizance of the said transgression was taken by the competent authority. The period for which such transgression (s) is / are to be reported by the bidder shall be the last three years to be reckoned from date of bid submission. The transgression(s), for which cognizance was taken even before the said period of three years, but are pending conclusion, shall also be reported by the bidders.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in “Guidelines on Banning of business dealings”.

**Section 6 – Equal treatment of all Bidders /Contractors /Sub-contractors**

- (1) The Bidder(s)/ Contractor(s) undertaker(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
- (2) The Principal will enter into agreement with identical conditions as this one with all Bidders, Contractors and subcontractors.
- (3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

**Section 7 – Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s)**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or of the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer

**Section 8 – Independent External Monitor / Monitors**

- (1) The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement
- (2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. It will be obligatory for him to treat the information and documents of the Bidders/Contractors as confidential. He reports to the CMD, BEML.
- (3) The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Subcontractor(s) with

confidentiality.

- (4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- (5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- (6) The Monitor will submit a written report to the CMD, BEML, within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise submit proposals for correcting problematic situations.
- (7) If the Monitor has reported to the CMD, BEML, a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, BEML has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
- (8) The word 'Monitor' would include both singular and plural.

#### **Section 9 – Pact Duration**

This pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by CMD of BEML

#### **Section 10 – Other provisions**

- (1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Corporate Office of the Principal, i.e. Bangalore.
- (2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- (3) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- (4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) The bidder shall not approach the Courts while representing the matters to IEMs and he/ she will await their decision in the matter.
- (6) In case of joint venture, all the partners of the joint venture should sign the Integrity Pact. In

case of sub-contracting, the Principal contractor shall take the responsibility of the adoption of IP by the sub-contractor. It is to be ensured that all sub- contractors also sign IP.

- (7) In the event of any dispute between the management and the contractor relating to those contracts where Integrity Pact is applicable, in case, both the parties are agreeable, they may try to settle dispute through mediation before the panel of IEMs in a time bound manner. If required, the organization may adopt any mediation rules for this purpose.

In case, the dispute remains unresolved even after mediation by the panel of IEMs, the organization may take further action as per the terms and conditions of the contract.

The fees / expenses on dispute resolution shall be equally shared by both the parties.

- (8) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the integrity pact will prevail

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(For & On behalf of the Principal)

-----  
(For & On behalf of Bidder/Contractor)

(Office Seal)

(Office Seal)

Place-----

Place-----

Date -----

Date -----

**Witness 1:**  
(Name & Address)

**Witness 1:**  
(Name & Address)

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**Witness 2:**  
(Name & Address)

**Witness 2:**  
(Name & Address)

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**Appendix A-1****(Applicable Agents / Suppliers to Sign, Seal & Upload / Submit)****GUIDELINES FOR INDIAN AGENTS OF FOREIGN SUPPLIERS**

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BEML LTD shall apply for registration in the prescribed Application-Form available on [www.bemlindia.in](http://www.bemlindia.in).
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/remuneration/ salary/ retainer ship being paid by the principal to the agent before the placement of order by BEML LTD.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
  
- 2.0 DISCLOSURE OF PARTICULARS OF AGENTS/ REPRESENTATIVES IN INDIA, IF ANY:
  - 2.1 Tenderers of Foreign nationality shall furnish the following details in their offer:
    - 2.1.1 The name and address of the agents/representatives in India, if any and the extent of authorization and authority given to commit the Principals. In case the agent/representative be a foreign Company, it shall be confirmed whether it is real substantial Company and details of the same shall be furnished.
    - 2.1.2 The amount of commission/remuneration included in the quoted price(s) for such agents/representatives in India.
    - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration if any, payable to his agents/representatives in India, may be paid by BEML LTD in Indian Rupees only.
  - 2.2 Tenderers of Indian Nationality shall furnish the following details in their offers:
    - 2.2.1 The name and address of the foreign principals indicating their nationality as well as their status, i.e, whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/representatives.
    - 2.2.2 The amount of commission/remuneration included in the price (s) quoted by the Tenderer for himself.
    - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/remuneration, if any, reserved for the Tenderer in the quoted price (s), may be paid by BEML LTD in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission /remuneration, if any payable to the agents/representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph-2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BEML LTD. Besides this there would be a penalty of banning business dealings with BEML LTD or damage or payment of a named sum.

Signature

(For & On behalf of Bidder/Contractor)

**APPENDIX-B****COMPLIANCE FOR SUBMISSION OF NON - DISCLOSURE AGREEMENT****Bid Invitation No** :**Firm** :

<b>Sl. No.</b>	<b>Clause Description</b>	<b>Complied / Not Complied</b>	<b>Remarks</b>
01	Interested Bidders have to submit Non-Disclosure Agreement along with Technical Bid as per the prescribed format provided by BEML along with this tender (soft copy by email and original hard copy by courier / post)		

**Authorized signatory with company seal / stamp**

## APPENDIX – C

**COMPLIANCE REPORT OF GENERAL TERMS & CONDITIONS**

(To be submitted along with Technical Bid)

**Bid Invitation No** :**Firm** :**Item details** :

Sl. No.	Terms / Clause	Complied	Not Complied	Remarks
1.	DEFINITIONS & INTERPRETATIONS			
2.	SUBMISSION OF THE TENDER			
3.	PURCHASE PREFERENCES			
4.	SUPPLIERS SHARING LAND BORDER WITH INDIA			
5.	DELIVERY TERMS			
6.	PAYMENT			
7.	PRICE BID VALIDITY			
8.	FIRM PRICE			
9.	INSPECTION			
10.	WARRANTY			
11.	PERFORMANCE BANK GUARANTEE (PBG)			
12.	RIGHT TO VARY QUANTITIES & QUANTITY OPTION CLAUSE			
13.	LIQUIDATED DAMAGES CLAUSE			
14.	RISK PURCHASE CLAUSE			
15.	SECRECY AND CONFIDENTIALITY			
16.	AUTHORITY OF PERSONS SIGNING DOCUMENT			
17.	ACCEPTANCE OF ORDER			
18.	OTHER CONDITIONS			
19.	PRICE, INVOICING AND PAYMENT			
20.	PROGRESS REPORT			
21.	QUALITY & WORKMANSHIP			

**Authorized signatory with company seal / stamp**

## APPENDIX – C

**COMPLIANCE REPORT OF GENERAL TERMS & CONDITIONS**

(To be submitted along with Technical Bid)

**Bid Invitation No** :**Firm** :**Item details** :

22.	QUALITY, CONDITION OF DELIVERY			
23.	SUPPLY OF SAMPLE (If Applicable)			
24.	INSPECTION, TESTING & CONSEQUENCE OF REJECTION			
25.	LAWS APPLICABLE			
26.	RAWMATERIALS ARRANGEMENT			
27.	IDENTIFICATION OF ITEMS / PIECES			
28.	PACKING AND MARKING			
29.	APPLICABLE LAWS AND JURISDICTION OF COURTS			
30.	JURISDICTION			
31.	ARBITRATION			
32.	INTELLECTUAL PROPERTY RIGHTS; LICENSES			
33.	BRIBES AND GIFTS			
34.	FORCE MAJEURE CLAUSE			
35.	FALL CLAUSE			
36.	NON DISCLOSURE AND INFORMATION OBLIGATIONS			
37.	ASSIGNMENT OF RIGHTS AND OBLIGATIONS; SUBCONTRACTING			
38.	DIVISION OF PATRONAGE			
39.	INTEGRITY PACT			
40.	GST TERMS & CONDITIONS			
41.	TDS CLAUSE			
42.	PRODUCT LIABILITY			
43.	REVERSE AUCTION TERMS			

**Authorized signatory with company seal / stamp**

**APPENDIX – X**

SL No.	Description	Complied / Not-Complied	Remarks
1	Defect Notification Period:  <b>DNP starts from date of supply of materials and ends after 30 months from the date of placement of trains into revenue service.</b>		
2	Design and customization of product/sub system to meet requirement, at the cost of this project shall not be used by BEML's supplier(s) in any other project other than BEML and ICF.		
3	There will be additional requirement of <b>Cable Accessories &amp; Electrical Accessories</b> for repair/replacement during CAMC period (15 Years) of revenue service. The supplier has to give concurrence for the additional requirement & support on as & when required basis.  CAMC will start after successful completion of Defect Notification Period (DNP).		

**PERFORMANCE BANK GUARANTEE**

Bank Guarantee No.....  
 Dated .....  
 Amount .....  
 Valid upto .....  
 Claim upto .....

The General Manager (Materials- Management)  
 BEML  
 Bangalore Complex  
 PB No 7501  
 New Thippasandra  
 Bangalore 560075

1. This deed of Guarantee made this day of..... (Month& year) between Bank of..... (Hereinafter called the "Bank") of the one part, and BEML LIMITED (Hereinafter called "the Employer") of the other part.
2. Whereas BEML LIMITED has awarded the contract for..... (Name of work as per PO) (Hereinafter called the "Contract") to..... (Name of the Contractor) (Hereinafter called "the Contractor").
3. AND WHEREAS the Contractor is bound by the said Contract to submit to the Employer a Performance Security for a total amount of.....(Amount in figures and words).
4. Now, We the Undersigned.....(Name of the Bank) being fully authorized to sign and to incur obligations for and on behalf of and in the name of.....(Full name of Bank), hereby declare that the said Bank will guarantee the Employer the full amount of Rs. .... (Amount in figures and words) as stated above.
5. NOW THEREFORE, We hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor and we hereby unconditionally, irrevocably and without demur undertake to immediately pay to the Employer upon first written demand and without cavil or argument, any sum or sums within limits of.....(Amount of Guarantee) as aforesaid without reference to the Contractor and without your needing to prove or show grounds or reasons for your demand for the sum specified therein. The Bank shall pay to the Employer any money so demanded notwithstanding any dispute/disputes raised by the Contractor in any suit or proceedings pending before any Court, Tribunal or Arbitrator/s relating thereto and the liability under this Guarantee shall be absolute and unequivocal.
6. This Guarantee is valid till.....(The initial period for which this Guarantee will be valid must be for at least 6-months (six months) longer than the anticipated expiry date of defect liability period / Warranty period as stated in Clause 11 of Annexure IV - Notice Inviting Tenders.
7. At any time during the period in which this Guarantee is still valid, if the Employer agrees to grant a time extension to the Contractor or if the Contractor fails to complete the Works within the time of completion as stated in the Contract, or fails to discharge himself of the liability or damages or debts as stated under Para 5, above, it is

understood that the Bank will extend this Guarantee under the same conditions for the required time on demand by the Employer and at the cost of the Contractor.

- 8. The Bank agrees that no change, addition, modifications to the terms of the Contract Agreement or to any documents, which have been or may be made between the Employer and the Contractor, will in no way release us from the liability under this Guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification to the Bank.
- 9. The Guarantee here in before contained shall not be affected by any change in the Constitution of the Bank or of the Contractor.
- 10. The neglect or forbearance of the Employer in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by the Employer for the payment hereof shall in no way relieve the bank of their liability under this deed.
- 11. The expressions "the Employer", "the Bank" and "the Contractor" hereinbefore used shall include their respective successors and assigns.
- 12. Notwithstanding anything contained herein:
  - (a) Our liability under this Bank Guarantee shall not exceed Rs..... (Rs.....)
  - (b) This Bank Guarantee shall be valid up to.....
  - (c) We are liable to pay the Guarantee amount or part thereof under this Bank Guarantee only & only if you serve upon us a written claim or demand on or before

In witness whereof I/We of the bank have signed and sealed this Guarantee on the.....day of..... (Month & year) being herewith duly authorized.

For and on behalf of the .....Bank.

**Signature of Authorized Bank officials.**

Name :.....

Designation : .....

Stamp/Seal of the Bank.....

Signed, sealed and delivered for and on behalf of the Bank by the above named .....in the presence of:

**Witness 1.**

**Witness 2.**

Signature.....

Signature.....

Name.....

Name.....

Address.....

Address.....

**CONFIDENTIALITY AGREEMENT**

**(To be typed on plain paper and submitted along with the technical bid)**

This Confidentiality Agreement is made and entered into between M/s BEML, (hereinafter referred to as BEML), a Govt. of India Undertaking under Ministry of Defence, having its Registered Office at BEML Soudha, No.23/1, 4th Main, Sampangirama Nagar, Bangalore – 560 027 and M/s ----- (hereinafter referred as XXXX) having its Registered Office at..... M/s. BEML, has been patronizing XXXX for components / spares listed in Annexure hereto. A need has been felt to revitalize the business relationship for mutual advantage.

- 1) It is mutually, therefore, agreed that the following shall form part of the terms and conditions for continued business:
  - a) The supplier shall not divulge to anyone else except under the authority and for the purposed of BEML, all information such as technical data, specifications, drawings, models of specimens furnished / supplied by BEML for the purpose of manufacture or in connection with developmental activities, constitute the property of BEML and the supplier shall keep them in strict confidence. This has been explicitly stated in all the details to the supplier through Purchase Order / Drawings etc., released.
  - b) The supplier shall not supply the components / spares exclusively manufactured for BEML with the Technical Data / Specifications / assistance furnished by BEML and shall not disclose my initiations, development of adaptations thereof to anyone else except with the written consent of BEML.
  - c) BEML shall be entitled to prevent breach of the above and to claim damages in case of any breach. It is hereby mutually agreed that for breach of this agreement the Vendor shall pay, without actual proof of damages, a liquidated amount of Rs. 1.00 Crore (Rupees One Crore only).
  - d) **ARBITRATION:** In the event of any question or disputes arising under these conditions or any other terms and conditions of contract or in connection with this contract (except as to any matters the decision of which is specially provided for by these conditions) the same shall be referred to an award of a Sole to be appointed by BEML with the consent of the Contractor / Vendor Supplier and the Arbitration proceedings of Arbitration and Conciliation Act 1996. The Courts in Bangalore alone shall have jurisdiction to deal and decide any legal matter or dispute whatsoever arising out of this Contract.
- 2) BEML shall be entitled to prevent breach of the above and to claim damages in case of any breach.
- 3) The Signatories hereto declare that they have the sanction and power to execute and deliver this binding agreement.

IN WITNESS WHEREOF, the parties hereto have set their respective hands to this Confidentiality Agreement on ..... written in the presence of Witness.

**For BEML**

**For M/s. XXXX**

**WITNESS:**

1.

1.

2.

2.

## APPENDIX – F

**DECLARATION TO CLAIM PURCHASE PREFERENCE UNDER PUBLIC PROCUREMENT POLICY - PREFERENCE TO 'MAKE IN INDIA' ORDER 2017**

**(To be executed in plain paper and to be submitted along with technical bid)**

Preference shall be given to Class-I local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products.

The Bidder shall self certify (or) provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving percentage of local content.

**In cases of procurement for a value in excess of Rs.10 crores, Class-I local supplier / Class-II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving percentage of local content**

\*\*\*\*

We, M/s \_\_\_\_\_ with its registered office at \_\_\_\_\_ claim purchase preference under Public Procurement Policy – Preference to 'Make in India' Order 2017

CONDITION	Bidder to tick (√) the respective Boxes	
	COMPLIED	NOT COMPLIED
The Goods / Items / Stores, offered meets the minimum local content of 50% . Local content means the amount of value added in India which shall be the total value of the item / Goods/ Stores procured (excluding net domestic Indirect taxes) minus the Value of the import content in the item (including all custom duties) as a proportion of the total value in Percent		
The Goods / Items / Stores, offered meets the minimum local content of more than 20% and less than 50% . Local content means the amount of value added in India which shall be the total value of the item / Goods/ Stores procured (excluding net domestic Indirect taxes) minus the Value of the import content in the item (including all custom duties) as a proportion of the total value in Percent		
Address of Location(s) at which the local value addition is made.		

**Authorized signatory with company seal / stamp**

## APPENDIX – G

**CERTIFICATE FOR LAND BORDER SHARING**

**(To be executed in plain paper and to be submitted along with technical bid)**

**Bidders to refer, GOI office memorandum No. F.No.6/18/2019-PPD of Department of Expenditure Public Procurement Division, amended time to time and its subsequent Orders/Notifications**

The Bidder accordingly Certifies as below:

“ I / We, have read the clause regarding restrictions on procurement from the bidder of a country which shares a land border with India; I certify that the Bidder / Vendor is not from such a country or, if from such a country, has been registered with the Competent Authority. I here by Certify that this Vendor / Bidder fulfills all requirements in this regard and is eligible to be concerned for procurement on BEML SRM / GeM ”

[ Where ever applicable, evidence of valid registration by the Competent Authority shall be attached]

**Authorized signatory with company seal / stamp**

**COMPLIANCE REPORT TO BEML DRAWINGS / TECHNICAL DELIVERY  
CONDITIONS (TDC)**

(To be submitted along with Technical Bid)

**Bid Invitation No** :

**Firm** :

Sl. No.	Clause Description	Complied / Not Complied	Remarks
01	<p>The technical requirement as per BEML Drawings &amp; Technical Delivery Conditions (TDC) enclosed is fully understood by the bidding firm and the firm is bidding for the same.</p> <p>Items / Quantities are as under:</p> <p>TABLE – 1 (A) : CABLE ACCESSORIES</p> <p>TABLE – 1 (B) : ELECTRICAL ACCESSORIES</p> <p>Make: ABB make (ABB part numbers as per Drawings)</p> <p>Total: 79 Items</p>		
02	<p>Bidders to confirm whether quotation is submitted for all tendered line items as <b>evaluation / Commercial ranking shall be arrived based on the Grand Total of all the tendered items together.</b></p>		

1. Bids of firms having any history of pending litigations, default in and Risk purchase against previous orders of BEML (including all Divisions) are liable for rejection at any stage if found at later stage. Hence, Bidders are requested to cross-check at their end before participation in the Tender.

2. Technical offers not complying / fulfilling the above requirements are liable to be rejected.

3. The Price details/commercial bid details should not be given in Technical bid , if any bidder have given any price/commercial details in the Technical bid , their offer is liable for rejection and will not be considered.

I / We certify that to the best of my/our knowledge, the information & particulars furnished above are true. It is understood that the information furnished will be treated as confidential and will not be divulged to unauthorized persons.

**Authorized signatory with company seal / stamp**

**LIST OF DOCUMENTS ATTACHED WITH THE TENDER**

- 1) Notice Inviting Tender (NIT)
- 2) Non-Disclosure Agreement
- 3) BEML Drawings & Technical Delivery Conditions (TDC)
- 4) ReverseAuction\_Terms (Applicable in case Reverse Auction Event is conducted)

Contact Details:

Email ID: [ravikumar.adepu@bemltd.in](mailto:ravikumar.adepu@bemltd.in) / [Prasanna.n@bemltd.in](mailto:Prasanna.n@bemltd.in)

Phone: 080-25022639 / 080-25022634

Address Details for Sending Original Hard Copy of Non-Disclosure Agreement

Kind Attn: Mr. Prasanna N  
DGM (MM B/O Rail BC)  
Functional Head- Purchase- Commuter Rail  
M/s. BEML LIMITED  
BANGALORE COMPLEX,  
POST BOX: 7501,  
NEW THIPPASANDRA POST,  
BANGALORE-560075

- Email ids for correspondence : [ravikumar.adepu@bemltd.in](mailto:ravikumar.adepu@bemltd.in) / [prasanna.n@bemltd.in](mailto:prasanna.n@bemltd.in) / [mahanthesh.gm@bemltd.in](mailto:mahanthesh.gm@bemltd.in)
- Any queries/clarifications may be sent to the above mail ids.
- It is suggested that all the interested bidders may obtain all the clarifications if any before submitting the bids.
- Any modification of tender conditions which may become necessary, shall be made by BEML and the same will be intimated in BEML SRM portal.
- All Corrigenda, Addenda, Amendments, Clarifications etc, if any issued shall be part of the Bidding documents. Prospective Bidders shall sign the same with seal and upload as a part technical bid

**REVERSE AUCTION TERMS:**

Reverse Auction would be conducted for the technically qualified firms (2 or more firms) with proper training on Reverse Auction process.

If reverse auction is conducted, then the start bid price in reverse auction by any vendor shall be lesser than or equal to the quote by that vendor in their commercial bid.

On completion of reverse auction, the commercial bids of technically acceptable vendors would be opened to verify the start bid price in reverse auction by any vendor is equal or less than the commercial bid by that vendor. In case it is noticed that the start bid price by any vendor is more than the commercial bid, then the vendor will not be considered for further commercial evaluation.

In case the technically accepted vendor is not participating in reverse auction, then the commercial bid of the firm would not be opened.

## NON-DISCLOSURE AGREEMENT

This Non-Disclosure Agreement (hereinafter referred to as “the Agreement”) is made on this.....day of ..... (“Effective date”) by and between:

**BEML Limited**, a Govt. of India Undertaking under the administrative control of Ministry of Defence, Government of India and a company incorporated under the provisions of Companies Act 1956, having its registered & Corporate Office at BEML SOUDHA", 23/1, 4th Main, SR Nagar, Bengaluru-560 027, represented by **Mr. Prasanna.N, DGM, Materials, Commuter Rail SBU** (hereinafter referred to as “The Principal”/”BEML”, which expression shall mean and include its successors in interest and permitted assigns) on the First Part

AND

M/s ..... having its registered Office at ..... represented by its \_\_\_\_\_ Mr./Ms. \_\_\_\_\_ (hereinafter called as “The contractor”, which expression shall mean and include its successors in interest and permitted assigns) on the Other Part.

Hereinafter the Principal and the contractor shall be collectively referred as the “Parties” and individually referred to as a “Party” in reference to this agreement.

### **1.0 PURPOSE**

Ministry of Railways (hereinafter referred to as MOR), Government of India have decided to develop indigenous trainsets for speeds of 280/249 km/h on Standard Gauge through BEML (“Project”).

The purpose of this Agreement is to enable the contractor to properly manage and maintain the confidentiality of the information being provided or disclosed by The Principal for the development of the indigenous trainset compatible with the Project.

### **2.0 DEFINITIONS**

The following terms as used in this Agreement are defined as follows:

#### **2.1 “Confidential Information” shall mean:**

Confidential information as provided or shared by the Principal, in connection with or relating to the Project, to the contractor, any information related to the Project (such as, but not limited to technical documents and technical data, business documents, drawings and commercial data) including written information, and information contained in any form of media or device, that is clearly identified by The Principal as ‘confidential’/’Proprietary’ at the time of its disclosure.

#### **2.2 Notwithstanding anything else contained in this Agreement, the Confidential Information shall not include any information:**

- (a) that is, at the time of its disclosure, possessed by the contractor without owing any confidentiality obligation;
  - (b) with regard to the technology or knowledge that is independently developed by the contractor without use of or reference to any Confidential Information;
  - (c) that is properly acquired by the contractor from a third party without owing any
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confidentiality obligation and such third party is not in breach of any confidentiality obligation relating to such information.

- (d) that the Principal, by prior written consent, permits the disclosure (however subject to terms and conditions of such consent from the Principal).
- (e) that is disclosed by the Principal to a third party without imposing any confidentiality obligation thereon; or
- (f) that subsequently becomes publicly known for a reason other than that attributable, directly or indirectly, to the contractor after its disclosure.

### **3.0 CONFIDENTIALITY**

**3.1** The contractor shall be obligated to keep the Confidential Information in confidence with the reasonable care of a good manager and shall not disclose or divulge the Confidential Information to any third party. Upon discovery of any breach of this Agreement or improper disclosure or misuse of the Confidential Information, the contractor shall notify the Principal and shall take all necessary actions to prevent any further breach, improper disclosure or misuse, including by causing the persons to whom the contractor disclosed the Confidential Information to agree and adhere to non-disclosure terms similar to those set forth in this Agreement.

**3.2** Notwithstanding Section 3.1 above, the contractor may disclose Confidential Information:

(i) to the extent necessary, to (a) The contractor's officers and employees (hereinafter collectively referred to as the "Employees") who need to know such Confidential Information for purposes of the Project, (b) lawyers, advisors and other specialists owing confidentiality obligations under applicable laws, regulations or agreements and who are engaged by the contractor to render services in connection with the Project (c) potential subcontractors/manufacturers/suppliers of the contractor and (ii) in accordance with applicable laws, rules and regulations, and any mandatory order by a court with jurisdiction or other public agency with jurisdiction; provided, however, that, if, and legally permitted to do so, the contractor shall promptly notify the Principal and take reasonable steps to assist the Principal in contesting such order or otherwise in protecting the Principal's rights prior to disclosure, to minimize the Confidential Information which is disclosed to follow such order.

**3.3** The contractor shall impose upon all of the employees who have or have had access to the confidential information, confidentiality obligations which continue after such Employee's retirement/resignation /leave from the contractor, equivalent to those of the contractor under this Agreement and shall ensure such Employees comply there with. The contractor shall be jointly and severally responsible with such Employees (including former Employees) for any breach of such confidentiality obligations by such Employees (including former Employees).

**3.4** The contractor shall insert the relevant clause in their agreement/contract to impose the same obligation as stipulated in this Agreement to other members, consultants, subcontractors, attorneys, manufacturers, suppliers etc. as stated at Section 3.2 above.

Provided always that for breach of the confidentiality obligation by the consultants, subcontractors, attorneys, manufacturers, suppliers etc., the Contractor shall be held liable and responsible for its consequences.

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#### **4.0 INTELLECTUAL PROPERTY RIGHTS**

The Parties have expressly understood and agreed that all rights, including but not limited to those rights for property and intellectual property rights (including but not limited to patent rights, design rights, copyrights, trade secret rights and all other intellectual and industrial property rights of any sort throughout the world, the same shall apply hereinafter), regarding the Confidential Information or any other information mutually shared among the Parties will remain the exclusive property rights of the Principal.

#### **5.0 NO WARRANTIES**

The contractor has expressly understood and agreed that the Principal only have obligation under or by virtue of this Agreement to enter into furnishing, trading, development, or technology licensing agreement, or any other agreement, any products, services, or any technologies with respect to the Project.

The Principal does not warranty on the accuracy or suitability of the Confidential /Proprietary Information being exchanged under this Agreement and all Confidential Information is provided on an "As Is" basis.

#### **6.0 EXPORT CONTROL**

Parties hereby confirm and agree to adhere to the Export Control laws and regulations and perform any necessary procedures, including obtaining export permits.

#### **7.0 DAMAGES**

The Contractor agrees to indemnify, save and hold harmless the Principal from and against any and all losses, liabilities, expenses (including, legal fees and costs), claims, liens, damages or the like (limited to common direct damages actually incurred) incurred by the Principal as a result of any breach of any provision of this Agreement.

#### **8.0 GOVERNING LAW**

This Agreement shall be governed by and construed in accordance with the laws of the Republic of India.

#### **9.0 JURISDICTION**

This NDA shall be subject to the exclusive Jurisdiction of courts at Bangalore.

#### **10.0 DISPUTE RESOLUTION:**

The Parties shall endeavor to resolve all disputes arising out of this Agreement or relation thereto, amicably through mutual discussions through their authorized representatives or by negotiation, mediation, conciliation etc.

In case of disputes between CPSE's or a Government Department(s)/Organization(s)

Any unresolved disputes between the parties shall be settled

by referring the same to AMRCD forum of DPE, Government of India in terms of the DPE OM No. 05/0003/2019-FTS-10937 dated 14.12.2022 and DPE OM No : 05/0002/2023-AMRCD dated 25/07/2024 in case of Government agencies.

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(In case of Private firms)

Any unresolved disputes shall be referred to and resolved by arbitration with the rules of Arbitration of the India International Arbitration Centre (IIAC), New Delhi. The Arbitration shall consist of a Sole Arbitrator to be appointed in accordance with the Rules of IIAC. The arbitration proceedings shall take place/seat of arbitration shall be New Delhi, and be conducted in the English Language. The Arbitration proceedings will be administered by the India International Arbitration Centre (Conduct of Arbitration) Regulations, 2023 and all arbitration proceedings shall be conducted in English language. The award of the sole arbitrator shall be final and binding on all the parties

## **11.0 TERM**

11.1 The effective term of this Agreement shall be for a six (6) years period from the date hereof, and thereafter automatically extended for successive period of one (1) year each, unless each party shall have otherwise notified to the other parties in writing at least one (1) month prior to the expiry of this agreement or any extension thereof.

11.2 Notwithstanding the above, the obligations of the contractor in relation to the Confidential Information shall survive after the termination of this Agreement.

11.3 Upon the termination of this Agreement, or at any time prior thereto upon the written request of The Principal, The contractor shall cease all use of and shall promptly return to The Principal (at the expense of the contractor), or shall promptly destroy in accordance with the reasonable instructions of The Principal, all of the Confidential Information it received that is in tangible or electronic/digital form (including but not limited to originals, all summaries, copies and excerpts). In the event of its destroying, the contractor shall destroy such Confidential Information by the way of non-reusable.

## **12.0 MISCELLANEOUS**

12.1 This Agreement constitute the entire agreement between the Parties as to the subject matter hereof and supersedes any and all previous agreements or communication, whether oral or written, as to its subject matter. It may be modified only by the written agreement of the Parties.

12.2 Any confidential information disclosed to contractor by The Principal before execution of this Agreement shall be treated subject to this agreement.

12.3 If any provision or provisions of this Agreement declared invalid or unenforceable, such invalidity or unenforceability shall not render the entire agreement invalid. Rather, this Agreement shall be construed as if not containing the particular invalid or unenforceable provision, and the right and obligations of each Party shall be construed and enforced accordingly.

12.4 No failure or delay by each Party in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercises of any rights, powers or privileges hereunder.

12.5 This Agreement constitutes a non-disclosure agreement only and shall not be construed as a teaming, joint venture or other such arrangement. Nothing in this Agreement shall grant any Party the right to make commitments of any kind for or on behalf of the other Party without the prior written consent of the such other Party.

13 It is expressly understood and agreed by and between.....and BEML that BEML is entering into this agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this agreement and has no liabilities, obligations or rights hereunder. It is expressly understood and agreed that BEML is an independent legal entity with power and authority to enter into contracts solely in its own behalf under the applicable Laws of India and general principles of Contract Law. .... expressly agrees, acknowledges

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and understands that BEML is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly,..... hereby expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Government of India arising out of this contract and covenants not to sue the Government of India as to any manner, claim, cause of action or thing whatsoever arising of or under this agreement"

"Whereof, the parties hereto have caused this Agreement to be executed on the day, month and year specified below.

For & on behalf of **The Principal**

For and on behalf of **The contractor**

Signed by

Signed by

Name

Name

Position

Position

Date

Date

Company

Company

Company Stamp

Company Stamp

WITNESSES:

1 Signed by

2. Signed by


Name

Name

Designation

Designation


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	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Cable Clamp Adapters.</b>	<b>Drg Nos.: 843-20645 TO 843-20651, 843-20680</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM.</p>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Sl. No.</b>	<b>Technical Delivery Conditions</b>	<b>COMPLIED</b>	<b>NOT COMPLIED</b>
	<p>Items which are proven in service in previous projects of OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: BEML/GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Cable Gland.</b>	<b>Drg Nos.: 843-20619 TO 843-20621</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of</p>	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Conduit Clamp.</b>	<b>Drg Nos.:</b> <b>843-20622 TO 843-20634,</b> <b>843-20636 TO 843-20644</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Conduits</b>	<b>Drg Nos.:</b> <b>843-20611 TO 843-20618</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>End fittings</b>	<b>Drg Nos.: 843-20601 TO 843-20610</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of</p>	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>External Fittings T and Y Type</b>	<b>Drg Nos.:</b> <b>843-20658 TO 843-20660</b> <b>843-20663 TO 843-20670,</b> <b>843-20679</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM.</p>	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>Items which are proven in service in previous projects of OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Locknut</b>	<b>Drg Nos.: 843-20671 TO 843-20676</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of</p>	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		


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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Reducers.</b>	<b>Drg Nos.: 843-20645 TO 843-20651</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM. Items which are proven in service in previous projects of</p>	<input type="checkbox"/>	<input type="checkbox"/>

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
	<p>OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		

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Signature of the Bidder with Seal  
(Name, Designation & Address)

	<b>TECHNICAL DELIVERY CONDITION</b>	<b>Project: TRAIN B28</b>
<b>Aggregate</b>	<b>Tube Clamp.</b>	<b>Drg Nos.:</b> <b>843-20661,843-20662,843-20677,843-20678</b>
<b>BEML Enquiry/ RFQ Reference:</b>		

Sl. No.	Technical Delivery Conditions	COMPLIED	NOT COMPLIED
1	The firm shall supply the items as per the technical requirements in the drawings.	<input type="checkbox"/>	<input type="checkbox"/>
2	The firm shall be OEM (or) OEM authorized dealer. Authorized dealer shall submit, the relevant authorization letter from the OEM along with the Tender.	<input type="checkbox"/>	<input type="checkbox"/>
3	The firm shall submit material test certificates as specified in the drawing.	<input type="checkbox"/>	<input type="checkbox"/>
4	The firm to provide the test reports for fire safety requirement EN45545, HL2 or above test as mentioned in the drawings along with the tender.	<input type="checkbox"/>	<input type="checkbox"/>
5	The firm shall submit relevant Type test certificates and Routine test certificates.	<input type="checkbox"/>	<input type="checkbox"/>
6	The firm shall submit data sheet with vendor part number against BEML part number along with their technical offer.	<input type="checkbox"/>	<input type="checkbox"/>
7	One proto type sample shall be submitted for approval before commencing bulk supply.	<input type="checkbox"/>	<input type="checkbox"/>
8	The item shall be packed to ensure that no damage will occur during transit & storing at BEML.	<input type="checkbox"/>	<input type="checkbox"/>
9	<p>The Proposed items should have been proven design i.e., the design of the proposed items shall be based on sound, proven and reliable engineering practices and designed for High-Speed Trains. For the avoidance of doubt, the Supplier shall conduct such tests and trials as may be necessary to establish the reliability and efficiency of such technology and designs in accordance with the good industry practice with proven record and suitable to high-speed trains operating at speeds above 250 kmph.</p> <p>The proposed items manufactured and supplied for installation in trainsets operating at speed of 250 kmph and above, in at least one project during the past five years prior to the bid opening date or shall have been supplied to at least three mass rapid transit systems which are in commercial/revenue service over a period of three years or more (in each MRTS).</p> <p>The Supplier shall submit the relevant supporting for the above along with the technical offer.</p>	<input type="checkbox"/>	<input type="checkbox"/>
10	<p>If the firm is OEM authorized dealer, then firm has to submit commitment letter/ undertaking from OEM in OEM letterhead stating</p> <p>1. "Design, interface, manufacturing process, quality control, type testing shall be responsibility of OEM.</p>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Sl. No.</b>	<b>Technical Delivery Conditions</b>	<b>COMPLIED</b>	<b>NOT COMPLIED</b>
	<p>Items which are proven in service in previous projects of OEM shall be supplied.</p> <p>2. We have read and understood the BEML drawing &amp; technical delivery condition (TDC) requirement and we will supply items as per BEML requirement for bid Number: GEM BID NO: _____ for Train B28 project.</p> <p>3. We will provide all test reports for the standard mentioned in the BEML drawings for review and approval of BEML after award of contract.</p> <p>Also, OEM has to mention their Manufacturing plant details/address of offered item for this tender.</p>		

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Signature of the Bidder with Seal  
(Name, Designation & Address)

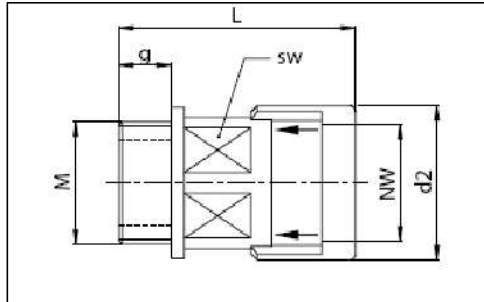
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M20 X 1.5	12	11	39.5	26	20

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M202-10 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
						MATERIAL
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M20X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1		1 OF 1
				DRG No.	843-20601	
				ALT		
				0		

ಬೆಂಗಳೂರು ಕಂಪ್ಲೆಕ್ಸ್  
 BANGALORE COMPLEX  
 Beyond Possibilities

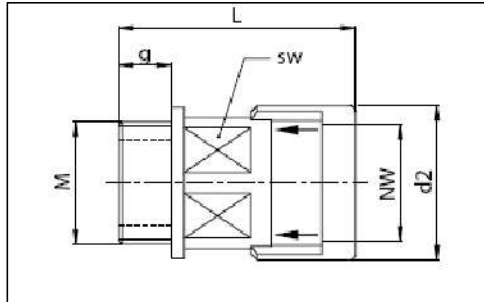
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M20 X 1.5	17	11	47.5	26	26

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M207-10 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
						MATERIAL
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M20X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20602		

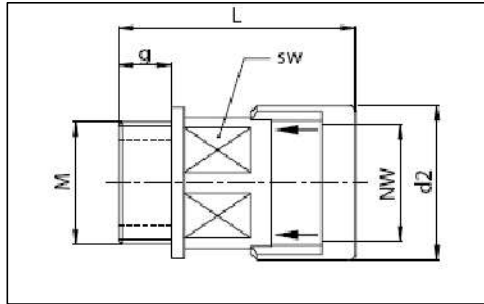
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M25 X 1.5	23	12	52.0	37	32

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M253-11 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M25X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE	1:1	SHEET
				DRG No.	843-20603	
						ALT
						0

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**BEM** BANGALORE COMPLEX  
 Beyond Possibilities

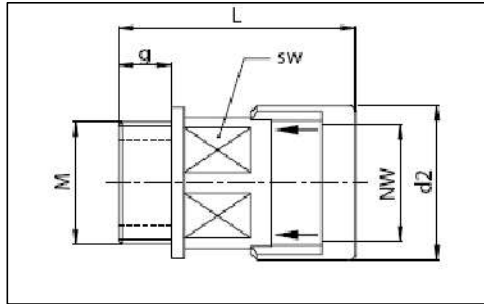
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M32 X 1.5	23	15	55.5	43	32

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M323-13 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
						MATERIAL
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M32X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20604		

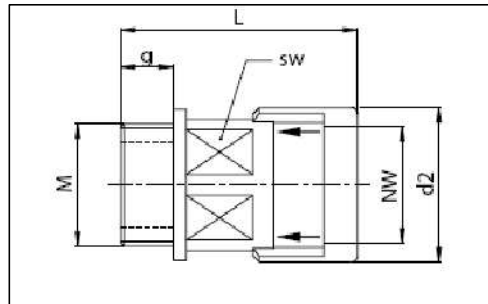
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M32 X 1.5	29	15	56	44	40

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M329-13 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M32X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20605		

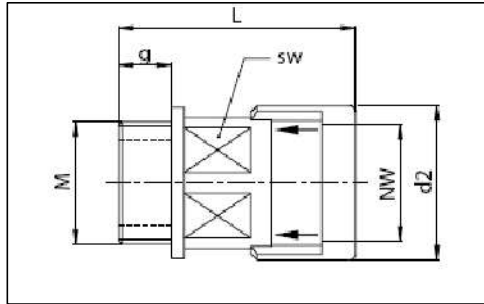
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M40 X 1.5	29	19	60	49	40

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M409-13 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M40X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1		1 OF 1
				DRG No.		Wt.(Kg)
				843-20606		0
				BANGALORE COMPLEX		ALT

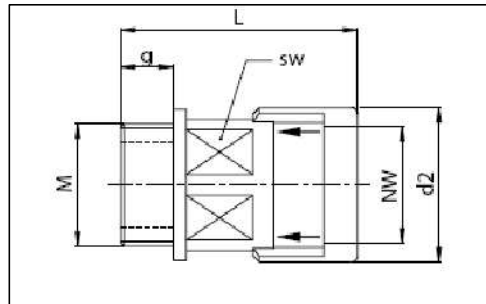
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M40 X 1.5	36	19	72	55	50

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M406-13 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
						MATERIAL
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M40X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1		1 OF 1
				DRG No.	843-20607	
				ALT		0
				BEM BANGALORE COMPLEX		

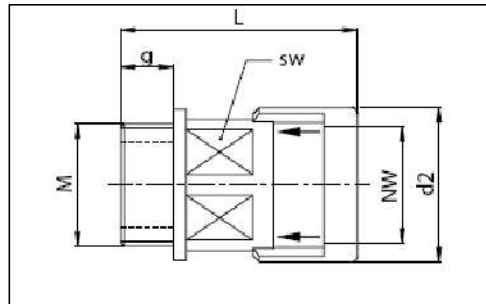
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M50 X 1.5	36	19	72	59	50

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M506-14 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M50X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE	1:1	SHEET
				DRG No.	843-20608	
						ALT
						0

**BANGALORE COMPLEX**  
 Beyond Possibilities

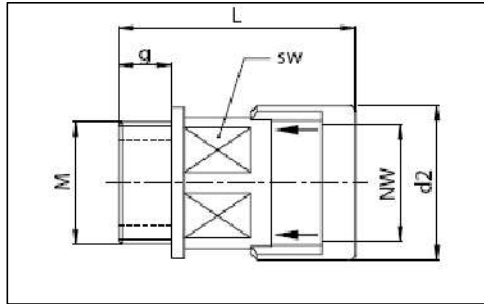
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M50 X 1.5	48	19	72.5	69	65

**NOTE:** THE PRODUCT SHALL BE OF PART NO: NVNV-M508GT OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
						MATERIAL
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M50X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20609		

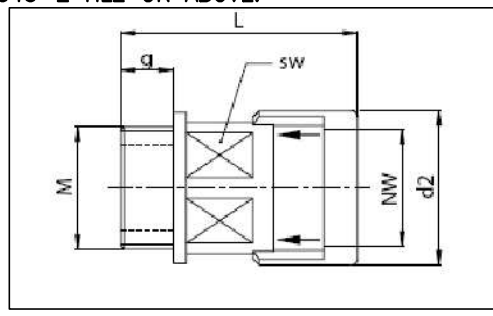
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : END FITTING.
2. MATERIAL : FITTING - POLYAMIDE ; THREAD - NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -50°C TO +105°C.
5. SHORT TERM : 160°C.
6. INGRESS PROTECTION: IP66
7. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
8. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
9. HALOGEN FREE AND CADMIUM FREE
10. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION					
Thread	NW	Dimensions in mm			
		g	L	d2	SW
M63 X 1.5	48	19	72	75	65

**NOTE:** THE PRODUCT SHALL BE OF PART NVNV-M638-14 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			END FITTING M63X1.5 (METAL THREAD)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20610		

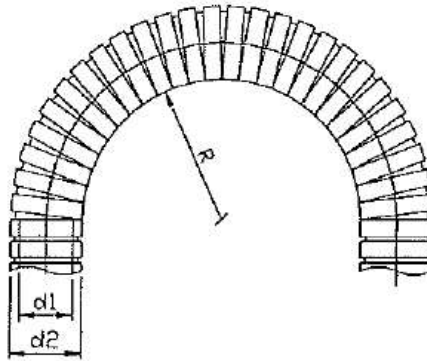
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817					WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				
INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5									

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: FINE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
7	7	6.6	10.0	15

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFT-07B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG7	DRWN	NP	19.02.2026
				SCALE	1:1	SHEET
					Wt.(Kg)	0
				DRG No.	843-20611	
					ALT	0
					BANGALORE COMPLEX	



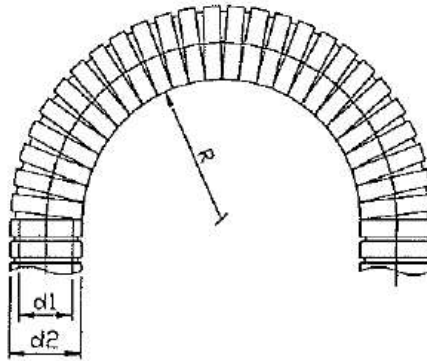
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817					WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				
INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5									

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: FINE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
10	9	9.6	12.8	20

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFT-10B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG9	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20612			

BANGALORE COMPLEX  
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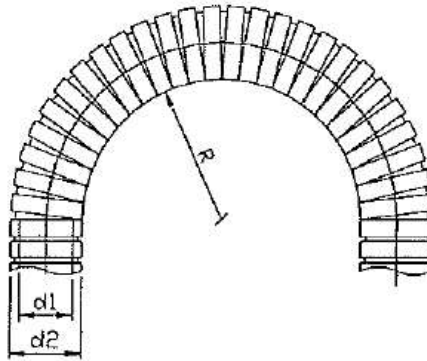
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: FINE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
12	11	11.8	15.6	25

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFT-12B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG11	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20613			

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 Beyond Possibilities

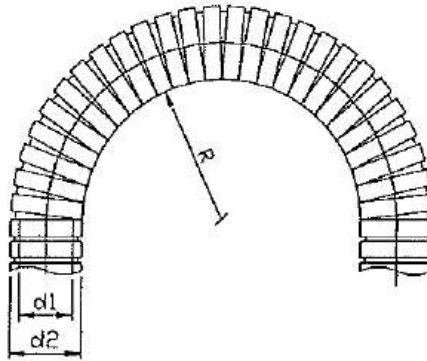
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: COARSE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
17	16	15.5	21.1	35

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFG-17B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG16	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20614			

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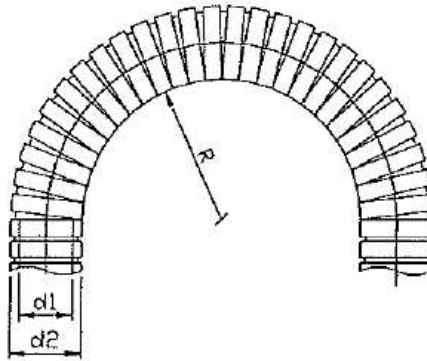
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817					WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				
INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5									

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: COARSE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
23	21	21.5	28.4	45

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFG-23B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG21	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20615			

**BANGALORE COMPLEX**  
 Beyond Possibilities

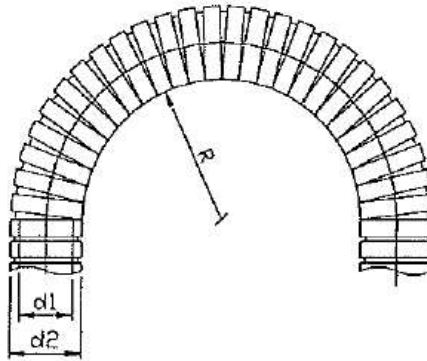
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: COARSE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
29	29	27.4	34.5	55

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFG-29B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG29	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			BANGALORE COMPLEX			
			843-20616			0



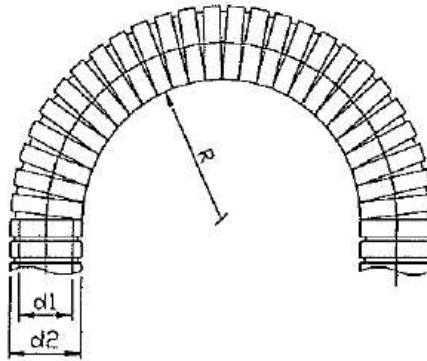
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817					WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				
INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5									

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: COARSE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
36	36	36.0	42.4	65

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSF3G-36B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG36	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			BANGALORE COMPLEX			
			843-20617			0



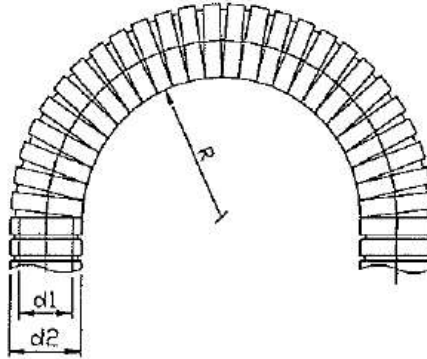
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : FIRE RETARDANT FLEXIBLE CORRUGATED CONDUIT (FOR EXTERNAL APPLICATION).
2. MATERIAL : POLYAMIDE (PA12).
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -40°C to +95°C (SHORT TERM: 150°C).
5. HIGH CROSS PRESSURE STRENGTH.
6. AIR-AND LIQUID-TIGHT.
7. SELF EXTINGUISHING.
8. UV-RESISTANT, WEATHERING RESISTANT.
9. WIDELY RESISTANT TO ACIDS AND SOLVENTS.
10. FREE OF SILICONE, CADMIUM, AND HALOGEN.
11. PROFILE: COARSE PROFILE.
12. FIRE SAFETY PERFORMANCE : EN45545-2 HL2 OR ABOVE.
13. APPLICABLE STANDARD : EN/IEC 61386-23.



SPECIFICATION				
NW	PG	Dimensions in mm		
		d1	d2	R
48	48	47.1	54.5	85

**NOTE:** THE PRODUCT SHALL BE OF PART NO: XPCSFSG-48B0 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

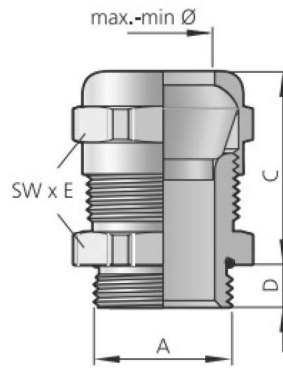
SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			CONDUIT - PG48	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20618			

**BANGALORE COMPLEX**  
 Beyond Possibilities

MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS: PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

## TECHNICAL REQUIREMENTS:

1. TYPE : CABLE GLAND.
2. MATERIAL GLAND BODY : BRASS
3. COLOUR : NICKEL PLATED.
4. TEMPERATURE RANGE : -20°C TO +130°C.
5. PROTECTION : IP68 UPTO 15 BAR IP69.



SPECIFICATIONS				
NW	DIMENSIONS IN mm			
A	Shall be able to fit cable $\phi$ from - to	Length of thread under part D	Spanner Width (SW) x E	Mounting Height C
M16 X 1.5	7 - 12	7	20 X 20	23

NOTE: THE PRODUCT SHALL BE OF PART NO: C1505716 OF ABB MAKE

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SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)	
			PRODUCT	TRAIN B28			
			REF DRG	---			
			MATERIAL	---			
			HEAT TREAT.	APPD	MGM	20.02.2026	
			SURFACE TREAT.	REVD	SG	20.02.2026	
			TITLE	CHKD	MS	20.02.2026	
			CABLE GLAND M16X1.5	DRWN	NP	20.02.2026	
				SCALE	1:1	SHEET	Wt.(Kg)
				1:1	1 OF 1	0	
			DRG No.				ALT
			843-20619				0
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	

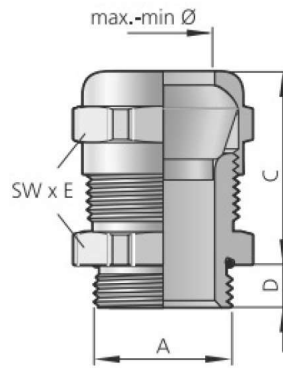
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**BEML** BANGALORE COMPLEX  
 Beyond Possibilities

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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS: PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

## TECHNICAL REQUIREMENTS:

1. TYPE : CABLE GLAND.
2. MATERIAL GLAND BODY : BRASS
3. COLOUR : NICKEL PLATED.
4. TEMPERATURE RANGE : -20°C TO +130°C.
5. PROTECTION : IP68 UPTO 15 BAR IP69.



SPECIFICATIONS				
NW	DIMENSIONS IN mm			
A	Shall be able to fit cable $\phi$ from - to	Length of thread under part D	Spanner Width (SW) x E	Mounting Height C
M32 X 1.5	15 - 21	8	36 X 30	28

NOTE: THE PRODUCT SHALL BE OF PART NO: 15057733 OF ABB MAKE

N1	0.025																			
N2	0.05																			
N3	0.1																			
N4	0.2																			
N5	0.4																			
N6	0.8																			
N7	1.6																			
N8	3.2																			
N9	6.3																			
N10	12.5																			
N11	25																			
N12	50																			
GRADE No.	VALUE	SYMBOL																		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT	TRAIN B28				APPD	MGM	20.02.2026						
							REF DRG	---				REVD	SG	20.02.2026						
							MATERIAL	---				CHKD	MS	20.02.2026						
							HEAT TREAT.	---				DRWN	NP	20.02.2026						
							SURFACE TREAT.	---				SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)	0			
							TITLE	CABLE GLAND M32X1.5				DRG No.	843-20620		ALT	0				
							BANGALORE COMPLEX													



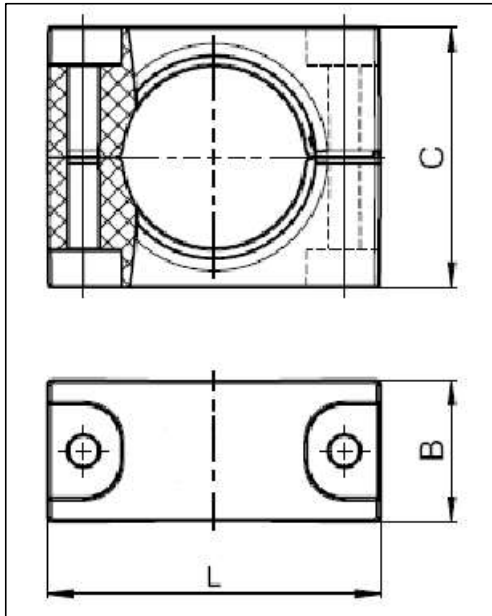
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
10	T	1	39.5	30.0	24.5

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-1X10 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 1X10		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.				ALT
	843-20622				0
<b>BANGALORE COMPLEX</b>					

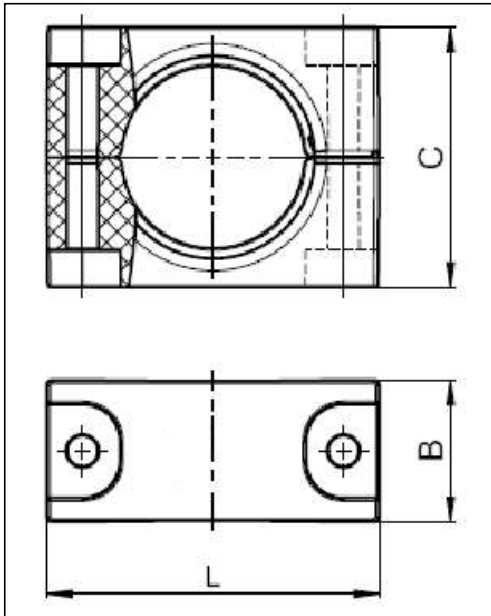
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
12	T	1	42.5	30.0	28.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-1X12 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CHKD	MS	20.02.2026		
CONDUIT CLAMP 1X12	DRWN	NP	20.02.2026		
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg) 0
DRG No.		843-20623			ALT 0
BANGALORE COMPLEX		BEM Limited			



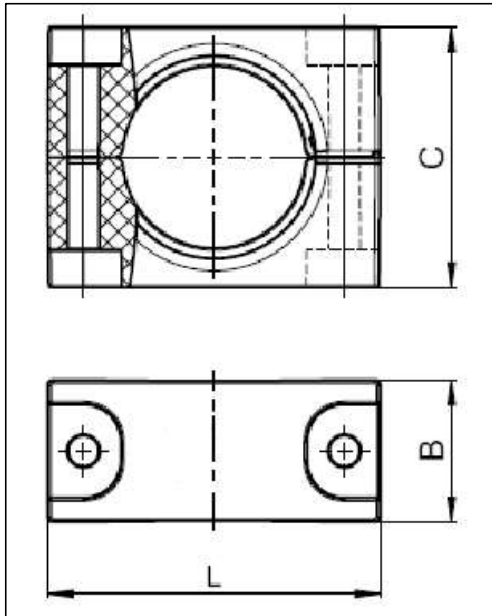
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
23	T/G	1	55.0	30.0	40.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-1X23 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 1X23		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20625			0	
<b>BANGALORE COMPLEX</b>					

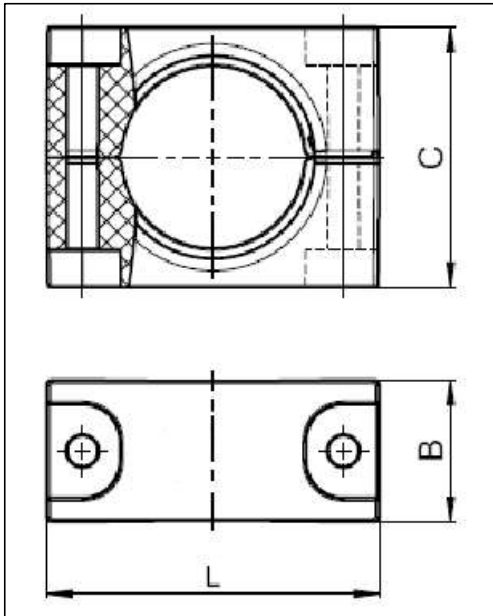
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
29	T/G	1	61.0	30.0	46.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-1X29 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 1X29		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20626			0	
DATE		BY		APPD	
ECN No./CHANGES		BANGALORE COMPLEX		BEM Limited	



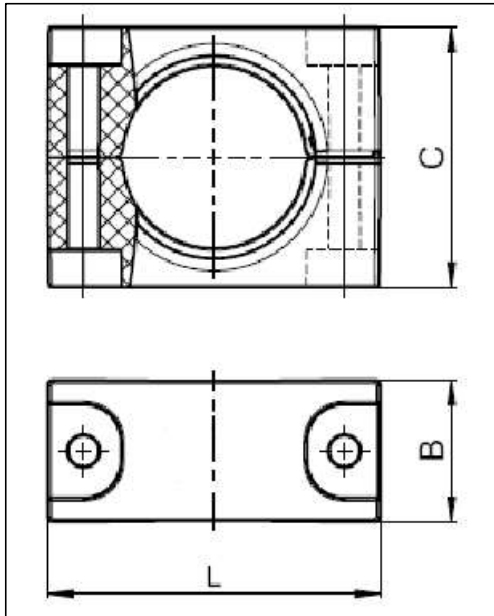
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
48	T/G	1	82	30.0	66.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-1X48 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 1X48		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No. 843-20628				ALT
	BANGALORE COMPLEX				0

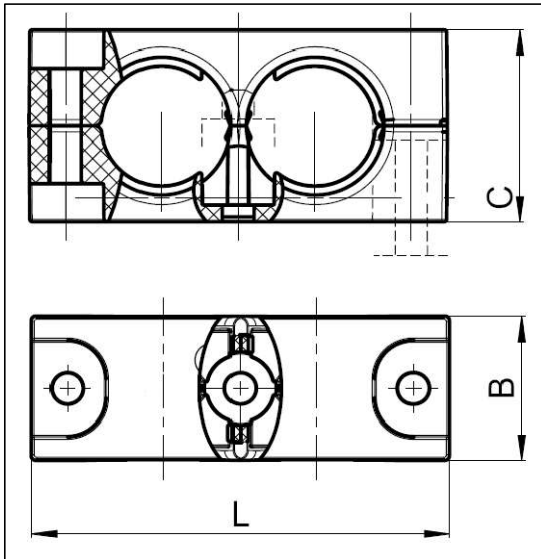
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
12	T	2	42.5	30.0	28.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPM-2X12 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X12		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No. 843-20629				ALT
	BANGALORE COMPLEX				0

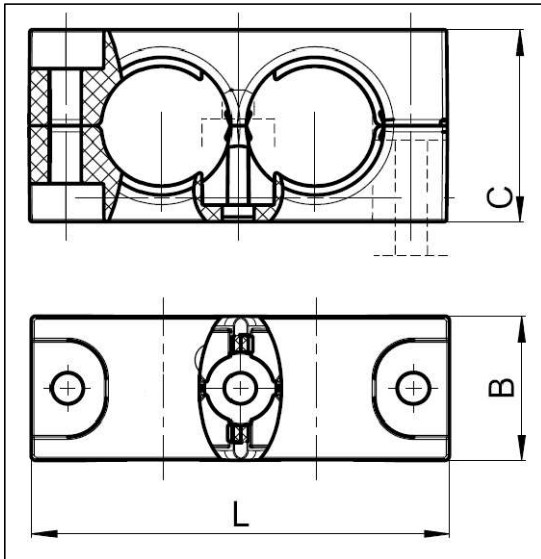
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
17	T/G	2	72.5	30.0	33.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPM-2X17 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X17		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
BANGALORE COMPLEX			DRG No.	843-20630	
BEM Limited			ALT	0	

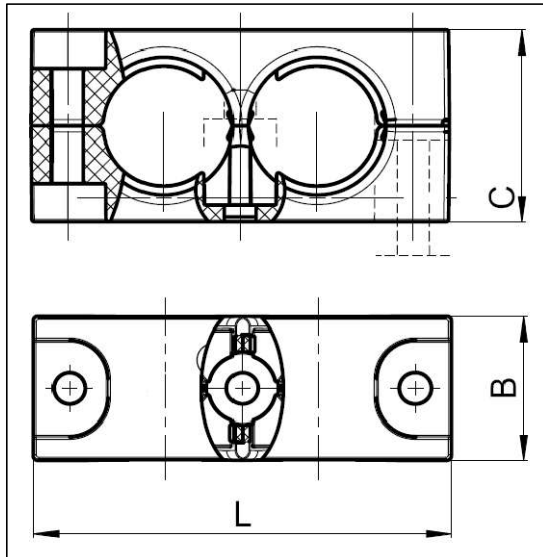
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
23	T/G	2	87.0	30.0	40.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGMP-2X23 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	
N2	0.05	
N3	0.1	
N4	0.2	
N5	0.4	
N6	0.8	
N7	1.6	
N8	3.2	
N9	6.3	
N10	12.5	
N11	25	
N12	50	
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X23		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.				ALT
	843-20631				0
	<b>BANGALORE COMPLEX</b>				

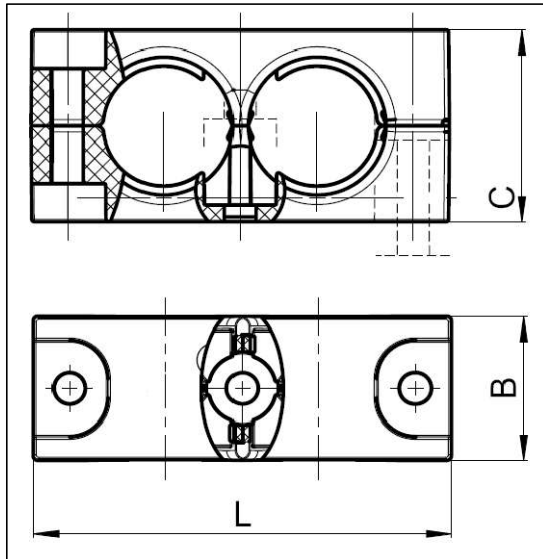
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
29	T/G	2	99.5	30.0	46.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-2X29 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X29		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
BANGALORE COMPLEX			DRG No.	843-20632	
BEM Limited			ALT	0	

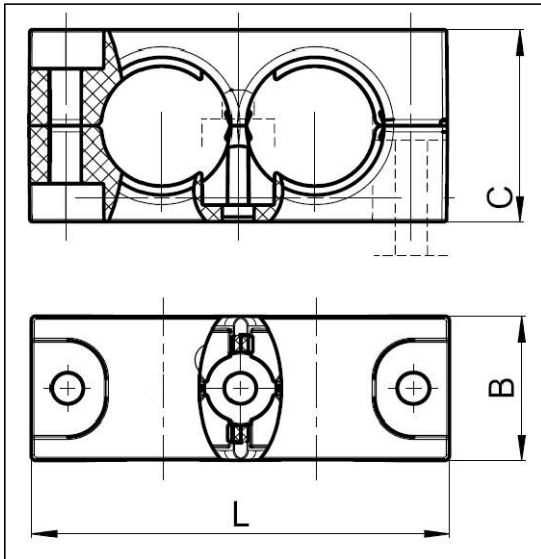
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
36	T/G	2	116.5	30.0	55

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-2X36 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X36		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE		SHEET	Wt.(Kg)	
	1:1		1 OF 1	0	
	DRG No.			ALT	
	843-20633			0	

**BANGALORE COMPLEX**  
 Beyond Possibilities

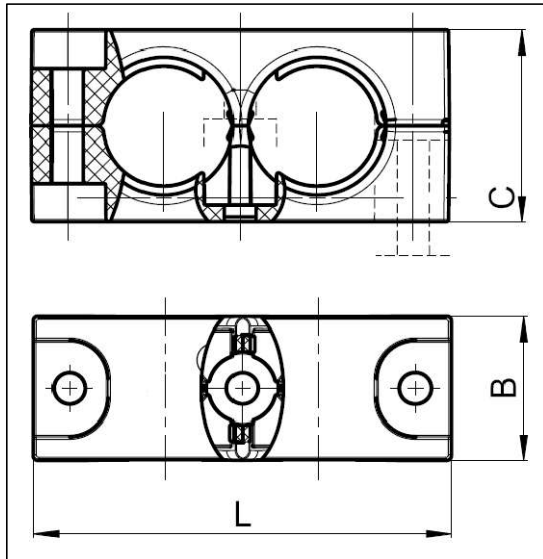
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
48	T/G	2	141.0	30.0	66

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-2X48 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 2X48		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20634			0	
<b>BANGALORE COMPLEX</b>					

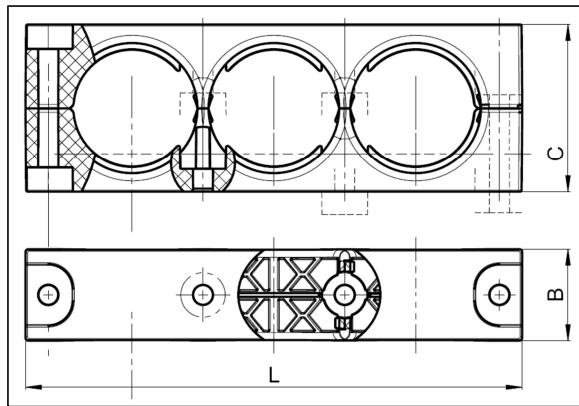
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
12	T	3	79.5	30.0	28.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-3X12 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 3X12		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
BANGALORE COMPLEX			DRG No.	843-20636	
BEM Limited			ALT	0	

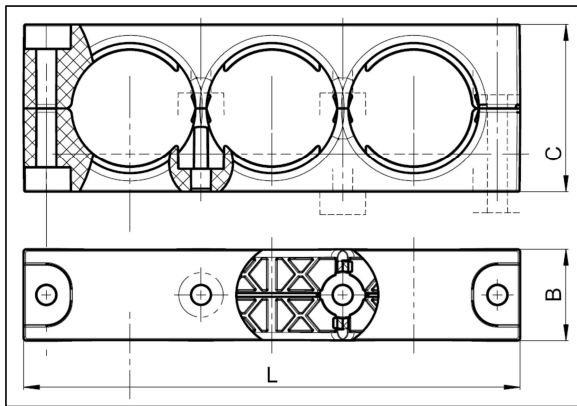
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
17	T/G	3	97.0	30.0	33.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-3X17 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 3X17		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
BANGALORE COMPLEX			DRG No.	843-20637	
BEM Limited			ALT	0	

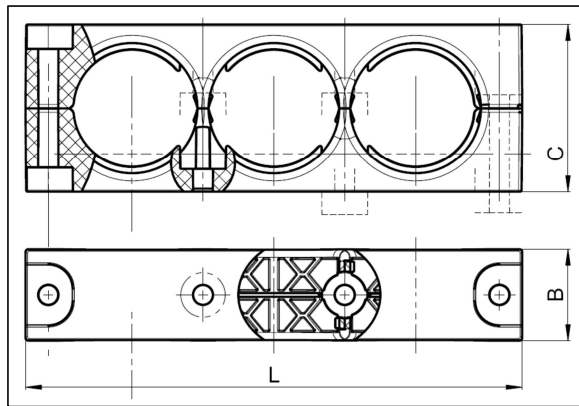
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
23	T/G	3	119	30.0	40.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-3X23 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 3X23		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20638			0	

**BANGALORE COMPLEX**  
 Beyond Possibilities

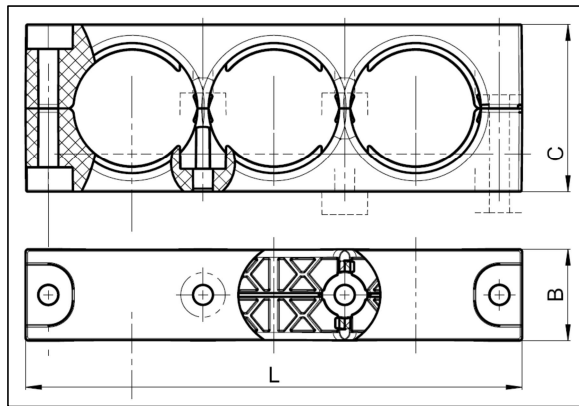
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
29	T/G	3	137.5	30.0	46.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-3X29 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 3X29		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20639			0	
<b>BANGALORE COMPLEX</b>					

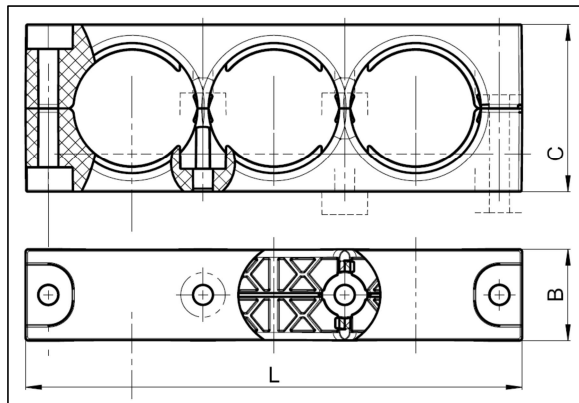
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
36	T/G	3	163.0	30.0	55.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-3X36 OF ABB MAKE.
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CONDUIT CLAMP 3X36		CHKD	MS	20.02.2026
			DRWN	NP	20.02.2026
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
					0
	DRG No.			ALT	
	843-20640			0	
	<b>BANGALORE COMPLEX</b>				

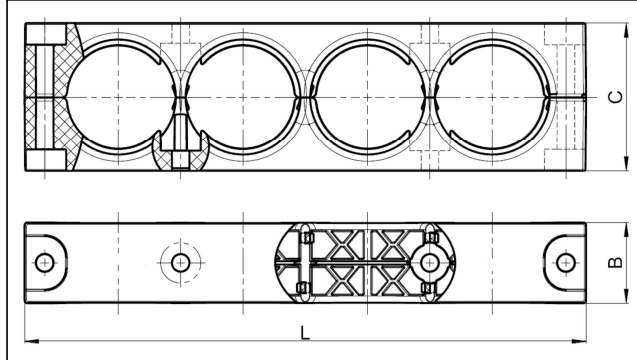
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
12	T	4	98.0	30.0	28.0

- NOTE:**
1. THE PRODUCT SHALL BE OF PART NO: BGPm-4X12 OF ABB MAKE.
  2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	
N2	0.05	
N3	0.1	
N4	0.2	
N5	0.4	
N6	0.8	
N7	1.6	
N8	3.2	
N9	6.3	
N10	12.5	
N11	25	
N12	50	
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

PRODUCT		TRAIN B28			
REF DRG		---			
MATERIAL		---			
HEAT TREAT.		---		APPD	MGM
SURFACE TREAT.		---		REVD	SG
TITLE		CHKD		MS	20.02.2026
CONDUIT CLAMP 4X12		DRWN		NP	20.02.2026
		SCALE	1:1	SHEET	1 OF 1
DATE		BY		CHKD	APPD
ALT.No.		ECN No./CHANGES		DATE	
BANGALORE COMPLEX		DRG No.		843-20641	
BEM Limited		ALT		0	

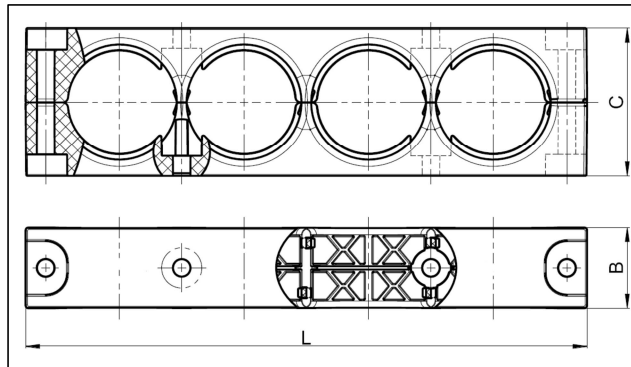
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



SPECIFICATIONS					
CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
17	T/G	4	121.5	30.0	33.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-4X17 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

PRODUCT	TRAIN B28				
REF DRG	---				
MATERIAL	---				
HEAT TREAT.	---	APPD	MGM	20.02.2026	
SURFACE TREAT.	---	REVD	SG	20.02.2026	
TITLE	CHKD	MS	20.02.2026		
CONDUIT CLAMP 4X17	DRWN	NP	20.02.2026		
	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg) 0
DRG No.		843-20642		ALT 0	
BANGALORE COMPLEX		BEM Limited			

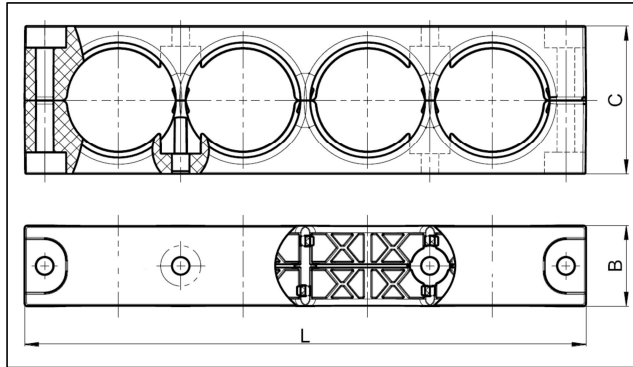
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



**SPECIFICATIONS**

CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
23	T/G	4	151.0	30.0	40.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-4X23 OF ABB MAKE
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

		PRODUCT		TRAIN B28					
		REF DRG		---					
		MATERIAL		---					
		HEAT TREAT.		---		APPD	MGM	20.02.2026	
		SURFACE TREAT.		---		REVD	SG	20.02.2026	
		TITLE		CONDUIT CLAMP 4X23		CHKD	MS	20.02.2026	
						DRWN	NP	20.02.2026	
						SCALE		SHEET	Wt.(Kg)
						1:1	1 OF 1	0	
				BANGALORE COMPLEX		DRG No.		ALT	
						843-20643			



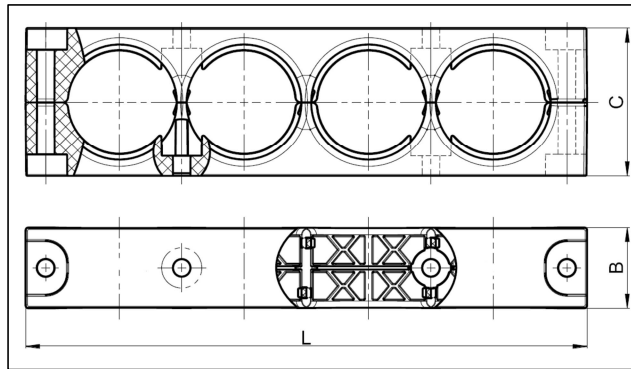
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : CONDUIT CLAMP.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. HIGH IMPACT RESISTANCE AND RESISTANCE TO OZONE.
9. FIRE SAFETY PERFORMANCE : EN 45545-2 HL2 OR ABOVE.



### SPECIFICATIONS

CONDUIT SIZE (NW)	CONDUIT PROFILE	NO. OF CONDUITS	DIMENSIONS IN mm		
			L	B	C
36	T/G	4	209.5	30.0	55.0

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: BGPm-4X36 OF ABB MAKE .
2. G - MEANS COARSE PROFILE ; T - MEANS FINE PROFILE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

PRODUCT	TRAIN B28			
REF DRG	---			
MATERIAL	---			
HEAT TREAT.	---	APPD	MGM	20.02.2026
SURFACE TREAT.	---	REVD	SG	20.02.2026
TITLE	CHKD	MS	20.02.2026	
CONDUIT CLAMP 4X36	DRWN	NP	20.02.2026	
	SCALE	1:1	SHEET	1 OF 1
BANGALORE COMPLEX	DRG No.	843-20644		ALT
				0

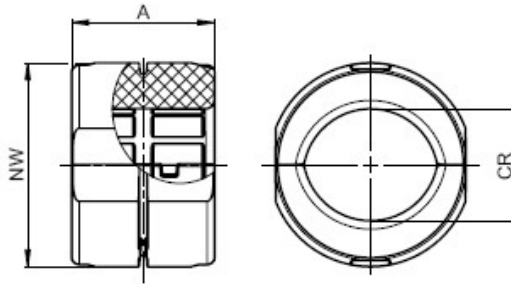
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

- 1.TYPE : CABLE CLAMPING ADAPTER.
- 2.MATERIAL : HIGH GRADE TPE.
- 3.COLOUR : BLACK.
- 4.TEMPERATURE RANGE : -50°C - +105°C.
- 5.SHORT TERM: +160°C
- 6.FREE OF HALOGEN AND CADMIUM
- 7.FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
12	9-5	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-12/9-5 OF ABB MAKE

N1	0.025	<table border="1"> <tr> <th>SL.No.</th> <th>QTY</th> <th>PART / STOCK No.</th> <th>DESCRIPTION</th> <th>SIZE</th> <th>COMPANY STD./I.S</th> <th>Wt. (Kg)</th> </tr> <tr> <td>N7</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>N8</td> <td>3.2</td> <td></td> <td>PRODUCT</td> <td colspan="3">TRAIN B28</td> </tr> <tr> <td>N9</td> <td>6.3</td> <td></td> <td>REF DRG</td> <td colspan="3">---</td> </tr> <tr> <td>N10</td> <td>12.5</td> <td></td> <td>MATERIAL</td> <td colspan="3">---</td> </tr> <tr> <td>N11</td> <td>25</td> <td></td> <td>HEAT TREAT.</td> <td>APPD</td> <td>MGM</td> <td>20.02.2026</td> </tr> <tr> <td>N12</td> <td>50</td> <td></td> <td>SURFACE TREAT.</td> <td>REVD</td> <td>SG</td> <td>20.02.2026</td> </tr> <tr> <td rowspan="3">GRADE No.</td> <td rowspan="3">VALUE</td> <td rowspan="3">SYMBOL</td> <td rowspan="3">TITLE</td> <td>CHKD</td> <td>MS</td> <td>20.02.2026</td> </tr> <tr> <td>DRWN</td> <td>NP</td> <td>20.02.2026</td> </tr> <tr> <td>SCALE</td> <td>1:1</td> <td>SHEET</td> <td>1 OF 1</td> <td>Wt.(Kg)</td> <td>0</td> </tr> <tr> <td colspan="3">SURFACE ROUGHNESS</td> <td>ALT.No.</td> <td>ECN No./CHANGES</td> <td>DATE</td> <td>BY</td> <td>CHKD</td> <td>APPD</td> <td colspan="2"> <b>BANGALORE COMPLEX</b> </td> <td>DRG No.</td> <td colspan="2"><b>843-20645</b></td> <td>ALT</td> <td>0</td> </tr> </table>	SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)	N7	16						N8	3.2		PRODUCT	TRAIN B28			N9	6.3		REF DRG	---			N10	12.5		MATERIAL	---			N11	25		HEAT TREAT.	APPD	MGM	20.02.2026	N12	50		SURFACE TREAT.	REVD	SG	20.02.2026	GRADE No.	VALUE	SYMBOL	TITLE	CHKD	MS	20.02.2026	DRWN	NP	20.02.2026	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)	0	SURFACE ROUGHNESS			ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	<b>BANGALORE COMPLEX</b>		DRG No.	<b>843-20645</b>		ALT	0
SL.No.	QTY		PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)																																																																												
N7	16																																																																																		
N8	3.2			PRODUCT	TRAIN B28																																																																														
N9	6.3			REF DRG	---																																																																														
N10	12.5			MATERIAL	---																																																																														
N11	25			HEAT TREAT.	APPD	MGM	20.02.2026																																																																												
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					DRWN	NP	20.02.2026																																																																												
					SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)	0																																																																									
SURFACE ROUGHNESS			ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	<b>BANGALORE COMPLEX</b>		DRG No.	<b>843-20645</b>		ALT	0																																																																				

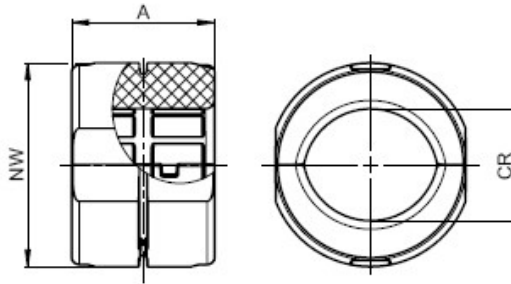
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : CABLE CLAMPING ADAPTER.
2. MATERIAL : HIGH GRADE TPE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +120°C
6. FREE OF HALOGEN AND CADMIUM
7. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
17	15-11	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-17/15-11 OF ABB MAKE

N1	0.025								
N2	0.05								
N3	0.1								
N4	0.2								
N5	0.4								
N6	0.8								
N7	1.6								
N8	3.2								
N9	6.3								
N10	12.5								
N11	25								
N12	50								
GRADE No.	VALUE	SYMBOL							
SURFACE ROUGHNESS									
ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT	TRAIN B28		
						REF DRG	---		
						MATERIAL	---		
						HEAT TREAT.	---		
						SURFACE TREAT.	---		
						TITLE	CHKD	MS	20.02.2026
						CABLE CLAMPING ADAPTER NW-17	DRWN	NP	20.02.2026
							SCALE		SHEET
						<b>BANGALORE COMPLEX</b>	DRG No.	843-20646	
							ALT		

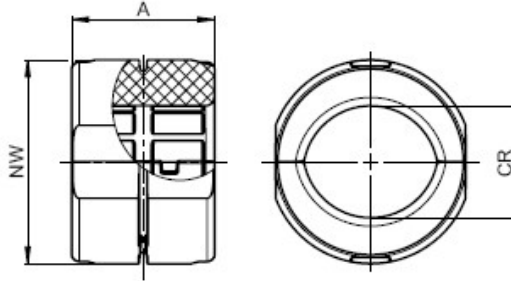
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
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WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

- 1.TYPE : CABLE CLAMPING ADAPTER.
- 2.MATERIAL : HIGH GRADE TPE.
- 3.COLOUR : BLACK.
- 4.TEMPERATURE RANGE : -50°C - +105°C.
- 5.SHORT TERM: +160°C
- 6.FREE OF HALOGEN AND CADMIUM
- 7.FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
23	19-17	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-23/20-16 OF ABB MAKE

N1	0.025																				
N2	0.05																				
N3	0.1																				
N4	0.2																				
N5	0.4																				
N6	0.8																				
N7	1.6																				
N8	3.2																				
N9	6.3																				
N10	12.5																				
N11	25																				
N12	50																				
GRADE No.	VALUE	SYMBOL																			
SURFACE ROUGHNESS			ALT.No.	ECN No./CHANGES		DATE	BY	CHKD	APPD	<b>PRODUCT</b> TRAIN B28 <b>REF DRG</b> --- <b>MATERIAL</b> --- <b>HEAT TREAT.</b> --- <b>SURFACE TREAT.</b> --- <b>TITLE</b>				APPD	MGM	20.02.2026					
										<b>CABLE CLAMPING ADAPTER NW-23</b> <b>BANGALORE COMPLEX</b>				CHKD	MS	20.02.2026					
														DRWN	NP	20.02.2026					
														SCALE	1:1		SHEET	1 OF 1	Wt.(Kg)	0	
														DRG No.	843-20647			ALT	0		

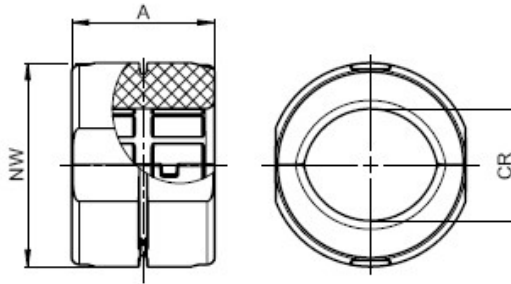
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
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GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

## TECHNICAL REQUIREMENTS:

1. TYPE : CABLE CLAMPING ADAPTER.
2. MATERIAL : HIGH GRADE TPE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
29	24-22	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-29/25-21 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			CABLE CLAMPING ADAPTER NW-29	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			<b>BANGALORE COMPLEX</b>	DRG No.		ALT
				843-20648		

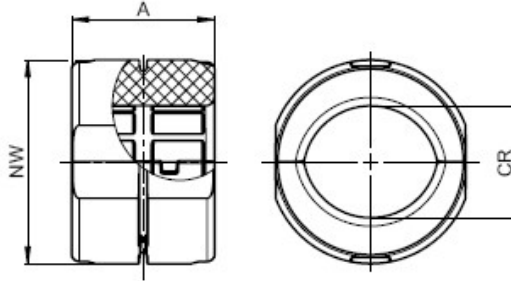
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

## TECHNICAL REQUIREMENTS:

1. TYPE : CABLE CLAMPING ADAPTER.
2. MATERIAL : HIGH GRADE TPE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
29	21-19	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-29/22-18 OF ABB MAKE

N1	0.025																			
N2	0.05																			
N3	0.1																			
N4	0.2																			
N5	0.4																			
N6	0.8																			
N7	1.6																			
N8	3.2																			
N9	6.3																			
N10	12.5																			
N11	25																			
N12	50																			
GRADE No.	VALUE	SYMBOL																		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT	TRAIN B28												
							REF DRG	---												
							MATERIAL	---												
							HEAT TREAT.	---												
							SURFACE TREAT.	---												
							TITLE	CHKD	MS	20.02.2026		REVD	SG	20.02.2026		DRWN	NP	20.02.2026		
							CABLE CLAMPING ADAPTER NW-29	SCALE	1:1		SHEET	1 OF 1	Wt.(Kg)	0						
							DRG No.	843-20649										ALT		
							BANGALORE COMPLEX													

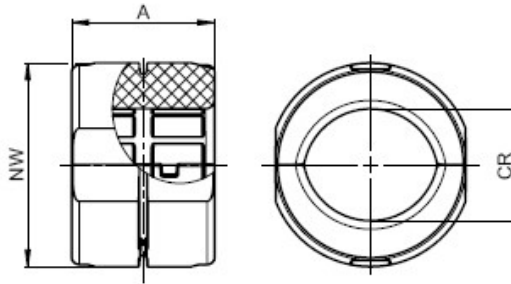
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

- 1.TYPE : CABLE CLAMPING ADAPTER.
- 2.MATERIAL : HIGH GRADE TPE.
- 3.COLOUR : BLACK.
- 4.TEMPERATURE RANGE : -50°C - +105°C.
- 5.SHORT TERM: +160°C
- 6.FREE OF HALOGEN AND CADMIUM
- 7.FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
36	27-25	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-36/28-24 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			CABLE CLAMPING ADAPTER NW-36	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
				DRG No.		ALT
				843-20650		

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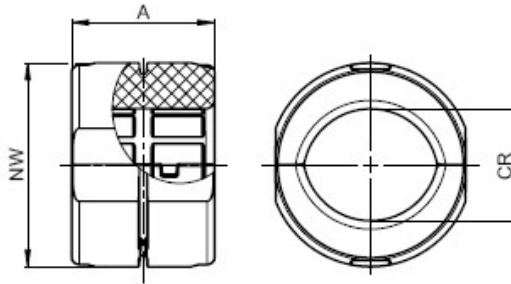
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

## TECHNICAL REQUIREMENTS:

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Clamping Range CR	WIDTH A
48	43-39	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMK-48/43-39 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			CABLE CLAMPING ADAPTER NW-48	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
				DRG No.		ALT
				843-20651		
			BANGALORE COMPLEX			

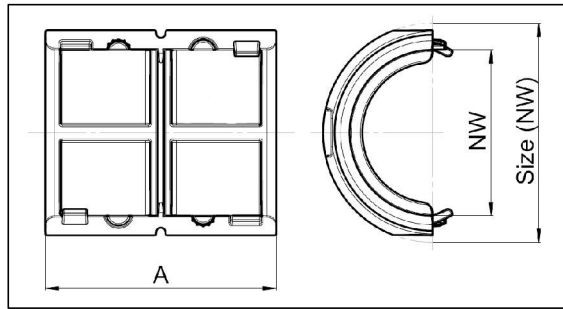
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
12	17	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-12T/17 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			REDUCER NW-12	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.		ALT	
			BANGALORE COMPLEX		843-20652	

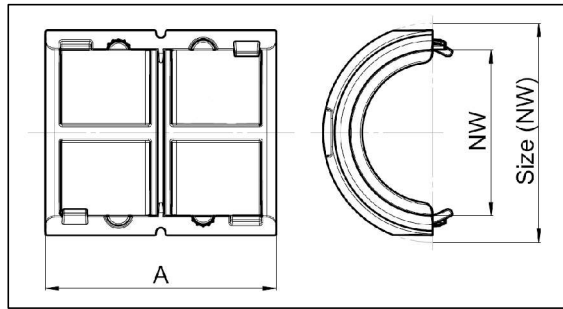
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
17	23	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-17GT/23 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			REDUCER NW-17	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			843-20653			

**BANGALORE COMPLEX**  
 Beyond Possibilities

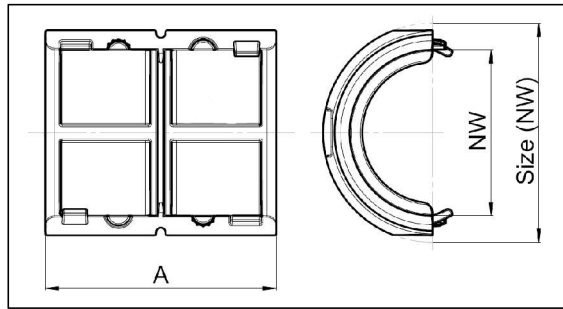
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
23	29	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-23GT/29 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			REDUCER NW-23	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.		ALT	
			BANGALORE COMPLEX		843-20654	

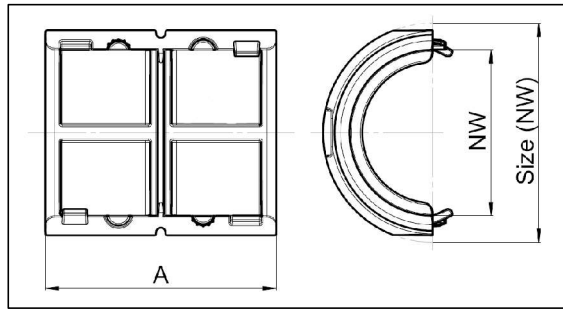
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
29	36	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-29GT/36 OF ABB MAKE

N1	0.025																			
N2	0.05																			
N3	0.1																			
N4	0.2																			
N5	0.4																			
N6	0.8																			
N7	1.6																			
N8	3.2																			
N9	6.3																			
N10	12.5																			
N11	25																			
N12	50																			
GRADE No.	VALUE	SYMBOL																		
SURFACE ROUGHNESS		ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT	TRAIN B28											
								REF DRG	---											
								MATERIAL	---											
								HEAT TREAT.	---											
								SURFACE TREAT.	---											
								TITLE	REDUCER NW-29											
								SCALE	1:1		SHEET 1 OF 1		Wt.(Kg) 0		20.02.2026					
								CHKD	MS		20.02.2026		20.02.2026							
								DRWN	NP		20.02.2026		20.02.2026							
								DRG No.	843-20655		ALT 0		0							
								<b>BANGALORE COMPLEX</b>												

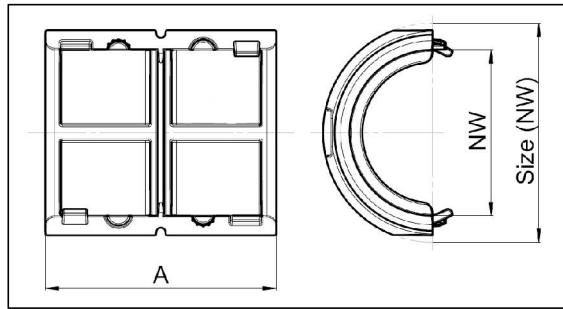
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
36	48	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-36GT/48 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			REDUCER NW-48	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.		ALT	
			BANGALORE COMPLEX		843-20656	

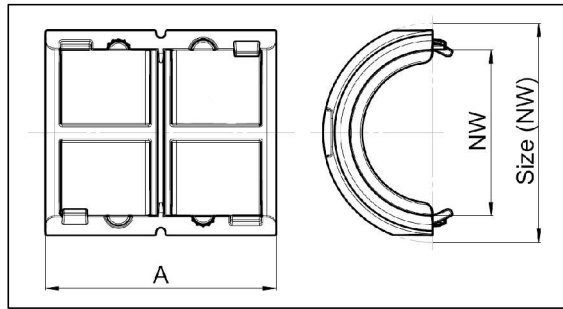
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : REDUCER.
2. MATERIAL : POLYAMIDE.
3. COLOUR : BLACK.
4. TEMPERATURE RANGE : -50°C - +105°C.
5. SHORT TERM: +160°C
6. FREE OF HALOGEN AND CADMIUM
7. SELF EXTINGUISHING
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATIONS		
NW	DIMENSIONS IN mm	
	Fits to size(NW)	WIDTH A
10	17	30

**NOTE:** THE PRODUCT SHALL BE OF PART NO: BGPMR-10T/17 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	20.02.2026
			SURFACE TREAT.	REVD	SG	20.02.2026
			TITLE	CHKD	MS	20.02.2026
			REDUCER NW-10	DRWN	NP	20.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			DRG No.			ALT
			BANGALORE COMPLEX			
			843-20657			0

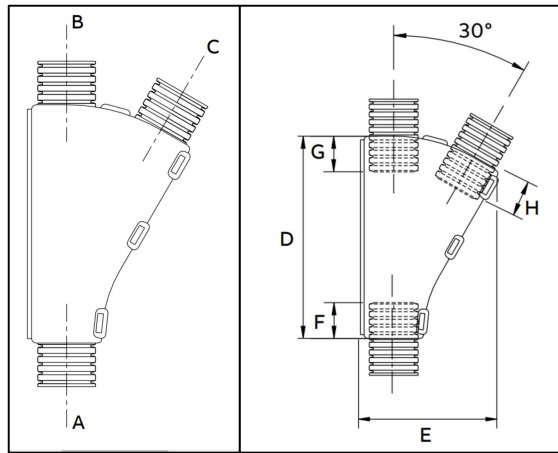
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR Y-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



**SPECIFICATIONS**

NW			DIMENSIONS in mm				
A	B	C	D	E	F	G	H
36	36	23	135	93	15	15	12

**NOTE:** THE PRODUCT SHALL BE OF PART NO: YPS404028 OF ABB MAKE

N1	0.025																											
N2	0.05																											
N3	0.1																											
N4	0.2																											
N5	0.4																											
N6	0.8																											
N7	1.6																											
N8	3.2																											
N9	6.3																											
N10	12.5																											
N11	25																											
N12	50																											
GRADE No.	VALUE	SYMBOL																										
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT: TRAIN B28 REF DRG: --- MATERIAL: --- HEAT TREAT: --- SURFACE TREAT: --- TITLE: EXTERNAL FITTING Y- TYPE				APPD	MGM	19.02.2026	REVD	SG	19.02.2026	CHKD	MS	19.02.2026	DRWN	NP	19.02.2026	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)	0
							BANGALORE COMPLEX 				DRG No. 843-20658 ALT 0																	

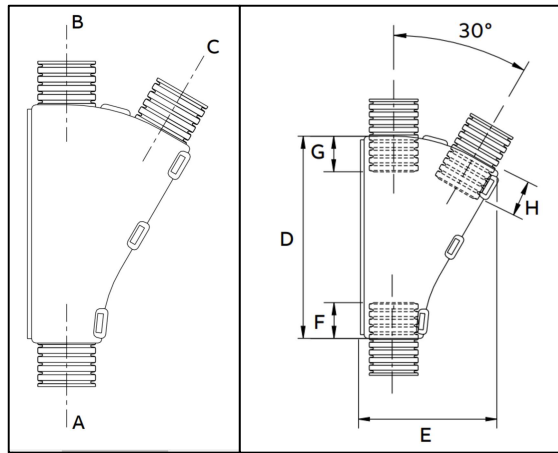
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR Y-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



**SPECIFICATIONS**

NW			DIMENSIONS in mm				
A	B	C	D	E	F	G	H
17	13	13	48	40	12	10	10

**NOTE:** THE PRODUCT SHALL BE OF PART NO: YPS201616 OF ABB MAKE

N1	0.025																		
N2	0.05																		
N3	0.1																		
N4	0.2																		
N5	0.4																		
N6	0.8																		
N7	1.6																		
N8	3.2																		
N9	6.3																		
N10	12.5																		
N11	25																		
N12	50																		
GRADE No.	VALUE	SYMBOL																	
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT		TRAIN B28			APPD	MGM	19.02.2026					
							REF DRG	---			REVD	SG	19.02.2026						
							MATERIAL	---			CHKD	MS	19.02.2026						
							HEAT TREAT.	---			DRWN	NP	19.02.2026						
							SURFACE TREAT.	---			SCALE	1:1							
							TITLE	EXTERNAL FITTING Y- TYPE			SHEET	1 OF 1	Wt.(Kg)						
											DRG No.	843-20659	ALT						
												0							



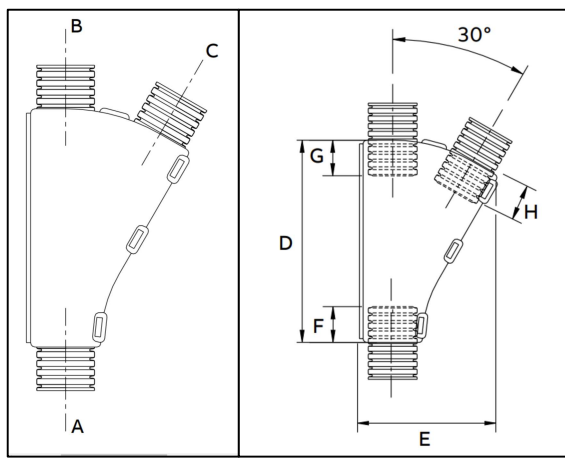
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN 6052			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR Y-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40

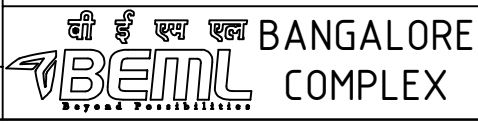


SPECIFICATIONS							
NW			DIMENSIONS in mm				
A	B	C	D	E	F	G	H
10	7	7	55	37	10	10	10

**NOTE:** THE PRODUCT SHALL BE OF PART NO: YPS120808 OF ABB MAKE

N1	0.025
N2	0.05
N3	0.1
N4	0.2
N5	0.4
N6	0.8
N7	1.6
N8	3.2
N9	6.3
N10	12.5
N11	25
N12	50
GRADE No.	
VALUE	
SYMBOL	
SURFACE ROUGHNESS	

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			EXTERNAL FITTING Y- TYPE	DRWN	NP	19.02.2026
				SCALE	1:1	
				SHEET	1 OF 1	Wt.(Kg)
						0
				DRG No.	843-20660	
					ALT	0
ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	



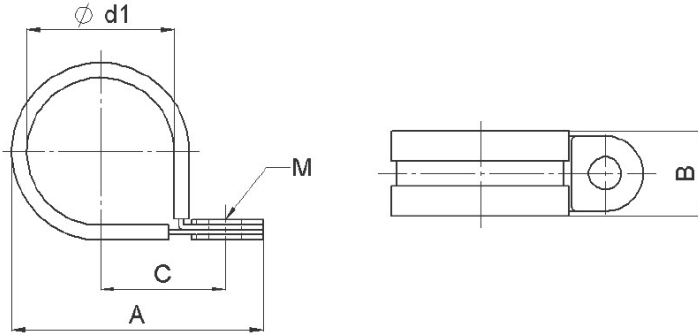
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : TUBE CLAMP.
2. MATERIAL : GALVANIZED STEEL.
3. PROFILE MATERIAL : ELASTOMER (EDPM)
4. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. RESISTANCE TO OZONE AND AGEING
9. RESISTANCE TO ALCOHOLS, ACID AND ALKALIES



SPECIFICATIONS						
NW	DIMENSIONS IN mm					Fits to conduit size(NW)
	d1	A	B	C	M	
12	15	27.6	13.0	13.2	M4	12

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: SGB-11 OF ABB MAKE
2. SURFACE FINISH SHOULD BE OK, FREE FROM ANY CUT,DAMAGE,BURR AND ANY OTHER VISUAL DEFECT.

N1	0.025	▽				
N2	0.05	▽				
N3	0.1	▽				
N4	0.2	▽				
N5	0.4	▽				
N6	0.8	▽				
N7	1.6	▽				
N8	3.2	▽				
N9	6.3	▽				
N10	12.5	▽				
N11	25	▽				
N12	50	▽				
GRADE No.						
VALUE						
SYMBOL						
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD

PRODUCT	TRAIN B28					
REF DRG	---					
MATERIAL	---					
HEAT TREAT.	---	APPD	MGM	20.02.2026		
SURFACE TREAT.	---	REVD	SG	20.02.2026		
TITLE	TUBE CLAMP NW-12			CHKD	MS	20.02.2026
				DRWN	NP	20.02.2026
	SCALE		SHEET	Wt.(Kg)		
	1:1		1 OF 1	0		
DRG No.			ALT			
BANGALORE COMPLEX			843-20661			

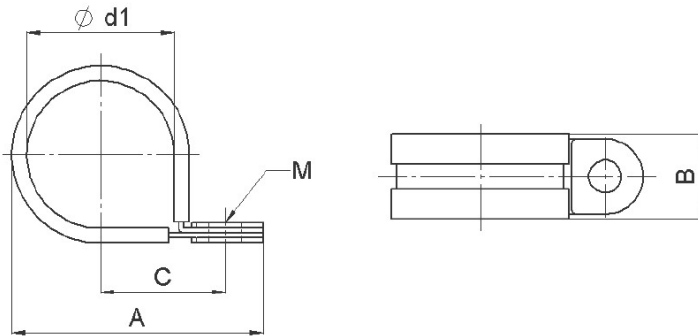
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : TUBE CLAMP.
2. MATERIAL : GALVANIZED STEEL.
3. PROFILE MATERIAL : ELASTOMER (EDPM)
4. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. RESISTANCE TO OZONE AND AGEING
9. RESISTANCE TO ALCOHOLS, ACID AND ALKALIES



SPECIFICATIONS						
NW	DIMENSIONS IN mm					Fits to conduit size(NW)
	d1	A	B	C	M	
17	21.0	37.5	15.0	16.5	M5	17

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: SGB-16 OF ABB MAKE
2. SURFACE FINISH SHOULD BE OK, FREE FROM ANY CUT, DAMAGE, BURR AND ANY OTHER VISUAL DEFECT.

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES

PRODUCT	TRAIN B28			
REF DRG	---			
MATERIAL	---			
HEAT TREAT.	---	APPD	MGM	20.02.2026
SURFACE TREAT.	---	REVD	SG	20.02.2026
TITLE	TUBE CLAMP NW-17		CHKD	MS
			DRWN	NP
	SCALE	1:1	SHEET	1 OF 1
			Wt.(Kg)	0
DRG No.			843-20662	
BANGALORE COMPLEX			ALT	
BEM Limited			0	







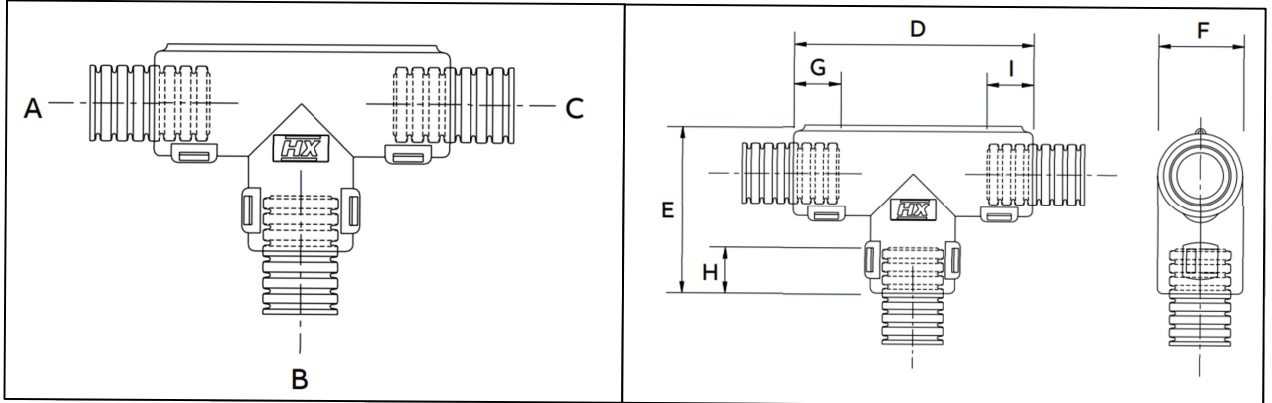
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR T-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



SPECIFICATIONS								
NW			DIMENSIONS in mm					
A	B	C	D	E	F	G	H	I
13	10	10	49.1	34.8	21.0	10	10	10

**NOTE:** THE PRODUCT SHALL BE OF PART NO: TPS161212 OF ABB MAKE

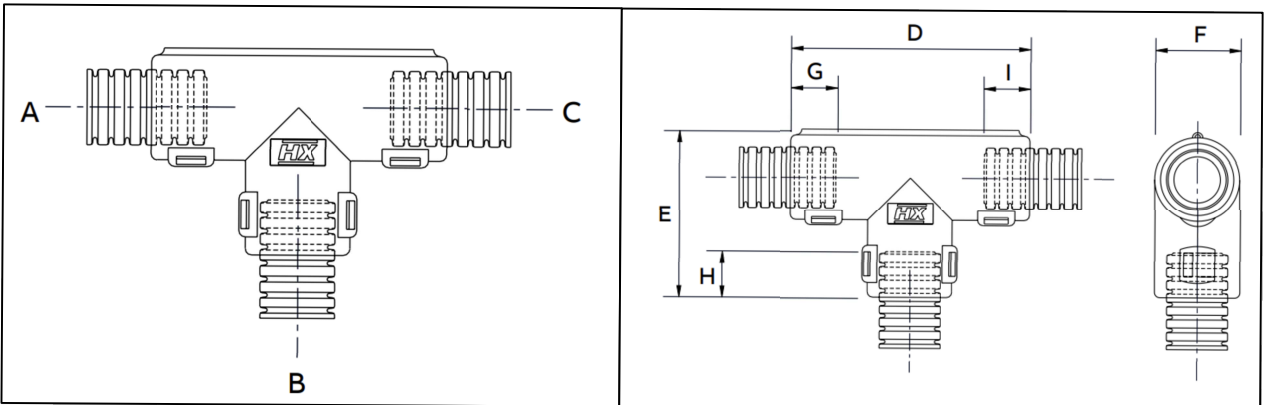
GRADE No.	VALUE	SYMBOL	SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)																										
N1	0.025	▽	N2	0.05	▽	N3	0.1	▽	N4	0.2	▽	N5	0.4	▽	N6	0.8	▽	N7	1.6	▽	N8	3.2	▽	N9	6.3	▽	N10	12.5	▽	N11	25	▽	N12	50	▽
						PRODUCT	TRAIN B28																												
						REF DRG	---																												
						MATERIAL	---																												
						HEAT TREAT.	APPD	MGM		19.02.2026																									
						SURFACE TREAT.	REVD	SG		19.02.2026																									
						TITLE	CHKD	MS		19.02.2026																									
							DRWN	NP		19.02.2026																									
							SCALE	1:1	SHEET	1 OF 1																									
									Wt.(Kg)	0																									
							DRG No.		843-20666																										
							ALT		0																										
SURFACE ROUGHNESS			ALT.No.			ECN No./CHANGES			DATE																										
						BY			CHKD																										
						APPD			BANGALORE COMPLEX																										



MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR T-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



SPECIFICATIONS								
NW			DIMENSIONS in mm					
A	B	C	D	E	F	G	H	I
17	13	10	56.5	41.0	26.0	12	10	10

**NOTE:** THE PRODUCT SHALL BE OF PART NO: TPS201612 OF ABB MAKE

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SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)	
						MATERIAL	
			PRODUCT	TRAIN B28			
			REF DRG	---			
			MATERIAL	---			
			HEAT TREAT.	APPD	MGM	19.02.2026	
			SURFACE TREAT.	REVD	SG	19.02.2026	
			TITLE	CHKD	MS	19.02.2026	
				DRWN	NP	19.02.2026	
			EXTERNAL FITTING T- TYPE	SCALE		SHEET	Wt.(Kg)
				1:1		1 OF 1	0
			DRG No.		843-20668		
			ALT		0		





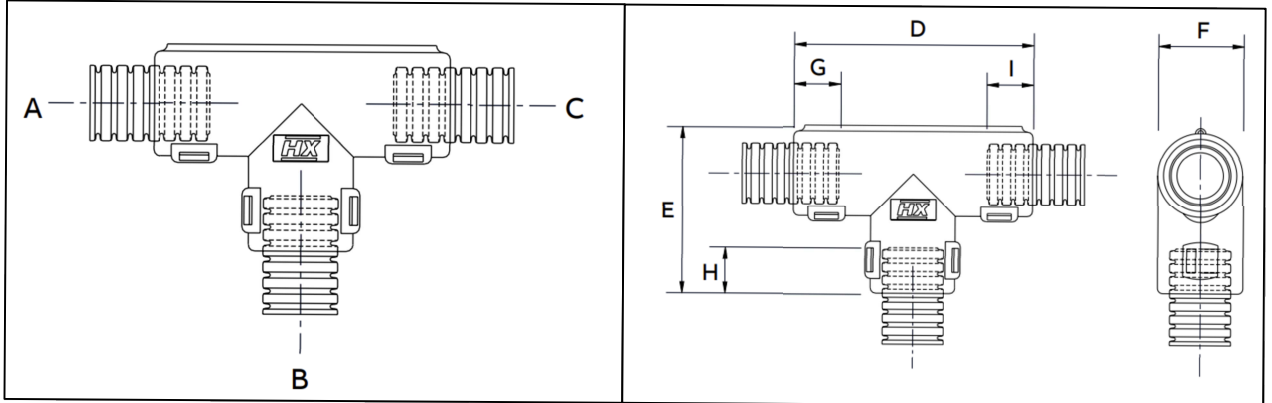
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR T-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



SPECIFICATIONS								
NW			DIMENSIONS in mm					
A	B	C	D	E	F	G	H	I
23	13	17	64.5	48.5	33.0	13.0	10	12.0

**NOTE:** THE PRODUCT SHALL BE OF PART NO: TPS281620 OF ABB MAKE

N1	0.025																											
N2	0.05																											
N3	0.1																											
N4	0.2																											
N5	0.4																											
N6	0.8																											
N7	1.6																											
N8	3.2																											
N9	6.3																											
N10	12.5																											
N11	25																											
N12	50																											
GRADE No.	VALUE	SYMBOL																										
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	<b>EXTERNAL FITTING T- TYPE</b> PRODUCT: TRAIN B28 REF DRG: --- MATERIAL: --- HEAT TREAT: --- SURFACE TREAT: --- TITLE: <b>EXTERNAL FITTING T- TYPE</b>				APPD	MGM	19.02.2026	REVD	SG	19.02.2026	CHKD	MS	19.02.2026	DRWN	NP	19.02.2026	SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)	0
						DRG No. <b>843-20670</b> BANGALORE COMPLEX BEML Beyond Possibilities				ALT		0																

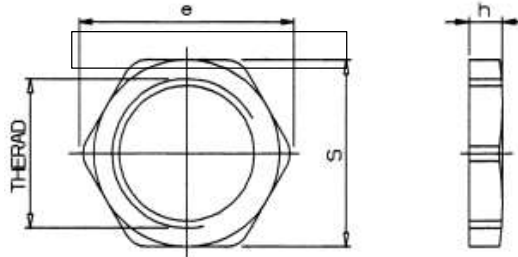
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M20 X 1.5	26	5.60

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M20 OF ABB MAKE

N1	0.025																			
N2	0.05																			
N3	0.1																			
N4	0.2																			
N5	0.4																			
N6	0.8																			
N7	1.6																			
N8	3.2																			
N9	6.3																			
N10	12.5																			
N11	25																			
N12	50																			
GRADE No.	VALUE	SYMBOL																		
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	PRODUCT	TRAIN B28												
							REF DRG	---												
							MATERIAL													
							HEAT TREAT.	---	APPD	MGM										19.02.2026
							SURFACE TREAT.	---	REVD	SG										19.02.2026
							TITLE	LOCKNUT M20X1.5 (NICKEL PLATED)						CHKD	MS					19.02.2026
														DRWN	NP					19.02.2026
								SCALE	1:1			SHEET	1 OF 1	Wt.(Kg)						
														0						
								DRG No.						843-20671				ALT		
							BANGALORE COMPLEX													

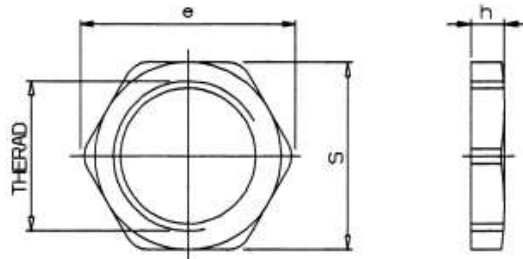
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M25 X 1.5	32	6

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M25 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			LOCKNUT M25X1.5 (NICKEL PLATED)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			<b>BANGALORE COMPLEX</b>	DRG No.		ALT
				843-20672		

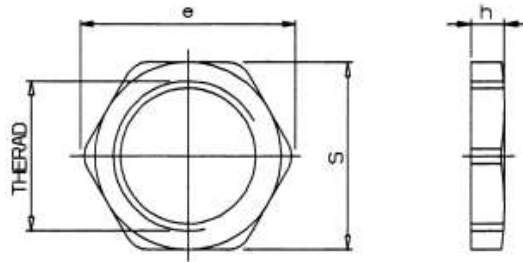
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M32 X 1.5	41	7

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M32 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			LOCKNUT M32X1.5 (NICKEL PLATED)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			<b>BANGALORE COMPLEX</b>	DRG No.		ALT
				843-20673		
	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD

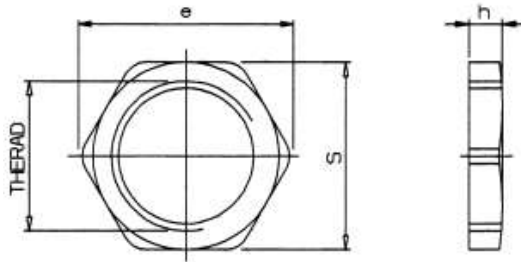
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M40 X 1.5	50	7

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M40 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		▽
VALUE		▽
SYMBOL		▽
SURFACE ROUGHNESS		▽

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			LOCKNUT M40X1.5 (NICKEL PLATED)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20674		
			DATE	BY	CHKD	APPD
			ECN No./CHANGES			

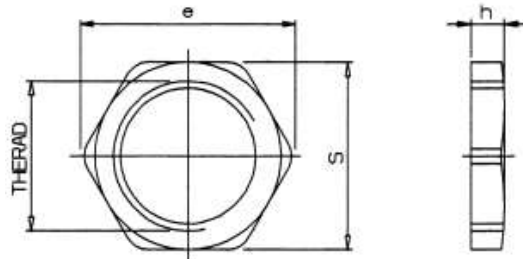
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

### TECHNICAL REQUIREMENTS:

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS.
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M50 X 1.5	60	8

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M50 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			LOCKNUT M50X1.5 (NICKEL PLATTED)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20675		

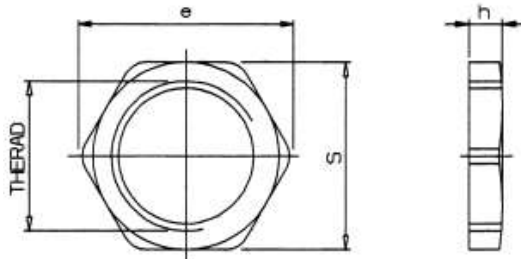
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

### TECHNICAL REQUIREMENTS:

1. TYPE : HEXAGONAL LOCK NUT.
2. MATERIAL : NICKEL PLATED BRASS
3. COLOUR: BLACK.
4. TEMPERATURE RANGE : -40°C TO +105°C.
5. SHORT TERM : 150°C.
6. RESISTANT AGAINST LIGHT ACIDS AND SOFT LYES.
7. RESISTANT AGAINST SEA WATER, BENZINE AND MINERAL OIL.
8. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.



SPECIFICATION		
Thread	Dimensions in mm	
	S	h
M63 X 1.5	75	8

**NOTE:** THE PRODUCT SHALL BE OF PART NO: GMM-M63 OF ABB MAKE

N1	0.025	▽
N2	0.05	▽
N3	0.1	▽
N4	0.2	▽
N5	0.4	▽
N6	0.8	▽
N7	1.6	▽
N8	3.2	▽
N9	6.3	▽
N10	12.5	▽
N11	25	▽
N12	50	▽
GRADE No.		
VALUE		
SYMBOL		
SURFACE ROUGHNESS		

SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
					MATERIAL	
			PRODUCT	TRAIN B28		
			REF DRG	---		
			MATERIAL	---		
			HEAT TREAT.	APPD	MGM	19.02.2026
			SURFACE TREAT.	REVD	SG	19.02.2026
			TITLE	CHKD	MS	19.02.2026
			LOCKNUT M63X1.5 (NICKEL PLATED)	DRWN	NP	19.02.2026
				SCALE		SHEET
				1:1	1 OF 1	0
			BANGALORE COMPLEX	DRG No.		ALT
				843-20676		
AL.T.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	

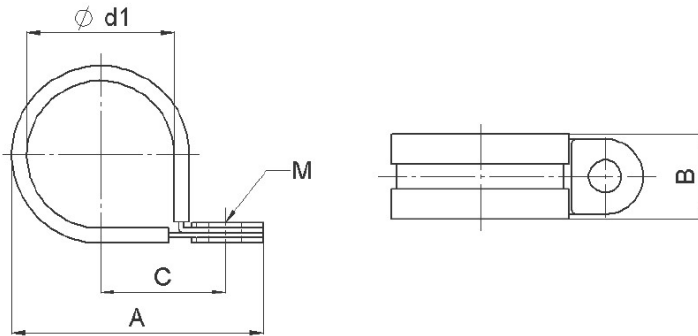
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3		WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION			
WELDING SYMBOLS SHALL BE AS PER EN ISO-2553		WELDING POSITIONS SHALL BE AS PER EN ISO 6947							
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 5817									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3				INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5					

**TECHNICAL REQUIREMENTS:**

1. TYPE : TUBE CLAMP.
2. MATERIAL : GALVANIZED STEEL.
3. PROFILE MATERIAL : ELASTOMER (EDPM)
4. COLOUR : BLACK.
5. TEMPERATURE RANGE : -50°C TO +105°C.
6. SHORT TERM : +160°C
7. FREE FROM HALOGEN AND CADMIUM
8. RESISTANCE TO OZONE AND AGEING
9. RESISTANCE TO ALCOHOLS, ACID AND ALKALIES



SPECIFICATIONS						
NW	DIMENSIONS IN mm					Fits to conduit size(NW)
	d1	A	B	C	M	
07	10	22.1	13.0	10.2	M4	7

**NOTE:**

1. THE PRODUCT SHALL BE OF PART NO: SGB-07 OF ABB MAKE
2. SURFACE FINISH SHOULD BE OK, FREE FROM ANY CUT,DAMAGE,BURR AND ANY OTHER VISUAL DEFECT.

GRADE No.	VALUE	SYMBOL					PRODUCT	TRAIN B28				
							REF DRG	---				
							MATERIAL	---				
							HEAT TREAT.	---		APPD	MGM	06.04.2026
							SURFACE TREAT.	---		REVD	SG	06.04.2026
							TITLE	TUBE CLAMP NW-07		CHKD	MS	06.04.2026
										DRWN	NP	06.04.2026
								SCALE	1:1	SHEET	1 OF 1	Wt.(Kg)
												0
								DRG No.			843-20677	
								BANGALORE COMPLEX			ALT	0
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	BEM Limited					



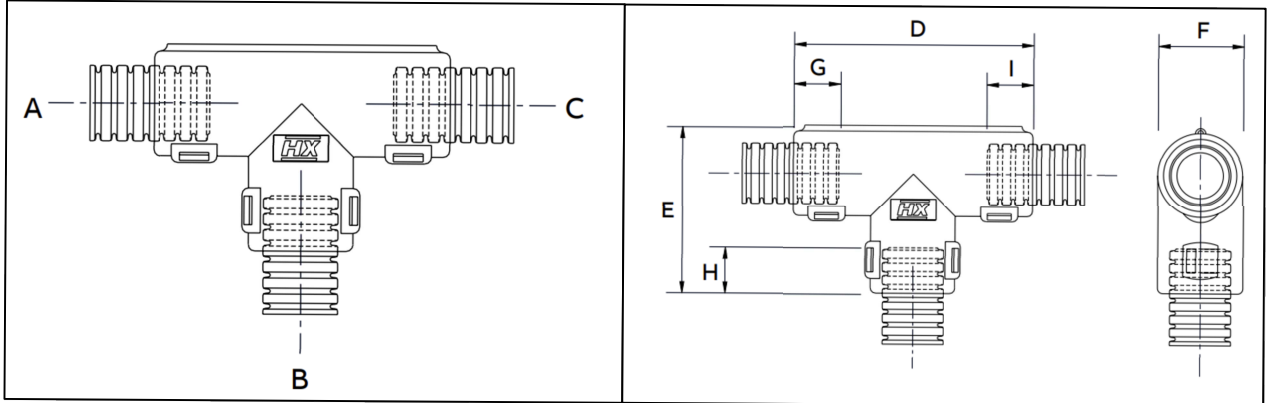
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS CLASS - MEDIUM	RANGE	0.5 - 3	3 - 6	6 - 30	30 - 120	120 - 400	400 - 1000	1000 - 2000	2000 - 4000
	TOLERANCE	±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2
GENERAL TOLERANCES FOR LINEAR & ANGULAR DIMENSION SHALL BE AS PER ISO 2768-1					GENERAL GEOMETRICAL TOLERANCES SHALL BE AS PER ISO 2768-2				
GENERAL TOLERANCES FOR WELDED STRUCTURE SHALL BE AS PER ISO 13920					VALUES OF SURFACE TEXTURE SHALL BE AS PER ISO 1302.				
WELDING SHALL BE CARRIED OUT AS PER EN 15085-3			WELDING PROCESS SHALL BE AS PER EN ISO-4063			STATUS:	PROTO/PRODUCTION		
WELDING SYMBOLS SHALL BE AS PER EN			WELDING POSITIONS SHALL BE AS PER EN ISO 6947						
QUALITY LEVELS FOR IMPERFECTIONS IN FUSION WELDED JOINTS SHALL BE AS PER EN ISO 6947									
WELD JOINT PREPARATIONS SHALL BE AS PER EN ISO 9692 & EN 15085-3			INSPECTION & TESTING OF WELDED JOINTS SHALL BE AS PER EN 15085-5						

**TECHNICAL REQUIREMENTS:**

1. TYPE : DISTRIBUTOR T-TYPE
2. MATERIAL : POLYAMIDE
3. FIRE PERFORMANCE : EN45545-2 HL2 OR ABOVE.
4. IP40



SPECIFICATIONS								
NW			DIMENSIONS in mm					
A	B	C	D	E	F	G	H	I
10	10	10	45.2	31.1	17.0	10	10	10

**NOTE:** THE PRODUCT SHALL BE OF PART NO: TPS121212 OF ABB MAKE

GRADE No.	VALUE	SYMBOL	SL.No.	QTY	PART / STOCK No.	DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
								MATERIAL	
						PRODUCT	TRAIN B28		
						REF DRG	---		
						MATERIAL	---		
						HEAT TREAT.	APPD	MGM	06.04.2026
						SURFACE TREAT.	REVD	SG	06.04.2026
						TITLE	CHKD	MS	06.04.2026
							DRWN	NP	06.04.2026
							SCALE	1:1	Wt.(Kg)
								SHEET	0
								1 OF 1	
							DRG No.	843-20679	
								ALT	0
SURFACE ROUGHNESS	ALT.No.	ECN No./CHANGES	DATE	BY	CHKD	APPD	BEML BANGALORE COMPLEX		

