 EM DIVISION	QUALITY PLAN 197BM35502 YOKE CASTING OF BRS21 - SUPPLIERS	DOC NO	323-QP-CF-099
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1 Purpose

To establish procedures of inspection and testing of YOKE CASTING OF BRS21 at Suppliers' end.

2 Scope

Covers inspection and testing of YOKE CASTING OF BRS21

Table - 1

PART NO	CASTING NAME	MATERIAL	CONDITION OF SUPPLY IN DRG	MECHANICAL PROPERTIES
197BM35502	YOKE CASTING	E1249-99	Double Normalise 143-202 BHN	Y.S MPa - 380 MIN , U.T.S MPa - 517 MIN E % - 22% MIN & % Reduction in area - 35% Impact : 20J min @ -40° C on 5 specimen.



3 Responsibility



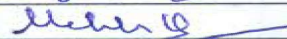
(1)The section head of Castings/Forgings Materials group to ensure that the quality plan is sent to all suppliers along with the purchase order.

(2)The suppliers shall ensure that quality plan is followed for testing and inspection of the Castings.

4 Procedure

The supplier should carry out inspection and testing of Castings as per Table - 2

	Name	Signature	Date
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Approved by	MAHESH KULKARNI		12.10.2019

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Table - 2				
SLNO	TEST	PERIODICITY OF TESTS		
1	Visual inspection	The Castings shall be free from foundry defects such as: shrinkage, porosity and blow holes, hot tear and cracks, hard spots, sand fusion etc. and other surface abnormalities, shall be checked on 100% of castings.		
2	Dimensions	For one number sample casting and audit check, dimensions shall be checked by layout method and lines drawn should be visible with punch marks. Dimensional check sheet should contain all dimension with baloon number in drawing with weight details. Untoleranced dimensions shall be as per IS4897-1994. Audit check to be done for every 10th number of casting for dimensional repeatability, check as per above check list.		
3	Integral Test Bar	Two nos. of test bar shall be integrally cast with each heat. The test bar shall have heat number identification. The test bars should undergo entire processing along with casting. One no. test bar to be used by the foundry for inspection. The remaining one no. test bar should be dispatched along with the casting as a integral part.		
4	Composition	1 No sample / heat shall be checked and report to be sent along with each consignment.		
5	Heat treatment	The castings along with the respective test bars shall be subjected to double normalising. Hardness shall be checked on test bar as well as casting(100%). Hardness report along with temperature charts shall be sent along with each supply.		
6	Mechanical properties	For every heat, mechanical properties to be ensured as per Table - 1.		
7	NDT	MPI: 100% areas of all the castings shall be checked for surface cracks by MPI and shall confirm to Level-II of ASTM E125.		
		UT: To be carried out on all castings and shall confirm to ASTM A609 Level-II.		
8	Foundry Defects	Prior approval to be obtained before rectification of foundry defects in the castings by forwarding defectogram and defect details to the division.		
9	Idenification / Traceability	1)The Castings shall be marked with vendor code, Part no. & Sl no(if applicable), heat no(if applicable) & BEML logo 2) Pilot Sample castings identified with white paint to be submitted for approval prior to the bulk supply.		
10	Supply Condition	Sample castings identified with white paint to be submitted for approval prior to the bulk supply& regular supplies to be as per PR1029C.		
		Name	Signature	Date
Prepared by		RAJENDRA BABU K		12.10.2019
Approved by		MAHESH KULKARNI		12.10.2019