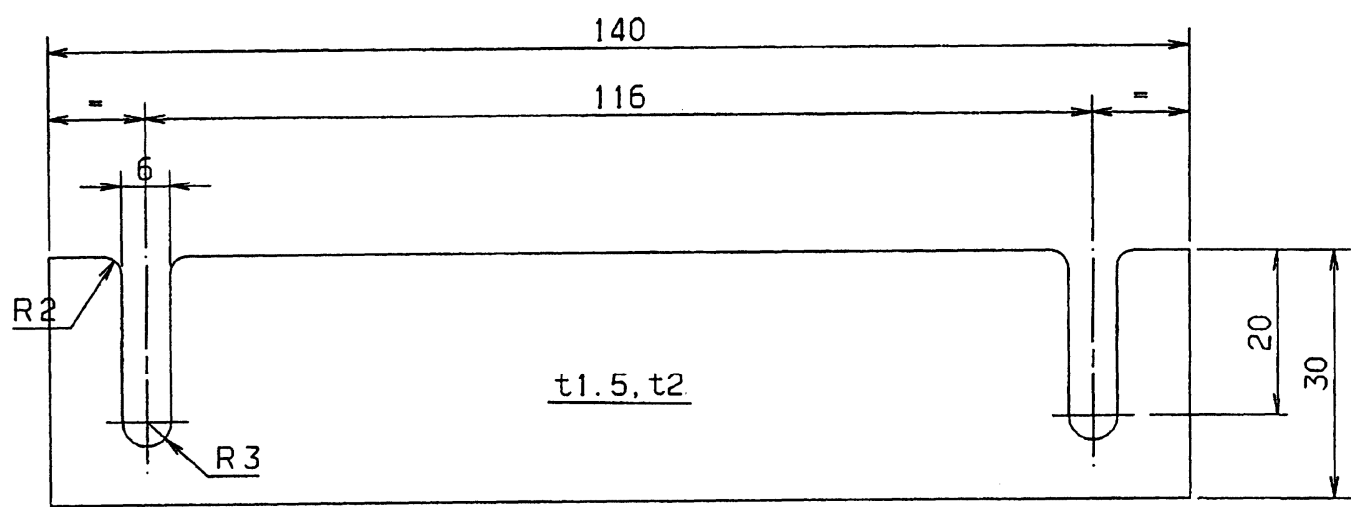


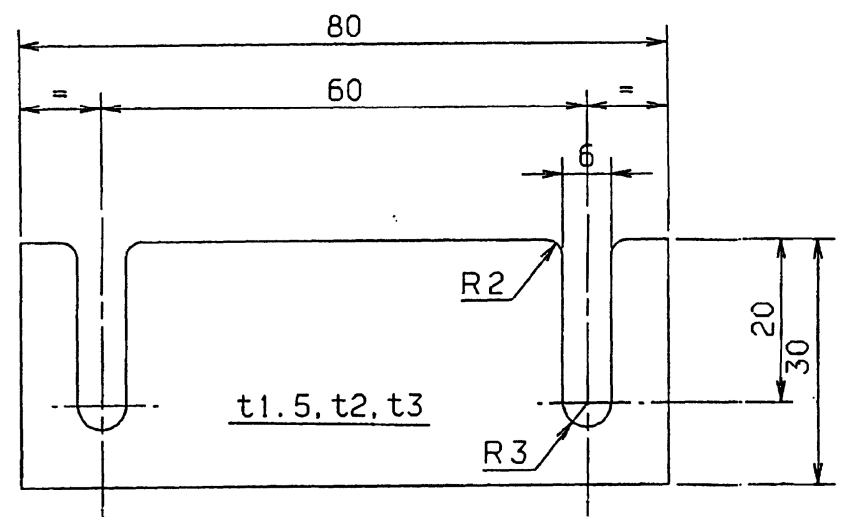
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GRADE No.	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	VALUE	SYMBOL
	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50		
SURFACE														
ROUGHNESS														

UN CONTROLLED



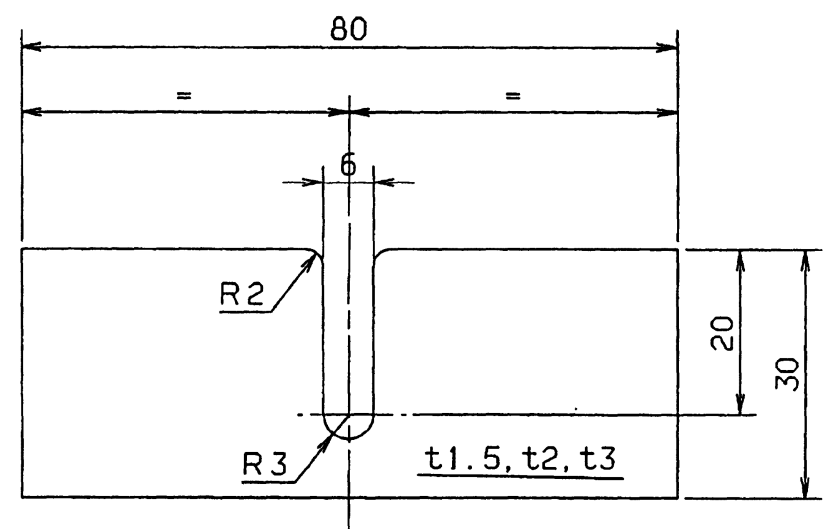
DETAIL "1, 2"








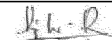
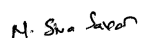




DETAIL "6, 7, 8"

NOTE:
1. REMOVE ALL SHARP EDGES AND BURRS

MACHINING DEVIATIONS FOR LINEAR DIMENSIONS	RANGE	0 - 6	6 - 30	30 - 120	120 - 315	315-1000	1000-2000	2000-4000	ABOVE 4000	RA
	TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3	~
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227										
UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)							QUALITY OF WELD JOINTS REF, RD 230 MEDIUM			
VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS. 1012.C.							STATUS:	PROTO / PRODUCTION		
WELDING SHALL BE CARRIED OUT AS PER IS: 9595-96										



DETAIL "3, 4, 5"

8	1	909-19539-08	SPACER			1.5†	A5005P				
7	1	909-19539-07	SPACER			2†	A5005P				
6	1	909-19539-06	SPACER			3†	A5005P				
5	1	909-19539-05	SPACER			1.5†	A5005P				
4	1	909-19539-04	SPACER			2†	A5005P				
3	1	909-19539-03	SPACER			3†	A5005P				
2	1	909-19539-02	SPACER			1.5†	A5005P				
1	1	909-19539-01	SPACER			2†	A5005P				
SL.No.	QTY	PART / STOCK No.			DESCRIPTION			SIZE	COMPANY STD./I.S		Wt. (Kg)
									MATERIAL		
					PRODUCT	DMRC BG METRO CARS					
					REF DRG						
					MATERIAL						
					HEAT TREAT.		APPD		10.04.2018		
					SURFACE TREAT.		REVD		10.04.2018		
					TITLE	SPACER			CHKD		10.04.2018
DRWN			10.04.2018								
SCALE			SHEET	Wt.							
NTS			1 OF 1	-							
ALT.NO.	ECN NO/CHANGES	DATE	BY	CHKD	APPD	 BEML LIMITED <small>NEW FRONTIERS. NEW DREAMS</small>			DRG No.		ALT
									909-19539		

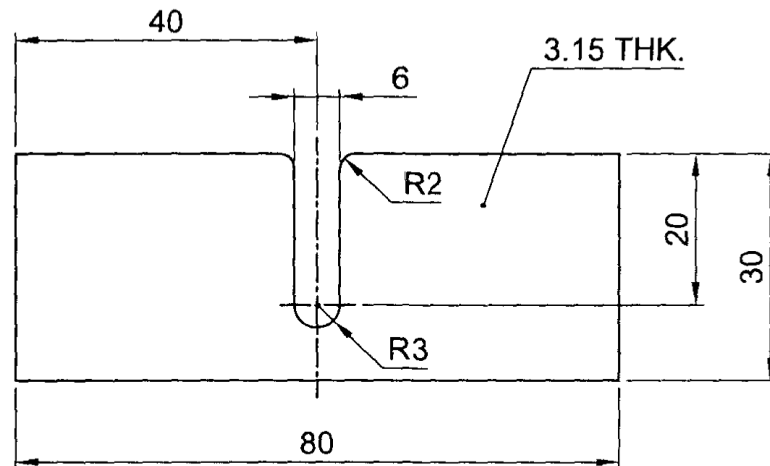
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS.1012.C.

QUALITY OF WELD JOINTS REF, ISO: 5817

PROTO/PILOT/PRODUCTION



UN CONTROLLED

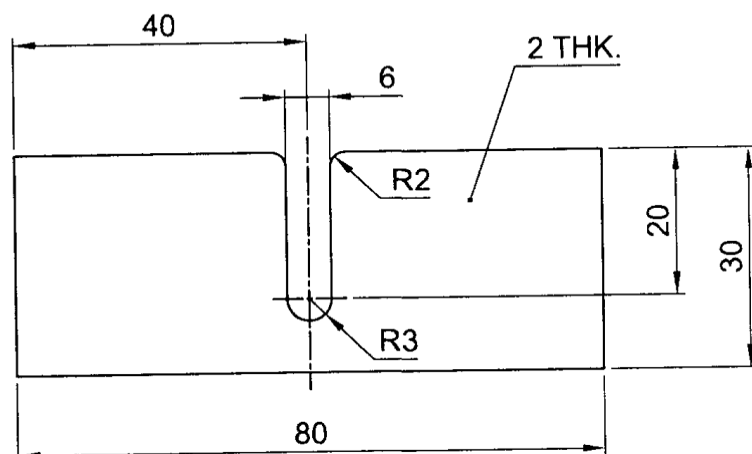
GRADE No.	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
VALUE	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50
SURFACE ROUGHNESS												

				80 x 30 x 3.15 THK		AL. ALLOY SHEET TO Gr:51000-A, CONDITION 'O' OF IS:737-1986	
SL No.	QTY	DRG. / STOCK No.	DESCRIPTION		SIZE	COMPANY STD/IS STD	Wt.Kg
		DETAIL PARTS				MATERIAL	
		PRODUCT DMRC BG METRO CARS					
		SURFACE TREATMENT					
		APPROVED <i>[Signature]</i> 12/9					
		CHECKED <i>[Signature]</i> 12/9					
		DRAWN ILYAS 12/9					
		REF DRG					
		SCALE SHEET OF Wt (Kg)					
ALT		CHANGES / ECN No.	DATE	BY	CKD	APP	
1		NEXT ASSEMBLY DETAILS UPDATED. ECN:90900426	22.04.15	SUNIL			
TITLE		SPACER				DRG No. 909-19542	
ALT		1					













BEML LIMITED
R&D, BANGALORE COMPLEX
BANGALORE 560 075

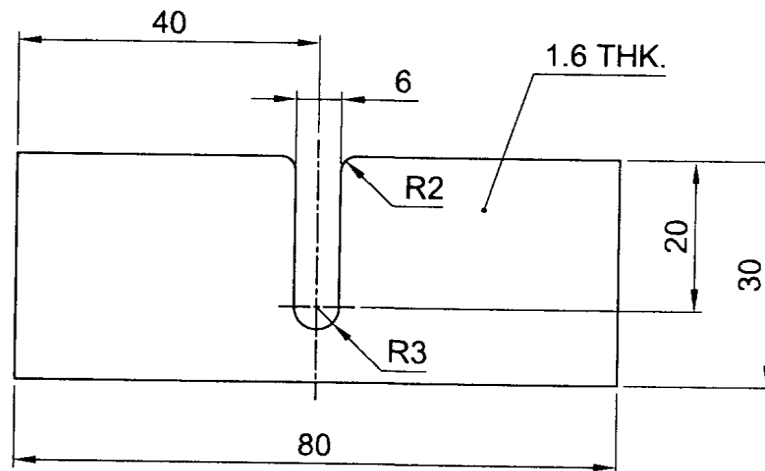
QUALITY OF WELD JOINTS REF, ISO: 5817



UN CONTROLLED

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

						80 x 30 x 2 THK.		AL. ALLOY SHEET TO Gr:51000-A, CONDITION 'O' OF IS:737-1986		
SL No.	QTY	DRG. / STOCK No.		DESCRIPTION		SIZE		COMPANY.STD/IS.STD		Wt.Kg
		DETAIL PARTS				MATERIAL				
						PRODUCT DMRC BG METRO CARS				
						SURFACE TREATMENT				
						APPROVED		12/9		
						CHECKED		12/9		
						DRAWN		12/9		
						REF DRG				
1		NEXT ASSEMBLY DETAILS UPDATED. ECN:90900426		22.04.15		SUNIL				
ALT		CHANGES / ECN No.		DATE		BY		CKD APP		
						QTY		NEXT ASSY		
						MODEL				
						TITLE		SPACER		
						DRG No.		909-19543		
								ALT		
								1		

~~PROTO/PILOT/PRODUCTION~~

UN CONTROLLED

[illegible]

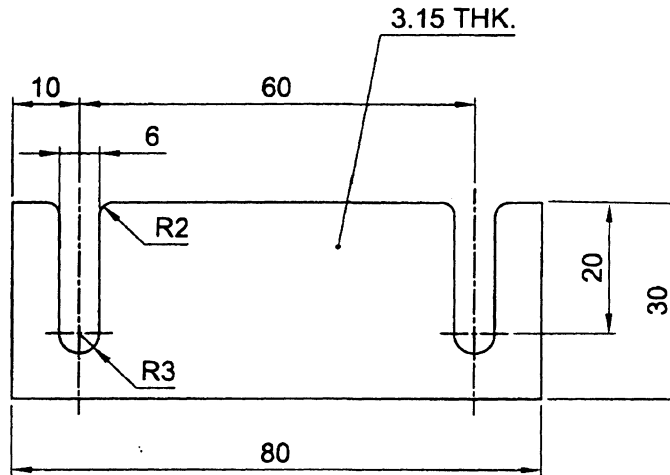
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS.1012.C.

QUALITY OF WELD JOINTS REF, ISO: 5817

PROTO/PILOT/PRODUCTION



UN CONTROLLED

GRADE No.	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
VALUE	0.025	0.05	0.1	0.2	0.4	0.8	1.5	3.2	6.3	12.5	25	50
SYMBOL	▽	▽	▽	▽	▽	▽	▽	▽	▽	▽	▽	▽
SURFACE ROUGHNESS												

				80 x 30 x 3.15 THK		AL. ALLOY SHEET TO Gr:51000-A, CONDITION 'O' OF IS:737-1986	
SL No.	QTY	DRG. / STOCK No.	DESCRIPTION		SIZE	COMPANY STD/IS STD	Wt. Kg
DETAIL PARTS			MATERIAL				
PRODUCT			DMRC BG METRO CARS				
			SURFACE TREATMENT				
			APPROVED <i>[Signature]</i> 12/9				
			CHECKED <i>[Signature]</i> 12/9				
			DRAWN ILYAS 12/9				
NEXT ASSEMBLY DETAILS UPDATED. ECN:90900426			22.04.15	SUNIL	Guany	REF DRG EC05081-006	
48	EC05192	DT-CAR	SCALE 1:1				
54	EC05193	M/T-CAR	SHEET OF				
ALT	CHANGES / ECN No.	DATE	BY	CKD	APP	QTY	Wt (Kg)
TITLE			SPACER			DRG No. 909-19545	
BETL LIMITED R&D, BANGALORE COMPLEX BANGALORE 560 075						ALT	

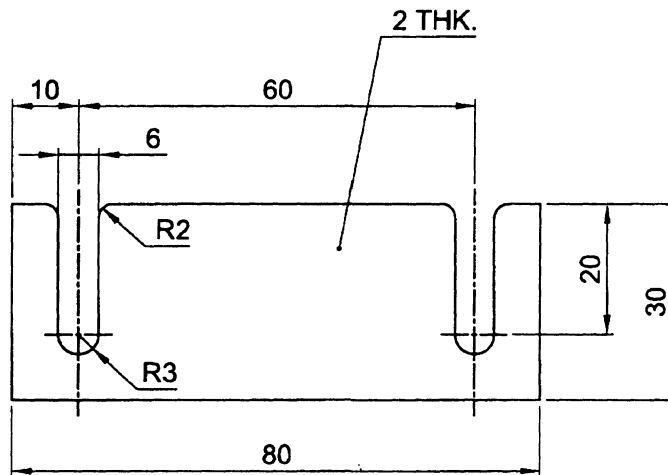
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS.1012.C.

QUALITY OF WELD JOINTS REF, ISO: 5817

PROTO/PILOT/PRODUCTION



UN CONTROLLED

GRADE No.	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
VALUE	0.025	0.05	0.1	0.2	0.4	0.8	1.5	3.2	6.3	12.5	25	50
SYMBOL												
SURFACE ROUGHNESS												

				80 x 30 x 2 THK.		AL. ALLOY SHEET TO Gr:51000-A, CONDITION 'O' OF IS:737-1986	
SL No.	QTY	DRG. / STOCK No.	DESCRIPTION		SIZE	COMPANY STD/IS STD	Wt. Kg
DETAIL PARTS				MATERIAL			
PRODUCT				DMRC BG METRO CARS			
				SURFACE TREATMENT			
				APPROVED <i>[Signature]</i> 12/19			
				CHECKED <i>[Signature]</i> 12/19			
				DRAWN ILYAS 12/19			
1		NEXT ASSEMBLY DETAILS UPDATED. ECN:90900426		22.04.15	SUNIL	REF DRG EC05081-007	
48		EC05192		DT-CAR		SCALE 1:1	
54		EC05193		M/T-CAR		SHEET OF	
ALT		CHANGES / ECN No.		DATE	BY	CKD	APP
TITLE		SPACER		DRG No.		ALT	
BEML LIMITED		R&D, BANGALORE COMPLEX		909-19546		1	
BANGALORE 560 075							

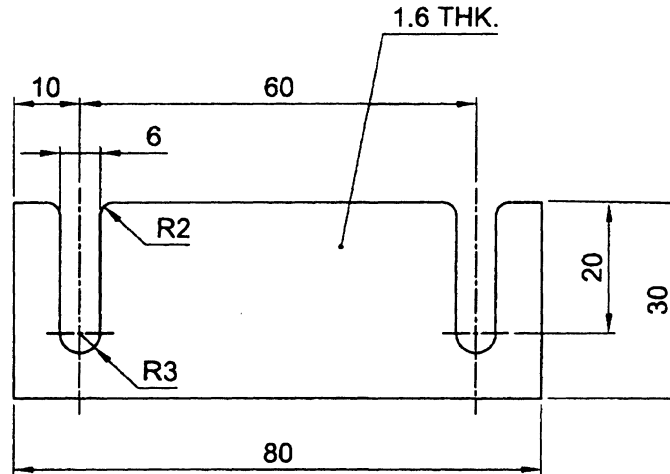
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS.1012.C.

QUALITY OF WELD JOINTS REF, ISO: 5817

PROTO/PILOT/PRODUCTION



UN CONTROLLED

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

				80 x 30 x 1.6 THK		AL. ALLOY SHEET TO Gr:51000-A, CONDITION 'O' OF IS:737-1986	
SL No.	QTY	DRG. / STOCK No.		DESCRIPTION		SIZE	COMPANY STD/IS STD Wt.Kg
		DETAIL PARTS				MATERIAL	
		PRODUCT DMRC BG METRO CARS					
		SURFACE TREATMENT					
		APPROVED <i>[Signature]</i> 12/9					
		CHECKED <i>[Signature]</i> 12/9					
		DRAWN ILYAS 12/9					
△ NEXT ASSEMBLY DETAILS UPDATED. ECN:90900426		22.04.15	SUNIL	<i>[Signature]</i>	48	EC05192	DT-CAR
ALT CHANGES / ECN No.		DATE	BY	CKD	APP	QTY	NEXT ASSY
						54	EC05193
							M/T- CAR
							MODEL
							SCALE 1:1
							SHEET OF
							Wt (Kg)
							ALT
							△ 1



BEML LIMITED
R&D, BANGALORE COMPLEX
BANGALORE 560 075

TITLE

SPACER

DRG No.

909-19547

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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS	RANGE	0 - 6	6 - 30	30 - 120	120 - 315	315-1000	1000-2000	2000-4000	ABOVE 4000	RA
	TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3	~

FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES. REFER STD. RD-227

UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)

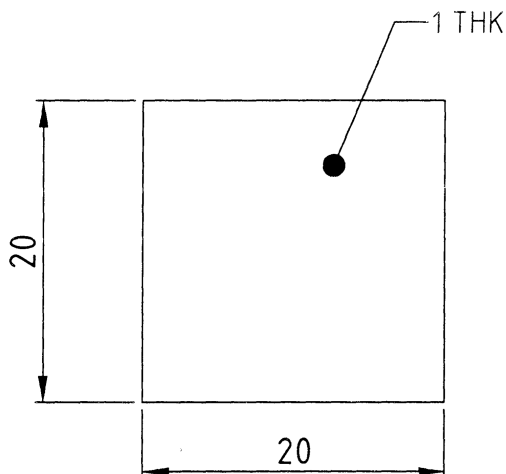
QUALITY OF WELD JOINTS REF. RD 230 MEDIUM

VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS. 1012.C

WELDING SHALL BE CARRIED OUT AS PER IS. 9595-96

STATUS:

PRODUCTION



NOTE:

1. REMOVE ALL SHARP EDGES AND BURRS.

UN CONTROLLED

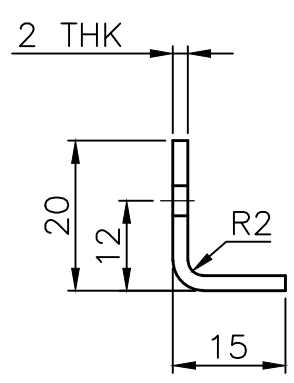
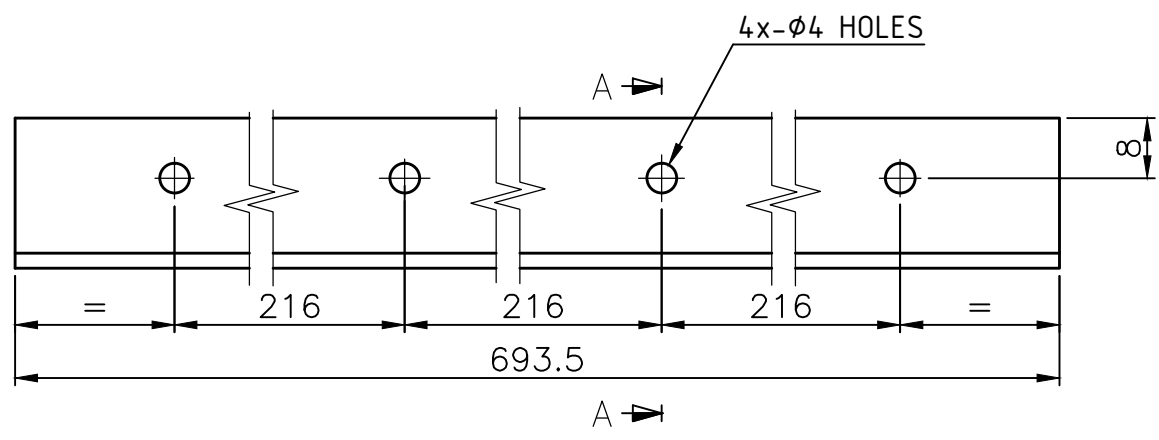
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MACHINING DEVIATIONS FOR LINEAR DIMENSIONS	RANGE	0 – 6	6 – 30	30 – 120	120 – 315	315-1000	1000-2000	2000-4000	ABOVE 4000	RA
	TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3	~
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227										
UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)							QUALITY OF WELD JOINTS REF, RD 230 MEDIUM			
VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS. 1012.C.						STATUS:	PROTO/PRODUCTION			
WELDING SHALL BE CARRIED OUT AS PER IS: 9595-96										



SECTION A-A

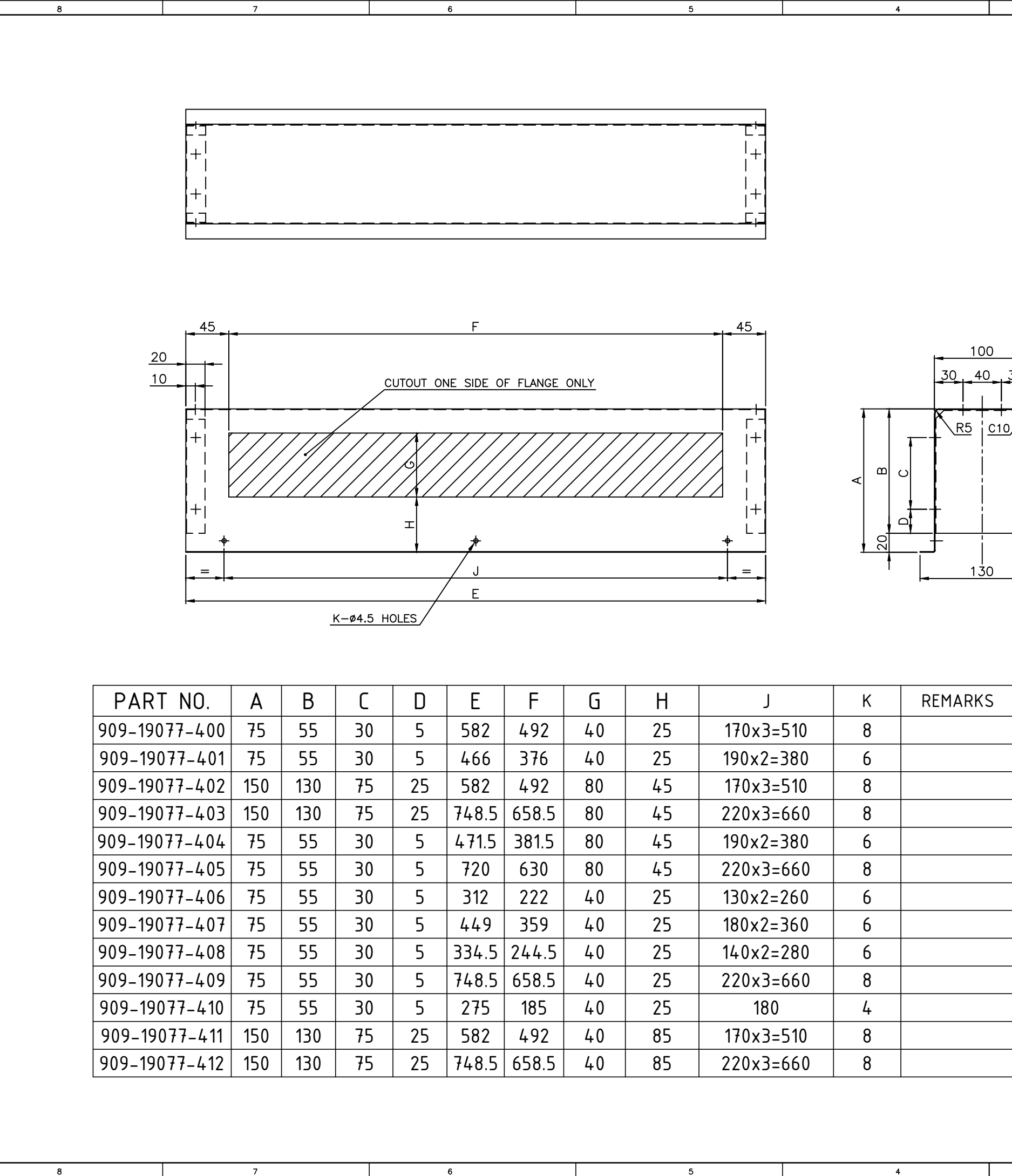
NOTE
REMOVE ALL SHARP EDGES & BURRS.

UN CONTROLLED

N6	N7	N8	N9	N10	N11	N12	GRADE No.	VALUE	SYMBOL	SURFACE ROUGHNESS	ALT.NO.	ECN NO/CHANGES	DATE	BY	CHKD	APPD	693.5x32x2THK		COMPANY STD./I.S		Wt. (Kg)
																	SIZE		MATERIAL		
																	DMRC BG METRO CARS				
																	REF DRG				
																	MATERIAL		A5005P		
																	HEAT TREAT.		APPD	Mat-PV.	02.04.2018
																	SURFACE TREAT.		REVD	K. J. J.	02.04.2018
																	TITLE		CHKD	J. K. R.	02.04.2018
																	BRACKET, AIR DIFFUSER		DRWN	Srinivasan	02.04.2018
																			SCALE	1:1	SHEET
																	NTS				-
																	DRG No.		909-19655		ALT
																			BEML LIMITED		
																	NEW FRONTIERS. NEW DREAMS				-

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GRADE No. VALUE SYMBOL
SURFACE ROUGHNESS



3		2					1				
MACHINING DEVIATIONS FOR LINEAR DIMENSIONS		RANGE	0 - 6	6 - 30	30 - 120	120 - 315	315-1000	1000-2000	2000-4000	ABOVE 4000	RA
		TOLERANCE	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	±2	±3	~
FOR DIMENSIONAL TOLERANCES OF SHEET METAL PARTS AND WELDED STRUCTURES, REFER STD. RD-227											
UNSPECIFIED TOLERANCE FOR LINEAR AND ANGULAR DIMENSIONS REF. IS 2102 (PT-1) (MEDIUM)								QUALITY OF WELD JOINTS REF. RD 230 MEDIUM			
VALUES OF SURFACE TEXTURE SHALL BE AS PER COMPANY STD DS. 1012.C.								STATUS:	PROTO/PRODUCTION		
WELDING SHALL BE CARRIED OUT AS PER IS: 9595-96											

UN CONTROLLED

PART NO.	A	B	C	D	E	F	G	H	J	K	REMARKS
909-19077-400	75	55	30	5	582	492	40	25	170x3=510	8	
909-19077-401	75	55	30	5	466	376	40	25	190x2=380	6	
909-19077-402	150	130	75	25	582	492	80	45	170x3=510	8	
909-19077-403	150	130	75	25	748.5	658.5	80	45	220x3=660	8	
909-19077-404	75	55	30	5	471.5	381.5	80	45	190x2=380	6	
909-19077-405	75	55	30	5	720	630	80	45	220x3=660	8	
909-19077-406	75	55	30	5	312	222	40	25	130x2=260	6	
909-19077-407	75	55	30	5	449	359	40	25	180x2=360	6	
909-19077-408	75	55	30	5	334.5	244.5	40	25	140x2=280	6	
909-19077-409	75	55	30	5	748.5	658.5	40	25	220x3=660	8	
909-19077-410	75	55	30	5	275	185	40	25	180	4	
909-19077-411	150	130	75	25	582	492	40	85	170x3=510	8	
909-19077-412	150	130	75	25	748.5	658.5	40	85	220x3=660	8	

2	2	909-19077-02	STIFFENER		0.8THK	A5005P		
1	1	909-19077-01	AIR DUCT		0.8THK	A5005P		
SL.No.	QTY	PART / STOCK No.			DESCRIPTION	SIZE	COMPANY STD./I.S	Wt. (Kg)
							MATERIAL	
					PRODUCT	DMRC BG METRO CARS		
					REF DRG			
					MATERIAL			
					HEAT TREAT.	APPD		04.04.2018
					SURFACE TREAT.	REVD		04.04.2018
					TITLE	CHKD		04.04.2018
					AIR DUCT ASSY	DRWN		04.04.2018
						SCALE		SHEET
					NTS		1 OF 1	-
ALT.No.	ECN NO/CHANGES	DATE	BY	CHKD	APPD	DRG No.	ALT	
						 BEM LIMITED		
						909-19077		-