

BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL
QA-HYDRO
STANDARD QUALITY ASSURANCE PLAN FOR BAR MATERIAL

QAP NO. : QA/HT/1042 Rev. 00 Dated :- 16.05.2018
SPECIFICATION : AA 19358 Rev. 08 (1.5 % Nickel - Chromium - Molybdenum Steel Bars)
SUPPLY CONDITION : 110 - 200 mm - (Hot Rolled ; Hardened & Tempered, unmachined) OR (Forged ; Hardened & Tempered, machined)

1	2	3	4	5	6	7	8	9	10	11	12
SL. NO.	STAGE	CHARACTERSTIC	METHOD	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	P	V	W	REMARKS
1	Raw Material	Chemical	Chemical test	1 Sample / Heat	AA 19358 Rev. 08	AA 19358 Rev. 08	Mill Test Certificate	1	2	-	-
2	Heat Treatment	Hardened & Tempered	Hardened & Tempered	1 Sample / Heat & H.T. Batch	-do-	-do-	H.T. Chart	1	2	-	-
3	Final Stage	Stamping on test bar for mechanical Testing	Hard Stamp by TPIA	-do-	-do-	-do-	Stage Inspection Report	1	-	2	Test Piece duly stamped by TPIA
		Mechanical Properties	i) Tensile Test	As Specified in AA 19358 Rev. 08	-do-	-do-	Supplier's Test Certificate	1	-	2	-
			ii) Charpy Impact Test (on 3 samples)	-do-	-do-	-do-	Supplier's Test Certificate	1	-	2	-
			iii) Yield strength	-do-	-do-	-do-	Supplier's Test Certificate	1	-	2	-
			iv) % Elongation	-do-	-do-	-do-	Supplier's Test Certificate	1	-	2	-
		Ultra Sonic Test	As Specified in AA 19358 Rev. 08	100%	AA0850118 Rev. 01	Category II	U.T. report	1	-	2	1) 100% UT to be done by vendor. 2) 15% UT to be witness by TPIA on sample basis
		Chemical Composition	Chemical test	1 sample / Heat	AA 19358 Rev. 08	AA 19358 Rev. 08	Supplier's Test Certificate	1	-	2	-
		Visual Examination	Visual	100%	-do-	Bars shall be free fom surface defects, bends & twists	Supplier,s Dimensional Report	1	-	2	-
		Dimension & Tolerance	Measurement	100%	WTM 0001 Rev. 00	WTM 0001 Rev. 00	-do-	1	-	2	-
4	Dispatch	Identification Marking	Hard Stamping	100%	AA 19358 Rev. 08	AA 19358 Rev. 08	1. Heat No. 2. P.O. No. 3. Spec No. 4. Size 5. Supplier's Name	1	-	2	Identification & marking shall be done on face of each bar & TPIA hard stamp to be done on both face of each bar.
5	Document submission duly certified by TPIA	1) Mill test certificate (Mechanical & Chemical) 2) Supplier Test certificate (Mechanical & Chemical) 3) Dimensional Inspection report. 4) Heat Treatment chart 5) U.T. Report									

Note : Final Testing of Material will be done at BHEL Bhopal works before clearance of SRV.

1 = Manufacturer / Trader
2 = BHEL / BHEL's TPIA

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आधार शर्मा
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बी.एच.ई.एल. भोपाल / BHEL, BHOPAL

H.T.E

Shivendra Kumar
16/05/18
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वरिष्ठ प्रबंधक/Sr. Manager
प्रच.टी.ई. विभाग/H.T.E. DIVISION
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WTM

Mahendra Soni
16/5/18
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