

MONITORING INSTRUCTION FOR INSPECTION		Issue No. 01
		Rev. No. 01
		Date of Issue 25/10/2017
STEEL BAR DIA. 80 MM	HAPP/QA/SC/G/003	

SPECIFICATION : AS PER ASTM A322-91 GRADE 4340
SAMPLING SPECIFICATION : AS PER MIL -STD-105 OR ANSI ASQC Z 1.4
END USE : TAIL UNIT 120 MM FSAPDS P/S
TAIL UNIT 125 MM FSAPDS (PMT VERSION MK -II)

A. INSPECTION CHECKS TO BE CARRIED OUT BY FIRM AT FIRM'S PREMISES.

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE
1	WORKMANSHIP (VISUAL)	THE MATERIAL SHALL BE UNIFORM AND FREE FROM DEFECTS SUCH AS RUST, SCALE, BURRS, AND ANY OTHER HARMFUL DEFECTS.	100 %
2	DIMENSIONS	OUTER DIA : 80.00 ± 1.2 mm LENGTH : STANDARD LENGTH.	AS PER 131 A
3	CHEMICAL COMPOSITION (%)	C - 0.38 - 0.43 SI - 0.15 - 0.35 Mg - 0.60 - 0.80 P - 0.35 max. S - 0.40 max NI - 1.65 - 2.00. Cr - 0.7 - 0.9. Mo - 0.20 - 0.30.	ONE SAMPLE PER HEAT
4	ULTRASONIC TESTING	SHOULD CONFIRM TO MIL STD-2154 TYPE-1 CLASS A	15 BAR@ RANDOM
5	HARDNESS	225 BHN MAX ANNEALED CONDITION OR 270 HB -QUENCHED &TEMPERED CONDITION	100 %
6	CLEANLINESS TEST	A.AS PER IS:4075(STEP TURN AND MAGNETIC PARTICLE CRACK DETECTION TEST) OR B.AS PER IS:10138 PART -III (MAGNETIC PARTICLE INSPECTION)	A) 2 NOS PER HEAT B) 100%
7	RESPONSE TO HEAT TREATMENT & MECHANICAL TEST	TURN A BAR TO 77MM DIA AND SUBJECT IT TO HEAT TREATMENT (HARDENING +TEMPERING) TO ACHIEVE HARDNESS OF 320-360HB UTS - 1000 TO 1310 MPA YP -860 TO 1172 MPA PHOTOMICROGRAPHS (OPTICAL)REPORTS SHALL BE PRODUCED	ONE SAMPLE PER HEAT
8	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT	100 %
9	MARKING	EACH PACKING SHALL BE LEGIBLY MARKED WITH MANUFACTURER'S IDENTITY, QUANTITY, HEAT NUMBER AND HAPP SUPPLY ORDER NUMBER ETC.	100 %

NOTE:

1. THE RAW MATERIAL TO BE TESTED BY THE FIRM BY SELECTING THE SAMPLE BY THE FIRM ITSELF FOR CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES IN NABL ACCREDITED LAB AS PER TABLE A (ONE SAMPLE EACH FOR CHEMICAL AND MECHANICAL TESTING).
2. THE FIRM HAS TO CHECK FOR THE DIMENSIONS, VISUAL DEFECTS, PACKING AND MARKING AS PER TABLE A. AFTER COMPLETION OF TESTS AS PER NOTE- 1, THE FIRM HAS TO SUBMIT THE FOLLOWING DOCUMENTS TO HAPP.
 - i) THE RAW MATERIAL CERTIFICATE FROM THE ORIGINAL MANUFACTURER, HEAT NUMBER, AND QUANTITY PURCHASED, AND NUMBER OF BARS ARE TO BE MENTIONED IN THE INSPECTION LETTER TO HAPP.
 - ii) THE CHEMICAL AND MECHANICAL TEST CERTIFICATES FROM NABL ACCREDITED LAB AS PER TABLE A.
 - iii) DIMENSIONAL REPORTS INCLUDING VISUAL AS PER TABLE A.
 - iv) GUARANTEE /WARRANTEE CERTIFICATE OF SUPPLIER.

ISSUED BY STANDARD CELL MPS NO: 070168, 21/11/18 DATE: 20/11/18 SIGNATURE
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3. THE ABOVE DOCUMENTS MENTIONED AT NOTE NO.2 ABOVE ARE TO BE FORWARDED TO GM/HAPP.
4. HAPP WILL VERIFY ALL THE DOCUMENTS AS ABOVE AND ACCORD CLEARANCE FOR DESPATCH OF THE MATERIAL TO HAPP IF ALL DOCUMENTS ARE IN ORDER.

B. INSPECTION CHECK TO BE CARRIED OUT AT HAPP AFTER RECEIPT OF MATERIAL

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE
1	WORKMANSHIP (VISUAL)	THE MATERIAL SHALL BE UNIFORM AND FREE FROM DEFECTS SUCH AS RUST, SCALE, BURRS, AND ANY OTHER HARMFUL DEFECTS.	100 %
2	DIMENSIONS	OUTER DIA : 80.00 ± 1.2 mm LENGTH : STANDARD LENGTH.	AS PER 131 A
3	CHEMICAL COMPOSITION (%)	C - 0.38 - 0.43 Si - 0.15 - 0.35 Mg - 0.60 - 0.80 P - 0.35 max. S - 0.40 max. Ni - 1.65 - 2.00. Cr - 0.7 - 0.9. Mo - 0.20 - 0.30.	ONE SAMPLE PER HEAT
4	MECHANICAL TEST	UTS - 1000 TO 1310 MPA YP - 860 TO 1172 MPA	
5	HARDNESS	225 BHN MAX ANNEALED CONDITION OR 270 HB -QUENCHED & TEMPERED CONDITION	ONE SAMPLE PER HEAT
6	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT	100 %
7	MARKING	EACH PACKING SHALL BE LEGIBLY MARKED WITH MANUFACTURER'S IDENTITY, QUANTITY, HEAT NUMBER AND HAPP SUPPLY ORDER NUMBER ETC.	100 %

1. HAPP/TRICHY SHALL VERIFY ALL THE PARAMETERS AS ABOVE AND AFTER SATISFACTORY RESULTS, THE MATERIAL WILL BE ACCEPTED / CLEAR'D ACCORDINGLY.
2. MATERIAL HAS TO BE REPLACED 100% BY THE FIRM IN CASE OF NON CONFORMITY TO SPECIFICATION AS PER TABLE-A, DURING INSPECTION AT HAPP, TRICHY.

C. VERIFICATION OF INSPECTION DOCUMENTS.

FOLLOWING INSPECTION DOCUMENTS MUST BE ENCLOSED WITH EACH SUPPLY.

SL. NO.	INSPECTION DOCUMENTS
1	THE RAW MATERIAL ORIGINAL MANUFACTURER'S CERTIFICATE, DETAILS OF HEAT NUMBER, QUANTITY PURCHASED AND NUMBER OF BARS ETC.
2	THE CHEMICAL AND MECHANICAL TEST CERTIFICATES FROM NABL ACCREDITED
3	DIMENSION REPORT INCLUDING VISUAL.
4	PACKING SLIP DETAILS

Korand
✓ **SOURABH NEGE**
WM / P
MEMBER / MI COMMITTEE

SOA
D.BHASKAR RAO
WM / E
MEMBER / MI COMMITTEE

ISSUED BY
STANDARD CELL
MPS NO. 176168, DT: 11/01/18
K. Ag
DATE: 23/01/18 SIGNATURE:

Prabhu
T.PRABHU
JT.GM / QA
CHAIRMAN / MI COMMITTEE

Note: Explicitly deviation(s) if any such as typographical error, values, number, or other parameter, etc is/are found in Monitoring Instruction of the above stores, the relevant standards conforming to the concerned specifications shall be referred to confirm the parameter