

MONITORING INSTRUCTION FOR INSPECTION	Issue No. 01 Rev. No. 00
	Date of Issue 20-09-17
STEEL ROD Ø130mm	HAPP/QA/SC/YA/02

SPECIFICATION : BS 970 (PT-1)-83 GRADE 070 M20

CONDITION OF SUPPLY : HOTROLLED OR NORMALISED

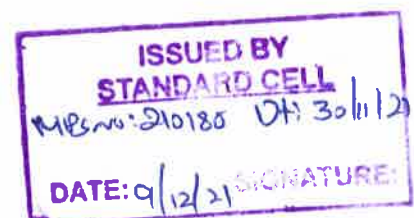
END USE : FLANGE (125mm FSAPDS DUMMY SHOT)

A. INSPECTION CHECK TO BE CARRIED OUT BY THE FIRM.

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE
1	WORKMANSHIP (VISUAL)	THE ROD SHALL BE FREE FROM DEFECTS SUCH AS RUST, SCALE, BURRS, AND ANY OTHER HARMFUL DEFECTS.	AS PER NA SPEC A-31B
2	DIAMETER	130 ± 1 mm	
3	LENGTH	1 m or multiples	
4	CHEMICAL COMPOSITION (%)	C - 0.16 – 0.24 Mn - 0.50 – 0.90 P - 0.05 Max. S - 0.05 Max.	ONE SAMPLE PER HEAT
5	MECHANICAL TEST	UTS - 430 MPa Min. YS - 215 MPa Min. EL - 21 % Min. Hardness- 126 - 179 HB	
6	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT.	EACH CONSIGNMENT
7	MARKING	EACH PACKING SHALL BE LEGIBLY MARKED WITH MANUFACTURER'S IDENTITY, QUANTITY, HEAT NUMBER AND HAPP SUPPLY ORDER NUMBER ETC.	

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 OR GOVERNMENT APPROVED 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 AND NOTE- 2, THE FIRM HAS TO SUBMIT THE FOLLOWING DOCUMENTS TO HAPP.
 - I. THE RAW MATERIAL CERTIFICATE FROM THE ORIGINAL MANUFACTURER, HEAT NUMBER, 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 OR GOVERNMENT APPROVED LAB AS PER TABLE A.
 - III. DIMENSIONAL REPORTS INCLUDING VISUAL AS PER TABLE A.
 - IV. GUARANTEE /WARRANTEE CERTIFICATE OF SUPPLIER.
3. ALL THE ABOVE DOCUMENTS MENTIONED AT NOTE NO.2 ABOVE ARE TO BE FORWARDED TO GM/HAPP.
4. HAPP SHALL VERIFY ALL THE DOCUMENTS AS ABOVE AND ACCORD CLEARANCE FOR DESPATCH OF THE MATERIAL TO HAPP IF ALL DOCUMENTS ARE IN ORDER.



MONITORING INSTRUCTION FOR INSPECTION	Issue No. 01 Rev. No. 00
	Date of Issue 20-09-17
STEEL ROD Ø130mm	HAPP/QA/SC/YA/02

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

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE
1	WORKMANSHIP (VISUAL)	THE ROD SHALL BE FREE FROM DEFECTS SUCH AS RUST, SCALE, BURRS, AND ANY OTHER HARMFUL DEFECTS.	AS PER NA SPEC A-31B
2	DIAMETER	130 ± 1 mm	
3	LENGTH	1 m or multiples	
4	CHEMICAL COMPOSITION (%)	C - 0.16 – 0.24 Mn - 0.50 – 0.90 P - 0.05 Max. S - 0.05 Max.	ONE SAMPLE PER HEAT
5	MECHANICAL TEST	UTS - 430 MPa Min. YS - 215 MPa Min. EL - 21 % Min. Hardness- 126 - 179 HB	
6	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT.	EACH CONSIGNMENT
7	MARKING	EACH PACKING SHALL BE LEGIBLY MARKED WITH MANUFACTURER'S IDENTITY, QUANTITY, HEAT NUMBER AND HAPP SUPPLY ORDER NUMBER ETC.	

- HAPP/TRICHY SHALL VERIFY ALL THE PARAMETERS AS ABOVE AND AFTER SATISFACTORY RESULTS, THE MATERIAL WILL BE ACCEPTED / CLEARED ACCORDINGLY.
- 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 OR GOVT. APPROVED LAB.
3	DIMENSION REPORT INCLUDING VISUAL.
4	PACKING SLIP DETAILS


SOURABH NEGE
 WM / P
 MEMBER / MI COMMITTEE


D. BHASKAR RAO
 WM / E
 MEMBER/MI COMMITTEE



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



Table A Steels supplied as Bright Bar
 chemical composition and mechanical property requirements

Steel (7)	Chemical composition						Condition (8)	Size (8) (diameter or across flats)	R _m	R _{p0.2}	A _{50-55%}	Impact	K _{IC}	A ₆₂ (10)	HB
	C	Mn	Cr	Ni	Mo	Others									
080M15	0.12-0.18	0.60-1.00					Normalized + turned or ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 63	350 min. 330 min.	175 165	22 22	-	-	108-163(4) 101-152(4)	
070M20	0.16-0.24	0.50-0.90					Normalized + turned or ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 150	430 min. 400 min.	215 200	21 21	-	-	126-179(4) 116-170(4)	
070M26	0.22-0.30	0.50-0.90					Normalized + turned or ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 63	560 min. 530 min. 490 min.	440 420 370	10 12 12	-	-	143-132(4) 126-179(4)	
080M30	0.26-0.34	0.60-1.00					Normalized + turned or ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 150	490 min. 460 min.	245 230	20 19	-	-	143-152(4) 134-183(4)	
							Hot rolled + cold drawn or hot rolled + cold drawn + ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 13 & 13	630 min. 600 min. 570 min.	480 470 430	9 10 11	-	-	460 450 380	
							Hot rolled + cold drawn or hot rolled + cold drawn + ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 40 & 63	560 min. 530 min.	415 385	12 12	-	-	400 345 320	
							Hardened and tempered + turned or ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 63	550-700 525-775	340 415	18 16	25 25	28	310 400	
							Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground	mm	N/mm ² (2)	N/mm ² (2)	%	kJ/m ²	kJ/m ²	MPa	
								> 6 & 63	580-700 625-775	385 460	13 12	25 25	-	340 430	

Figures in parentheses indicate notes which appear at the end of the table

ISSUED BY
 STANDARD CELL
 DATE: 9/12/21 SIGNATURE: