

MONITORING INSTRUCTION FOR INSPECTION		Issue No. 01 Rev. No. 04
		Date of Issue 12.02.2020
STEEL ROD (DIA. 220mm)		HAPP/QA/SC/ZI/024
Rev no	Amendment	Date
4	Material amended as per standard BS 970-3:1991 which was BS 970-1:1983	12.02.2020

SPECIFICATION : BS 970 (Pt-3)-91 Grade:080M40 OR ASTM 106 GR.B

CONDITION : NORMALISED (080M40)

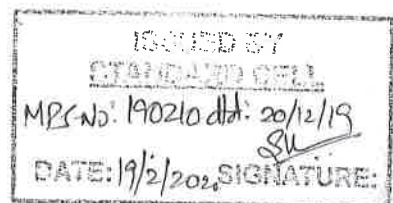
END USE : SLEEVE - A/S ROCKET RGB 60 EMPTY

TABLE A. INSPECTION CHECK TO BE CARRIED OUT AT FIRM'S PREMISES FOR RAW MATERIAL BY THE FIRM.

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE			
1	WORKMANSHIP (VISUAL)	THE MATERIAL SHALL BE CLEAN AND FREE FROM SHARP EDGES, INTERNAL FLAWS LIKE PIN HOLES, POROSITY, CRACKS, DISTORTION AND ANY OTHER HARMFUL DEFECTS.	AS PER NAI SPEC A 31 B			
2	DIMENSIONS	<table border="1" style="width: 100%;"> <tr> <td>OUTER DIAMETER</td> <td>220 + 0.0 /- 3.0mm</td> </tr> <tr> <td>LENGTH</td> <td>130 ± 1.0 mm</td> </tr> </table>		OUTER DIAMETER	220 + 0.0 /- 3.0mm	LENGTH
OUTER DIAMETER	220 + 0.0 /- 3.0mm					
LENGTH	130 ± 1.0 mm					
3	CHEMICAL COMPOSITION (%)	BS 970 (Pt-3)-91 Grade:080M40 normalised condition OR ASTM 106 GR.B	ONE SAMPLE PER HEAT			
4	MECHANICAL TEST		2 SAMPLES PER HEAT			
5	MARKING	EACH BAR SHALL BE LEGIBLY STAMPED WITH MANUFACTURER'S IDENTITY & HEAT NUMBER.	EACH CONSIGNMENT			
6	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT.	EACH CONSIGNMENT			

NOTE:

1. THE RAW MATERIAL TO BE TESTED BY THE FIRM BY SELECTING THE SAMPLE BY THE FIRM ITSELF FOR CHEMICAL AND MECHANICAL PROPERTIES FOR EACH HEAT IN NABL ACCREDITED TABLE A
2. THE FIRM HAS TO CHECK FOR THE DIMENSIONS, VISUAL DEFECTS AND MARKING AS PER TABLE A. AFTER COMPLETION OF DIMENSIONAL, CHEMICAL AND MECHANICAL PROPERTIES. THE FIRM HAS TO FORWARD THE FOLLOWING DOCUMENTS TO NAI/TRICHY.
 - I. THE RAW MATERIAL ORIGINAL MANUFACTURER'S CERTIFICATE, HEAT NUMBER, QUANTITY PURCHASED AND NUMBER OF BARS ARE TO BE MENTIONED IN THE INSPECTION LETTER TO NAI/TRICHY.
 - II. THE CHEMICAL AND MECHANICAL TEST CERTIFICATES FROM NABL ACCREDITED LAB AS PER TABLE A.
 - III. DIMENSION REPORT INCLUDING VISUAL AS PER TABLE A.
3. ALL THE ABOVE DOCUMENTS ARE TO BE FORWARDED TO NAI/TRICHY WITH A COPY TO GM/HAPP.
4. THE NAI/TRICHY SHALL VERIFY ALL THE DOCUMENTS AS ABOVE AND ACCORD CLEARANCE FOR DISPATCH OF THE MATERIAL TO HAPP IF ALL DOCUMENTS ARE IN ORDER.
5. MATERIAL HAS TO BE DESPATCHED TO HAPP ONLY AFTER DUE SUBMISSION OF ALL RELATED DOCUMENTS AS DETAILED IN TABLE A AND AFTER GETTING CLEARANCE FROM NAI/TRICHY.



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TABLE B. INSPECTION CHECK TO BE CARRIED OUT AT HAPP AFTER THE RECEIPT BY NAI/TRICHY.

SL. NO.	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE			
1	WORKMANSHIP (VISUAL)	THE MATERIAL SHALL BE CLEAN AND FREE FROM SHARP EDGES, INTERNAL FLAWS LIKE PIN HOLES, POROSITY, CRACKS, DISTORTION AND ANY OTHER HARMFUL DEFECTS.	AS PER NAI SPEC A 31 B			
2	DIMENSIONS	<table border="1" style="width: 100%;"> <tr> <td>OUTER DIAMETER</td> <td>220 + 0.0 /- 3.0mm</td> </tr> <tr> <td>LENGTH</td> <td>130 ± 1.0 mm</td> </tr> </table>		OUTER DIAMETER	220 + 0.0 /- 3.0mm	LENGTH
OUTER DIAMETER	220 + 0.0 /- 3.0mm					
LENGTH	130 ± 1.0 mm					
3	CHEMICAL COMPOSITION (%)	BS 970 (Pt-3)-91 Grade:080M40 normalised condition OR ASTM 106 GR.B	ONE SAMPLE PER HEAT			
4	MECHANICAL TEST		2 SAMPLES PER HEAT			
5	MARKING	EACH BAR SHALL BE LEGIBLY STAMPED WITH MANUFACTURER'S IDENTITY & HEAT NUMBER.	EACH CONSIGNMENT			
6	PACKING	PACKING OF THE MATERIAL SHALL BE DONE IN SUCH A MANNER TO AVOID CORROSION AND DAMAGE IN HANDLING AND TRANSIT.	EACH CONSIGNMENT			

1. THE NAI/TRICHY SHALL VERIFY ALL THE PARAMETERS AS ABOVE AND AFTER SATISFACTORY RESULTS, NAI/TRICHY SHALL ISSUE I-NOTE FOR THE MATERIAL RECEIVED.
2. MATERIAL/COMPONENT WILL BE CLEARED/ACCEPTED BASED ON NAI I-NOTE/CLEARANCE CERTIFICATE ONLY.
3. MATERIAL HAS TO BE REPLACED 100% BY THE FIRM IN CASE OF NON CONFORMITY TO SPECIFICATION AS PER TABLE-A DURING NAI INSPECTION AT HAPP, TRICHY.

ISSUED BY
 STANDARD CELL
 MPS No. 190210 dt: 20/12/19
 DATE: 19/2/2020 SIGNATURE:

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TABLE 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, MECHANICAL TEST CERTIFICATES FROM NABL ACCREDITED LAB.
3.	DIMENSION REPORT INCLUDING VISUAL.
4.	PACKING SLIP DETAILS.
5.	GUARANTEE / WARRANTY CERTIFICATE OF SUPPLIER.
6.	NAI - I-NOTE.
7.	IN ADDITION TO THE ABOVE SOFT COPIES OF ALL THE CERTIFICATES MENTIONED IN TABLE - A SHALL BE SENT TO E-MAIL ID's. happqa.ofb@ofb.gov.in , mmhapp.ofb@ofb.gov.in
NOTE	1. IN CASE OF ANY DIFFERENCES, QAP & DRAWING SHALL PREVAIL 2. EXPLICIT DEVIATION(S) IF ANY SUCH AS TYPOGRAPHICAL ERROR, VALUES, NUMERIC, OTHER PARAMETER, ETC IS/ARE FOUND IN MONITORING INSTRUCTION OF THE ABOVE STORES, THE RELEVANT STANDARD CONFORMING TO THE CONCERNED SPECIFICATIONS SHALL BE REFERRED TO CONFIRM THE PARAMETER

8. MATERIAL/COMPONENT WILL BE CLEARED/ACCEPTED BASED ON NAI I-NOTE/CLEARANCE CERTIFICATE ONLY..
9. MATERIAL HAS TO BE REPLACED 100% BY THE FIRM IN CASE OF ANY DAMAGES DURING INSPECTION AT HAPP, TRICHY.


 15-2-2020
AKHILESH GAUR
 AWM / P (USER SECTION)
 MEMBER / MI COMMITTEE


M. RAMESHPARAN
 AWM / R&D
 CHAIRMAN / MI COMMITTEE


D. BHASKAR RAO
 WM / PM
 MEMBER/MI COMMITTEE



MANUFACTURING QUALITY PLAN - ROCKET SHELL - RGB 60

ITEM DESCRIPTION	SLEEVE MOD 1
REF. DOCUMENT	NASK 1134/1/1/3 (P) Steel EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde.B
MATERIAL	

Component name/operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI
Sleeve (Raw material)	General finish, appearance	Semi critical	Visual	100% or as per the discretion of inspection authority	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Inspection report	Visual Inspn. By NAI
	Chemical properties	Critical	Chemical lab analysis	Three Samples per lot or as per the discretion of inspection authority	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Test report from NABL Lab	Accept. By NAI
	Mechanical properties	Critical	Mechanical lab analysis	Three Samples per lot or as per the discretion of inspection authority	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Specification EN 8 (BS 970 (Pt 3) 1991 Gde 080 M40) or ASTM 106 Gde B	Test report from NABL Lab	Accept. By NAI
In process - Turning,drilling and tapping	Dimensions specified in the Inspection Report for the Component.		Dimensional measurement	100% or as per the discretion of inspection authority	Tolerances specified as per Drg NASK 1134/1/1/3 (P)	Tolerances specified as per Drg NASK 1134/1/1/3 (P)	NAI Inspection report	Accept. By NAI
Final finish	PU Paint on external xxx surfaces in the drawing after assy with body	Critical	Visual	100% or as per the discretion of inspection authority	As per NASK Drg. 1134/1/1/3 (P)	As specified in specification	NAI Inspection report	Accept. By NAI

VEITED

14 Feb 2020

Naval Armament Inspectorate
Tiruchirapalli