QUALITY MONITORING INSTRUCTION FOR INSPECTION	Issue No : 01 Rev No : Date of Issue 03 /04/ 2021
44P 05004* (CHEECK PIECE PLUNGER)	OFT/MI/AMR/44P 05004

Rev.No	Amendment	Date

MATERIAL SPECIFICATION : 30XH2MØA, GOST 4543-71.
ALTERNATE MATERIAL : BS 970 PT.1 1983 GR.826 M31 (OR) EN 25 (OR)
IS: 5517-1993 DESIGN 31Ni10Cr3Mo6.
CONDITION OF SUPPLY : FULL FINISHED WITH FIRM'S MATERIAL.
END USE : 14.5 /20mm AMR.

INSPECTION CHECK TO BE CARRIED OUT

Table 'A'

SL NO	CHARACTERISTICS	SPECIFICATION / REQUIREMENT	SAMPLE SIZE
1.	Visual	The Component shall be free from defects such as rust, scale, burrs and any other harmful defects.	100%
2.	Dimension	100% Dimension to check as per drawing.	
3.	Chemical Composition (%)	**30XH2MØA, GOST 4543-71** C = 0.27-0.34 V = 0.10-0.18 Si = 0.17-0.37 Mo = 0.20-0.30 Mn = 0.30-0.60 Cu = 0.30 (Max) Cr = 0.60-0.90 S = 0.025 (Max) Ni = 2.0-2.4 P = 0.025 (Max) **BS:970 Pt.1, 1983 GR.826 M31** C = 0.27-0.35 Mo = 0.45-0.65 Si = 0.10-0.35 S = 0.040 (Max) Mn = 0.45-0.70 P = 0.035 (Max) Cr = 0.50-0.80 Ni = 2.30-2.80 **EN-25** C = 0.27-0.35 Mo = 0.40-0.70 Si = 0.10-0.35 V = 0.05 (Max) Mn = 0.50-0.70 S = 0.050 (Max) Cr = 0.50-0.80 P = 0.050 (Max) Ni = 2.30-2.80 **IS: 5517-1993, Design 31Ni10Cr3Mo6.** C = 0.27 – 0.35 Mn = 0.40 – 0.70 Si = 0.10 – 0.35 Ni = 2.25 – 2.75 Cr = 0.50 – 0.80 Mo = 0.40 – 0.70 S = 0.035 (Max) P = 0.035(Max) Cu = 0.35(Max) V = 0.05(Max) B = 0.0003(Max) Tin = 0.05(Max) %Cu + 10times (%tin) =0.60 %(Max). (Permissible variations in value as per specification standard	One Sample Per Heat

4.	Mechanical Properties	**30ХН2МФА, GOST 4543-71** Tensile Strength 90 Kgf/mm^2 (Min) Yield Point 80 Kgf/mm^2 (Min) Elongation 10% (Min) Reduction of area 40% (Min) Impact Strength 9 Kgf.m/cm^2 (Min) (Cross section of blanks to be heat treated -Ø25mm or 25 SQ) **BS:970 Pt.1, 1983 GR.826 M31 ('X' Condition)** Tensile Strength 1150-1300 N/mm^2 Yield Strength 1020 N/mm^2 (Min) Elongation 10 % (Min.) Impact Izod 25 ft.lb (Min). **EN-25 ('X' Condition)** Tensile Strength 75 Tons/Sq.In (Min) Yield Stress 63 Tons/Sq.In (Min) Elongation 14% (Min.) Impact Izod 25 ft.lb (Min). **IS: 5517-1993, Design 31Ni10Cr3Mo6. (LRS 63mm)** Tensile Strength 1200-1350 MPa 0.2% Proof Stress 1000 MPa (Min) % Elongation 10% (Min) Impact (Izod) 35 Joules (Min)	One Sample Per Heat
5.	Hardness	34-41 RC (as per drawing).	Each Consignment
6.	Protective Finish	Phosphate to specification JSS: 0465-01-1988 , Class-I (Accelerated) Oil Finish.	
7.	Packing	The Packing of the Material shall be done in such a manner to avoid corrosion and damage in handling and transit.	
8.	Marking	Each Packing shall be legibly marked with manufacturer's identity , Qty, Heat No, OFT Supply order No etc.,	

U.MANGALASAMY
HOS/QCM
CHECKED BY

P.MURUGESAN
HOS / STD.CELL
CHECKED BY

V.RAVEENDAR
JWM/STD.CELL
PREPARED BY

VIJAY GANESAN
JT.GM(RP&QCIM)

G.ASHOK KUMAR
WM/QC

C.D RAJARAM
AGM / (MM&EO)
APPROVED

Note:

1. The Raw material/component/forging/casting to be tested by the firm on selection of the sample by the firm itself for chemical composition and mechanical properties in NABL accredited approved Lab as per Table 'A'.

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 as above, the Firm has to submit the following documents to OFT.

   I. The Raw material certificate from the original manufacturer, Heat number, and quantity purchased and number of bars is to be mentioned in the inspection letter to OFT.
   II. The Chemical and Mechanical test certificates from NABL accredited approved lab as per Table 'A'.
   III. Raw material sample minimum of 300mm length should be supplied for cross verification along with the first supply of stores.
   IV. Dimensional reports including visual as per Table 'A'.
   V. Guarantee / Warrantee certificate of supplier against the supply.

3. All the above Documents mentioned at Note No.2 above are to be forwarded to GM/OFT along with supply.

4. OFT shall verify all the documents as above and accord clearance to the firm for dispatch of the material to OFT if all documents are in order.

5. OFT/Trichy shall verify all the parameters as per Table 'A' and after satisfactory results, the material will be accepted /cleared accordingly.

6. Material has to be replaced 100% by the firm in case of non-conformity to specification as per Table-A, during inspection at OFT, Trichy.

VERIFICATION OF INSPECTION DOCUMENTS

SI_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 approved Lab.
3	Dimension report including visual.
4	Packing slip details.

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