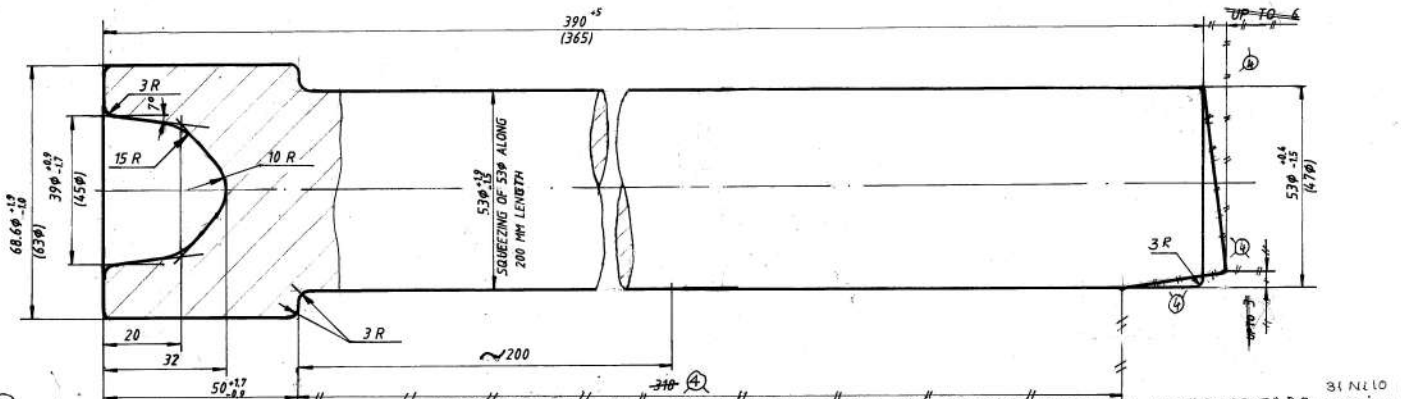


FORGING DRAWING



CHEMICAL COMPOSITION OF THE MATERIAL :- 30X12MnA-a

C	0.27 - 0.34	Si	0.17 - 0.37
Mn	0.30 - 0.60	Cr	0.60 - 0.90
Ni	2.0 - 2.40	Mo	0.20 - 0.30
V	0.10 - 0.18	P	0.025 Max.
S	0.025 Max.	Cu	0.30 Max.

INDIGENOUS MATERIAL: BS 970 PART 1 83 GRADE 826 M31/2 CONDITION OR IS 5517-56 GRADE 50-N10
 CY 3 MOG 63 LRS AUTHORITY: CQA (METALS) CHAPUR, W-NO. MKA-3178-B-DL-2-9-97

5 AUTHV: CRAM, LY, No.
 6 40218-00AW (BA-6) dt. 21-3-98

HEAT-TREATMENT PROCESS CHART

NOMENCLATURE AND IDT. NO.	STEEL GRADE	TYPE OF OPERATION	EQUIPMENT	TEMP. IN °C	TIME	COOLING MEDIUM	PICTURE	HARDNESS INSPN.-%
RDD	30X12MnA	NORMALIZATION HEATING	ELECTRIC CHAMBER FURNACE	850-870	4 HOURS	AIR	ON TRAY	3% FROM A BATCH BUT NOT LESS THAN 3 PIECES.
C 2011	30X12MnA	HIGH TEMPERING HEATING	ELEC. CHAMBER FURNACE OR ELECTRIC SHAFT FURNACE	660-680	5 HOURS	WITH FURNACE UP TO 50°C THEN IN AIR	ON TRAY	

DRESS THE PLACE FOR HARDNESS CHECK THE HARDNESS

- DIMENSIONS ARE IN mm.
- SCALE :- 1:1
- FIRST ANGLE PROJECTION.
- HEAT-TREATMENT :- NORMALIZING WITH HIGH TEMPERING; HARDNESS HB 241 MAX.
- SURFACE DEFECTS SHOULD NOT BE MORE THAN THAN 0.5 IN DEPTH OF THE ALLOWENCE OF MACHINING.
- DEVIATION ON CURVATURE SHOULD NOT EXCEED 1.5 mm.
- THE REMAINDER OF THE BURR ON THE JOINT LINE OF DIES SHOULD NOT EXCEED 2.4 mm.
- BUT END BURR SHOULD NOT EXCEED 5.0 mm.
- SHIFT ALONG THE PLANE OF DIE JOINT SHOULD NOT EXCEED 0.9 mm.
- MISALIGNMENT OF HOLE 39φ WITH RESPECT TO 68.6φ SHOULD NOT BE MORE THAN 1.0 mm.
- DIMENSIONS IN BRACKET ARE FOR MACHINING.
- FORGING CORRESPONDS TO II GROUP OF ACCURACY (2, M1 GOST 7505-74
- THE OTHER REQUIREMENTS AS PER GOST 8479-70 GROUP II
- WEIGHT OF THE MATERIAL 7.500 Kgs.
- RAW MATERIAL SIZE :- 53φ x 400 LONG / ALT. RAW MATL. SIZE :- φ 75
- MATERIAL :- STEEL 30X12 MnA-a, OST 3-98-80

CERTIFIED CORRECT COPY OF APPROVED DRAWINGS AT THIS DATE
 17.11.2020
 Design & Drawing Office
 Ordnance Factory,
 Tiruchirapalli-600016

INDIGENOUS MATL: STEEL ROUND GRADE 817 M40 TO BS: 970-Pt 1 1983 OR DESIGN 40 X 2 C-1 No 28 TO IS: 4367-87. MACHINED TO DIMENSION & HARDENED TO ACHIEVE HARDNESS 435-515 HRC

17. SHORTENED FORGINGS ARE PERMITTED, AT THE EXPENSE OF φ 53, UPTO DIMENSION 370 mm PROVIDED THERE IS NO SHRINKAGE DUE TO CUTTING OVER THE DIM. 318 mm.

DA No. 006/98 dt. 21-4-98	21/01/98
DA No. 057/97 dt. 18-5-97	11/04/97
DA No. 031/97 dt. 4-5-97	20/04/97
DA No. 008/97 dt. 4/5/97	27-4/97
DA No. 031/94 dt. 7-6-94	11/02/94
DA No. 09/98 dt. 30-4-98	10/05/98
NOTE IS ADDED	
STORE DRG. NO. ADDED	25/5/98
AMENDMENTS	SIG & DATE

WITHDRA. MATERIAL ONLY
 18426-W
 Dt. 28-2-98

M. J. J. J. J. J.
 28/7/98

Redrawn	Checked	6/88	APPROVED	V.C. PROJ	WM/PROJ	ORDNANCE FACTORY TIRUCHIRAPALLI-16	DRG NO: 64 C 2011 200
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