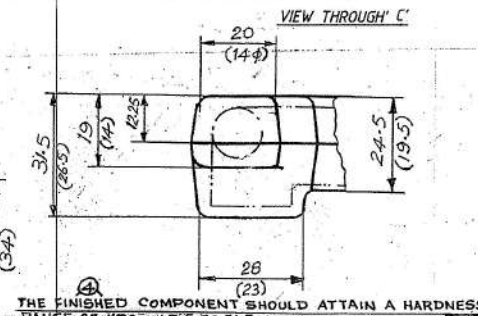
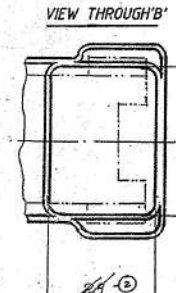
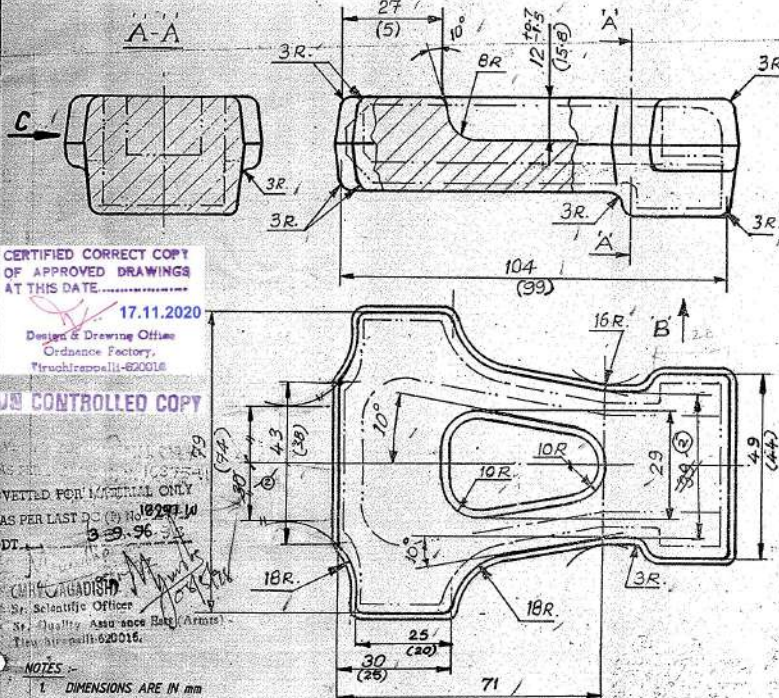


**FORGING DRAWING**



THE FINISHED COMPONENT SHOULD ATTAIN A HARDNESS RANGE OF HRC 43.5 TO 51.5 AFTER FINAL HEAT-TREATMENT

CERTIFIED CORRECT COPY OF APPROVED DRAWINGS AT THIS DATE

17.11.2020

Design & Drawing Office  
Ordnance Factory,  
Tiruchirappalli-620016

UN CONTROLLED COPY

APPROVED FOR MATERIAL ONLY AS PER LAST D.C. DT. 18.03.10

Dr. Scientific Officer  
Sr. Quality Assurance Engg. (Arms)  
Tiruchirappalli-620016

**CHEMICAL COMPOSITION OF THE MATERIAL - 30XHZM9A-2**

C	0.27-0.34
Mn	0.3-0.6
Ni	2.0-2.4
V	0.10-0.18
S	0.025 MAX.
Si	0.17-0.37
Cr	0.6-0.9
Mo	0.2-0.3
P	0.025 MAX.
Cu	0.3 MAX.

**HEAT-TREATMENT PROCESS CHART**

NO. OF CYCLES AND INT. NO.	TYPE OF OPERATION	EQUIPMENT	TEMP. IN °C	TIME	COOLING MEDIUM	COOLING RATE	HARDNESS
SEAR	NORMALIZATION HEATING	ELECTRIC CHAMBER FURNACE	850-870	4 HRS.	AIR	ON TRAY	ON TRAY BUT HARDNESS 3% FROM A BATH BUT NOT LESS THAN 3 PRECS. ABOVE 54
	HIGH TEMPERING HEATING	ELEC. CHAMBER FURNACE OR ELEC. SHAFT FURNACE	640-680	5 HRS.	WITH FURNACE UP TO 550°C & IN AIR	ON TRAY	

FOR COMPONENT NO 2A42-05-042 - SEAR

- NOTES**
- DIMENSIONS ARE IN mm
  - SCALE - 1:1
  - FIRST ANGLE PROJECTION
  - HEAT-TREATMENT - NORMALIZING AND HIGH TEMPERING. HARDNESS HB 255 MAX.
  - DE-SCALING - PICKLING.
  - DISPLACEMENT OF DIE PARTING LINE SHOULD NOT EXCEED 0.5 mm.
  - REMAINDER OF FLASH ALONG THE DIE PARTING LINE SHOULD NOT EXCEED 0.2 mm. 1+mm (2)
  - SURFACE DEFECTS SHOULD NOT EXCEED 0.6mm IN DEPTH.
  - UN-SPECIFIED DRAFT ANGLE 7°
  - INDIGENOUS MATERIAL: BS: 970 PART-1-03-GRADE B2.6 M31 IN "Z" CONDITION (OR) IS: 5517-95 DESIGN: 30XHZM9A-2 DIM. 30mm. A SEPARATE TEST SAMPLE IS TO BE HEAT TREATED AND TESTED IN "Z" CONDITION. (OSAML No. M0A-3174/B dt. 02-05-97)
  - UN-SPECIFIED RADII 2 mm.
  - ALLOWANCES ARE AS PER CLASS II, GOST 7505-74.
  - TOLERANCES ARE AS PER CLASS II, GOST 7505-74 AND AS FOLLOWS. 20. ROD CURVATURE SHOULD NOT EXCEED 0.8 mm. (2)
  - VERTICAL - ±0.15
  - HORIZONTAL - ±0.18
  - DIE FORGING ON HAMMER
  - NUMBER OF PARTS OBTAINED FROM ONE FORGING: ONE PIECE.
  - DIMENSIONS BETWEEN BRACKETS ARE FOR MACHINING.
  - STAMP CONVENTIONAL STAMP OF BLACK SMITH LETTERING TO 5-8 GOST 2810-62
  - WEIGHT OF THE FORGING 1.17
  - RAW MATERIAL SIZE - 50x95 LONG φ 50 X 109 LG. (HOT ROLLED)
  - MATERIAL - 30XHZM9A-2, OST 3-98-80

**UPDATE**

DA No.	02/97	DT.	23-3-97	
E (4)	DA No.	66/96	DT.	22/7/96
D (3)	DA No.	027/95	DT.	12-4-95
C (2)	DA No.	64/93	DT.	27-10-92
	DIM. 43 ADDED; DIM. 30 DELETED			
(1)	STORE DRG. NO. ADDED			
B	DIMENSION 30. ADDED. DIM. 43 DELETED			

Redrawn	Checked	Approved	I/C PROJ.	WM/PROJ.	ORDNANCE FACTORY TIRUCHIRAPALLI-16	DRG NO: 64 C 5042 200 E3
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