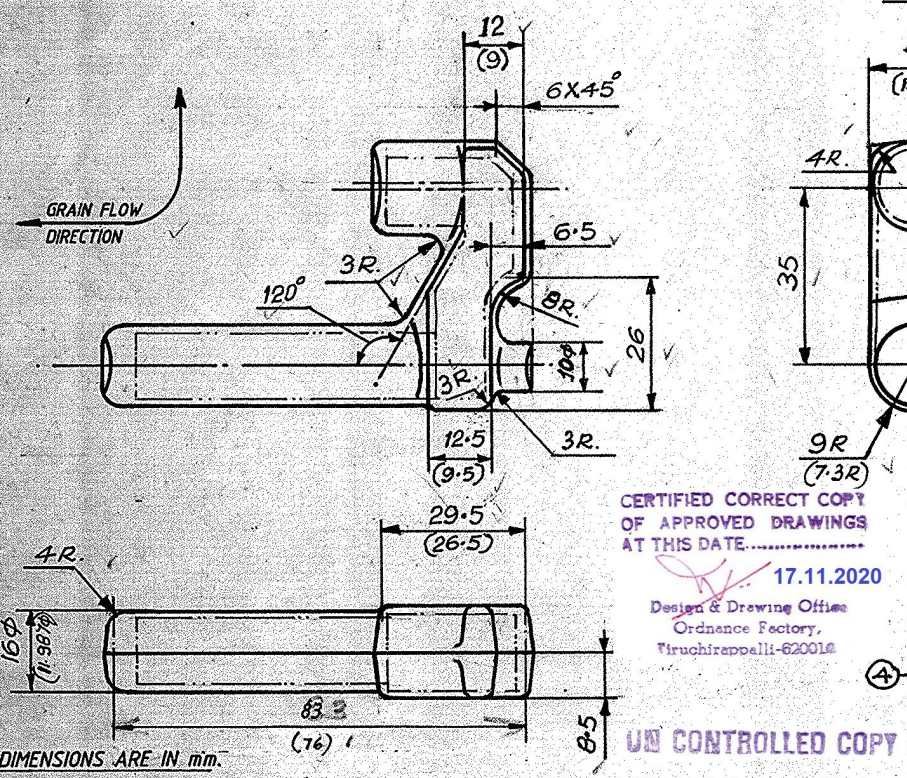
FORGING DRAWING



CERTIFIED CORRECT COPY OF APPROVED DRAWINGS AT THIS DATE..... 17.11.2020
Design & Drawing Office
Ordnance Factory,
Tiruchirappalli-620016

UN CONTROLLED COPY

CHEMICAL COMPOSITION OF THE MATERIAL:- 35XH2MΦA-W			
C	0.32 - 0.37	Si	0.17 - 0.37
Mn	0.30 - 0.60	Cr	0.60 - 0.90
Ni	2.0 - 2.4	Mo	0.20 - 0.30
V	0.10 - 0.18	S	0.010 MAX.
P	0.016 MAX.	Cu	0.2 MAX.

④

② ④ INDIGENOUS MATL.:- BS 970 Pt. 1-1983 Gr. 826 M31 CONDITION 'Z' WITH S & P CONTENT 0.01 & 0.015 MAX. RESPECTIVELY (ESR STEEL) TO ACHIEVE REQUIRED HARDNESS

INDIGENOUS MATERIAL BS 970 Pt-1 83 GDE 826 M40 WITH S'l. 0.010 Max, P'l. 0.015 Max. ESR QUALITY. THE MATERIAL SHOULD ACHIEVE THE FOLLOWING MECHANICAL PROPERTIES:-

Rm	: 1763 MPa ~~Max~~ MIN.
Rq	: 1420 MPa ~~Max~~ MIN. ⑤
E%	: 10 Min.
CHARPY IMPACT (U NOTCH)	: 6 Kgm/Cm² Min.

④ MACROSTRUCTURE SHALL BE BETTER THAN OR EQUIVALENT TO CI RI SI FOR PLATE I AND NIL FOR PLATE II TO SPECN IS 13015, NMIR 1·5 THIN SERIES Max. FOR A B C D AND NIL FOR THICK SERIES TO IS 4163, FIG 2.
AUTHORITY: CQA METALS, ICHAPUR LT. NO. MQA-3/TS(B)/1 Dt 6/11-6-1997

HT PROCESS CHART

NOMENCLATURE AND IDTNO:	STEEL GRADE	TYPE OF OPERATION	EQUIPMENT	TEMP. IN °C	TIME	COOLING MEDIUM	FIXTURE	HARDNESS INSPN. %
BREECH BLOCK DETENT C 3029	35XH2MΦA-W	NORMALIZING HEATING	ELECTRIC CHAMBER FURNACE OR FURNACE WITH CHARGING DEVICE	850-870	4 HOURS	AIR	ON TRAY	3%; BUT NOT LESS THAN 3 PIECES.
		HIGH TEMPERING HEATING	ELECTRIC CHAMBER FURNACE OR ELEC. SHAFT FURNACE	660-680	5 HOURS	WITH FURNACE UP TO 300°C THEN IN AIR	ON TRAY	

1. DRESSING OF PLACES FOR CHECKING HARDNESS
2. CHECKING OF HARDNESS

1-2 PIECE FROM A BATCH ARE SUBJECTED TO GRAIN FLOW TEST BY THE METALLURGIST'S LABORATARY

1. DIMENSIONS ARE IN mm.
2. SCALE :- 1:1
3. FIRST ANGLE PROJECTION.
4. HEAT-TREATMENT :- NORMALIZING, AND HIGH TEMPERING; HARDNESS 255 MAX.
5. DE-SCALING :- PICKLING ~~OR SHOT-BLASTING~~ ②
6. DISPLACEMENT IN PARTING LINE SHOULD NOT BE MORE THAN 0.4 mm.
7. REMAINDER FLASH ALONG DIE-PARTING LINE SHOULD NOT EXCEED 0.5 mm.
8. CURVATURE OF ROD SHOULD NOT EXCEED 0.6 mm.
9. SURFACE DEFECTS SHOULD NOT EXCEED 0.4 mm IN DEPTH.
10. UN-SPECIFIED DRAFT ANGLE 7°.
11. UN-SPECIFIED RADII 1.5 mm. ②
12. ALLOWANCES ARE AS PER I CLASS GOST 7505-74 M.2.
13. TOLERANCES ARE AS PER II CLASS GOST 7504-74 C2. AND AS FOLLOWS
    VERTICAL $^{+1.1}_{-0.5}$
    HORIZONTAL $^{+1.2}_{-0.6}$
    DIE FORGING BY HAMMER
14. NUMBER OF PARTS OBTAINED FROM ONE FORGING : 1 PIECE.
15. DIMENSIONS GIVEN IN BRACKETS ARE FOR MACHINING
16. WEIGHT OF THE FORGING 0.250 Kgs.
17. RAW MATERIAL SIZE :- ~~36Φ $^{+0.4}_{-0.7}$ x 145 ±2.0~~ (HOT ROLLED) $\Phi 26^{+0.4}_{-0.7} \times 120^{\pm 2}$ ②
18. MATERIAL :- ~~35XH2MΦA-W~~ ; OST 3-98-80
19. MARKING BY BLACKSMITH'S STAMP : LETTERING NO 5-8 GOST 2930-62

THE FINISHED COMPONENT SHOULD ATTAIN A HARDNESS RANGE OF 48·5 TO 53·5 HRC AFTER FINAL HEAT TREATMENT

VETTED FOR MATERIAL ONLY
AS PER LAST DC (I) No. LETTER (6)
MQA-3/TS(B)/1 dt. 6-11-97

CMRV JAGADISH
Sr. Scientific Officer
Sr. Quality Assurance Unit (Armts)
Tiruchirapalli-620016

E ⑤	DA.NO. 04/02 Dt. 17.5.02	Yd. 17.5.02.	
D ④	DA.NO. 048/97 Dt. 7/8/97		7/8/97
UP-DATED	DA.NO. 22/97 Dt. 23-3-97		23/3/97
C ③	DA NO. 66/96 Dt. 22-7-96		22.7.96
B ②	D.A.NO 73/92 DT. 2/11/92		
①	STORE DRG. NO ADDED		20/2/92
SL. NO	AMENDMENTS	SIG & DATE	

FOR COMPONENT NO ①
2A42-03-029-BREECH BLOCK DETENT

Sadhi 24/6/88	Sethuraman	7/'88		
REDRAWN	CHECKED	APPROVED	F/M. PROJ.	AWM/PROJ.

ORDNANCE FACTORY TIRUCHIRAPALLI-16

DRG NO: 64 C 3029 200 E 3

ALB NO 363/76