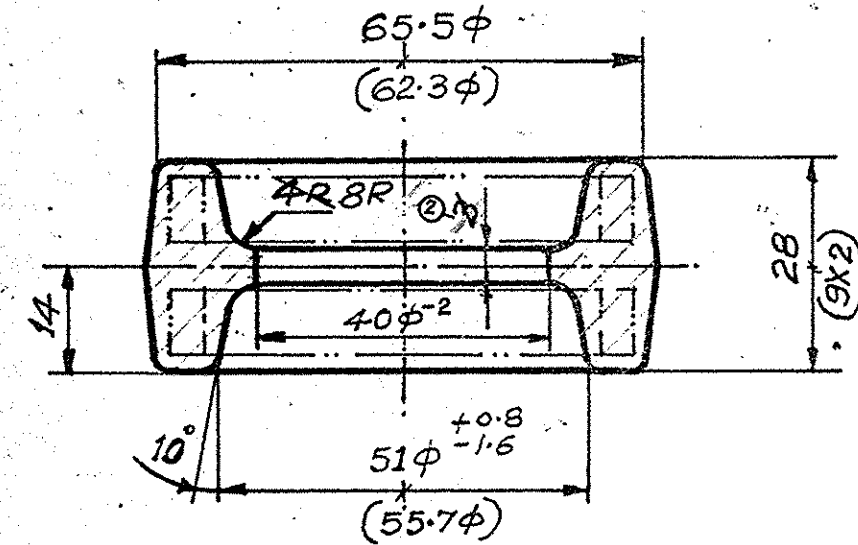


FORGING DRAWING

CHEMICAL COMPOSITION OF THE MATERIAL 65C2BA-W

C	0.61 - 0.69	Si	1.50 - 2.00
Mn	0.70 - 1.00	Cr	0.30 Max.
W	0.80 - 1.20	Ni	0.25 Max.
Cu	0.25 Max.	S	0.01 Max.
P	0.02 Max.		



INDIGENOUS MATERIAL: BS 970 Pt. 2-88 Gr. 925A60 WITH C.V. 0.60 TO 0.63, S.V. AND P.V. 0.015 MAX. EACH (ESR QUALITY STEEL). MACROSTRUCTURE: - BETTER THAN OR EQUIVALENT TO CI R1 S1 FOR PLATE I AND NIL FOR PLATE II TO IS 13015. NMIR: - 1.5 THIN SERIES MAX. FOR INCLUSIONS ABCD AND NIL FOR THICK SERIES, FIG 2 TO IS: 4162. AUTHORITY: CQA(METALS) ICHAPUR, Lt. NO. MQA-3/TS/B/1 DL. 6/11-6-1997

HEAT-TREATMENT PROCESS CHART

NOMENCLATURE AND IDT. NO.	STEEL GRADE	TYPE OF OPERATION	EQUIPMENT	TEMP. IN °C	TIME	COOLING MEDIUM	FIXTURE	HARDNESS INSPN. %
OUTER RING C. 2008	65C2BA-W	ANNEALING HEATING	ELECTRIC CHAMBER FURNACE OR SHAFT ELECTRIC FURNACE	790-810	3 HRS.	WITH FURNACE UP TO 500 °C THEN IN AIR	ON TRAY	3% ; BUT NOT LESS THAN 3 PIECES.

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

- DIMENSIONS ARE IN mm.
- HEAT-TREATMENT ANNEALING: HARDNESS HB 302MAX.
- DE-SCALING :- PICKLING
- DISPLACEMENT IN PARTING LINE SHOULD NOT BE MORE THAN 0.5 mm
- REMAINDER FLASH ALONG DIE-PARTING LINE SHOULD NOT EXCEED 0.8 mm
- SCALE :- 1:1
- FIRST ANGLE PROJECTION
- ECCENTRICITY OF DRIFTING HOLE SHOULD NOT BE MORE THAN 1 mm
- SURFACE DEFECTS SHOULD NOT BE MORE THAN 0.8 mm IN DEPTH.
- UN-SPECIFIED DRAFT ANGLE 7°
- UN-SPECIFIED RADII 2 mm
- ALLOWANCES ARE AS PER II CLASS GOST 7505-74 M2
- TOLERANCES ARE AS PER II CLASS GOST 7505-74 C3 AND AS FOLLOWS

VERTICAL	+1.5 -0.7
HORIZONTAL	+1.6 -0.8

DIE FORGING BY HAMMER

- NUMBER OF PARTS OBTAINED FROM ONE FORGING : 2 PIECES.
- DIMENSIONS GIVEN IN BRACKETS ARE FOR MACHINING
- WEIGHT OF THE FORGING 0.410 Kgs. 85±1.0
- RAW MATERIAL SIZE : 34φ±0.3 x 78±1.0 LONG
- MATERIAL :- 65C2BA-W OST 3-98-80.
- SURFACE DEFECTS : HAIR LINE CRACKS, NICKS AND SCALE PITS SHOULD NOT EXCEED 50% OF ACTUAL ONE SIDED MACHINING ALLOWANCE ACCORDING TO GOST 8479-70
- MARKING : LETTERING T10 5 GOST 2930-62

INDIGENOUS STEEL IS 2007-1975 DESIG. 53/ S17 G/9 SUBJECT TO ACHIEVING REQD. HARDNESS WITH S & P 0.01 & 0.015 / RESPECTIVELY (ESR QUALITY)

MACRO STRUCTURE: FREE FROM ALL HARMFUL DEFECTS. EQUIVALENT OR BETTER THAN CI R1 S1 TO ASTM E-381 OR IS: 13 DIS-1991. INCLUSION RATING CONTENT ABC AND D - 1.5 THIN SERIES: TO IS: 4163

VETTED FOR MATERIAL ONLY
AS PER LAST DC (I) No. 1 / LETTER No. MQA-3/TS/B/1 dt 6/11-6.97
CMR JAGADISH
Sr. Scientific Officer
Sr. Quality Assurance (Arms)
Tiruchirapalli-620016

G 7	DA.No. 005/16 Dt. 26.05.16 (PP)
F 6	DA.No. 052/97 dt 11/8/97
E 5	DA No. 39/97 dt 11/7/97
UP-dated	DA. No. 22/97 dt. 23-3-97
D 4	DA.No. 87/94. Dt. 15-3-94
C 3	DA.No. 21/93 dt. 5-4-93
B 2	DA. No. 56/92 dt. 28-10-91 RADIUS 4R CHANGED TO 8R P. NO. 3 DELETED. NOTE NO. 9 DELETED. NOTE NO. 13 ADDED
1	STORE DRG. NO ADDED
SL. NO	AMENDMENTS

FOR COMPONENT NO 2442-02-008 - OUTER RING

Sadhi 22-3-91	Aravindan 22-3-91	3-91	22/3/91	ORDNANCE FACTORY TIRUCHIRAPALLI-16	DRG NO: 64 C 2008 200 G 3
REDRAWN	CHECKED	APPROVED	DGM II/PROJ		