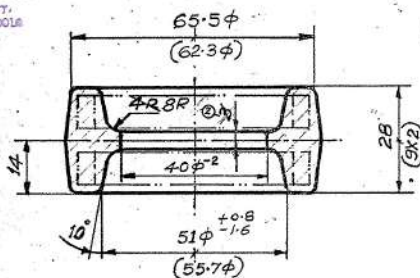


CERTIFIED CORRECT COPY OF APPROVED DRAWINGS AT THIS DATE.....

17.11.2020

Designed & Drawing Office
Ordnance Factory,
Tiruchirappalli-620016

UN CONTROLLED COPY



FORGING DRAWING

| | | | |
|----|-------------|----|-------------|
| 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 | 0.23 Max. | S | 0.01 Max. |
| P | 0.02 Max. | | |

INDIGENOUS MATERIAL: BS 970 PL. 2 80 Gr 925A60 WITH C: 0.60 TO 0.63, Si: 1.57 AND P: 0.015 MAX. EACH (ESR QUALITY STEEL). MACROSTRUCTURE: - BETTER THAN OR EQUIVALENT TO CI R151 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/T/SIB/IE DE. 6/11-6-1997.

| 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 | 750-810 | 3 HRS. | WITH FURNACE UP TO 500 °C THEN IN AIR | ON TRAY | 3%; BUT NOT LESS THAN 3 PIECES. |

- 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

- DRESSING OF PLACES FOR CHECKING HARDNESS
- CHECKING OF HARDNESS
- INDIGENOUS STEEL IS 2807-1975 DESIG. 59/ 927 G/P SUBJECT TO ARCHIVING REF. HARDNESS MATL. WITH S & P 0.01 & 0.015 RESPECTIVELY (ESR QUALITY)
- MACRO STRUCTURE: FREE FROM ALL HARMFUL DEFECTS. EQUIVALENT OR BETTER THAN CI R151 TO ASTM E-381 OR IS 13015-1991. INCLUSION RATING CONTENT ABC AND D - 1.5 THIN SERIES: TO IS 4163

VERTICAL +1.5
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
- RAW MATERIAL SIZE 34φ x 70 φ LONG
- MATERIAL - 65C2BA-W OST 3-98-89.
- SURFACE DEFECTS: HAIR LINE CRACKS, NICKS AND SCALE PITS SHOULD NOT EXCEED 30% OF ACTUAL ONE SIDED MACHINING ALLOWANCE ACCORDING TO GOST 8479-70
- MARKING: LETTERING ITO 5 GOST 2930-62

VETTED FOR MATERIAL ONLY AS PER LAST DGT (I) No. 11 LETTER No. MQA-3/T/S/10/11/06/6/11-6-97

| | |
|--------|---|
| G | DA.No. 005/16 Dt. 26.05.16 (PP) |
| F | DANO. 052/97 dt 11/8/97 |
| E | DANO. 39/97 dt 1/7/97 |
| D | DA.No. 22/97 dt 23-3-97 |
| C | DA.No. 87/84 dt 15-3-94 |
| B | DA.No. 21/93 dt 5-4-93 |
| A | DA.No. 50/92 dt 28-10-91 |
| SL. NO | STORE DRG. NO ADDED AMENDMENTS SIG & DATE |

(M) JAGANNATH
Sr. Scientific Officer
Sr. Quality Assurance (Arms)
Tiruchirappalli-620016

FOR COMPONENT NO 2A42-02-008 - OUTER RING

| | | | | | | | |
|------------------|--------------------|------|----------|---------|---------|---------------------------------------|------------------------------|
| Sadhi 22-3-91 | Checked 22-3-91 | 3-91 | APPROVED | EM/PROJ | 22/3/91 | ORDNANCE FACTORY TIRUCHIRAPALLI-16 | DRG NO: 64 C 2008 200 G 3 |
|------------------|--------------------|------|----------|---------|---------|---------------------------------------|------------------------------|

ALB.No. 363/29