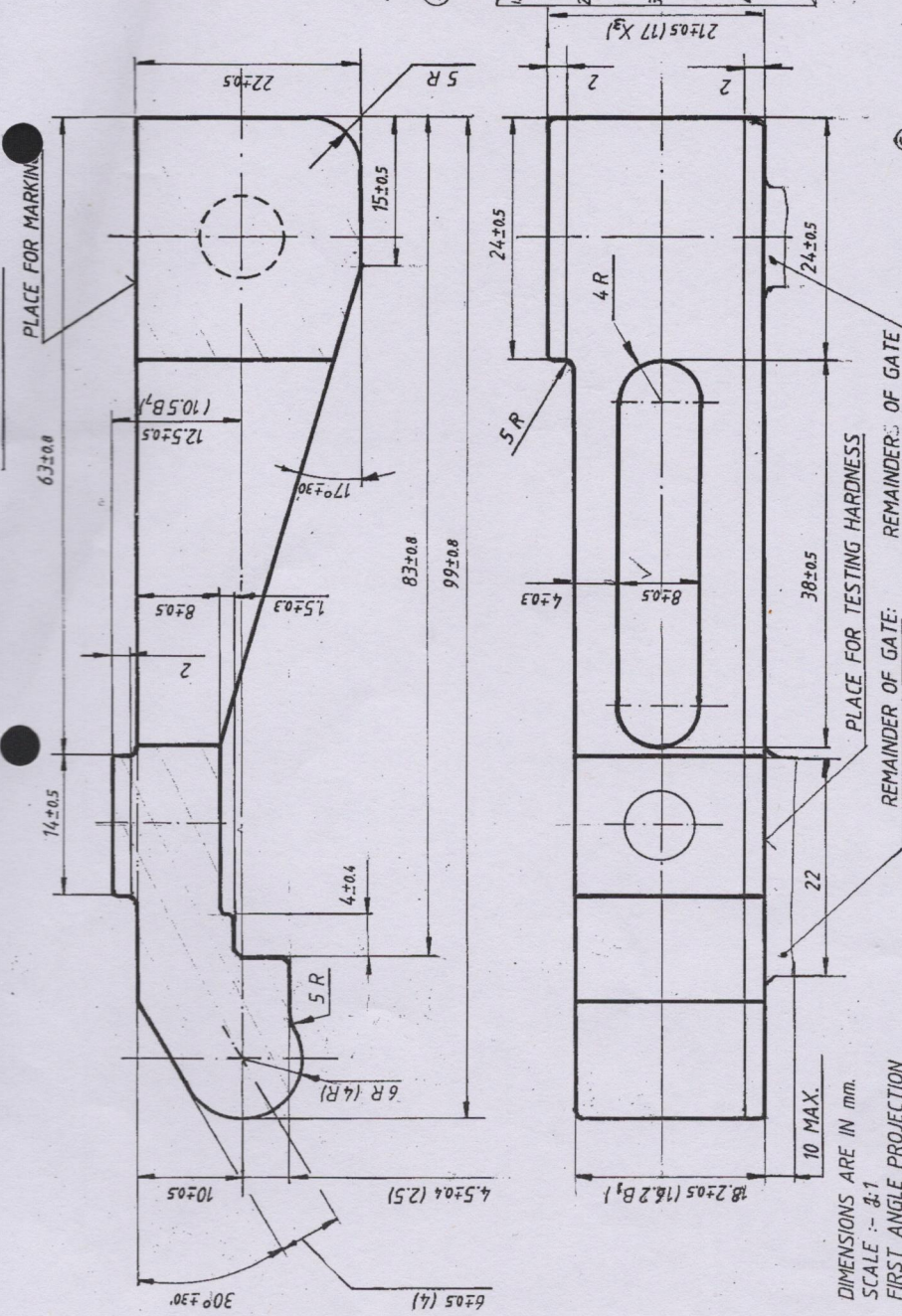


CASTING DRAWING



1. DIMENSIONS ARE IN mm.
2. SCALE :- 1:1
3. FIRST ANGLE PROJECTION
4. HARDNESS AFTER PRELIMINARY HEAT-TREATMENT HB 269 MAX.
5. UN-SPECIFIED RADI 1.5 mm.
6. DRAFT ANGLES OF EXTERNAL SURFACES IN THE DIRECTION OF DIMENSIONAL INCREASE, INTERNAL SURFACES IN THE DIRECTION OF DIMENSIONAL DECREASE NOT MORE THAN 1° AS PER GOST 3212-80.
7. IMPACT STRENGTH SHOULD BE CONTROLLED ON THE SPECIMENS
8. CASTING DEFECTS ON UN-MACHINED SURFACES AS PER OST 3-4365-79 ARE PERMITTED.
9. CORRECTION OF CASTING DEFECTS IS ALLOWED

CASTINGS AND TEST BARS ARE SUBJECTED TO FOLLOWING HEAT-TREATMENT:-

- 1) NORMALIZING AT TEMPERATURE 1000° ± 20°C FOR 1-2 HOURS.
- 2) TEMPERING AT TEMPERATURE 720° ± 20°C FOR 4 HOURS.

FINAL TREATMENT (AFTER MACHINING) FOR TEST BAR ONLY AS PER FOLLOWING SEQUENCE OF OPERATION

- 1) HARDENING AT TEMPERATURE 1000° ± 20°C
- 2) SOAKING TIME IS ONE HOUR, COOLING IN OIL, TEMPERING AT TEMP. 200° ± 20°C FOR 4 HOURS

b) HEATING FOR NORMALIZING AND HARDENING IS TO BE CARRIED-OUT WITH PROTECTION OF CASTINGS FROM DECARBURIZATION AND OXIDATION.

CHEMICAL COMPOSITION OF THE MATERIAL

23XГC2M0ΠY	
C	0.20 - 0.24
Mn	0.50 - 0.80
MP	0.25 - 0.30
P	0.025 Max.
MECHANICAL PROPERTIES OF THE MATERIAL	
23XГC2M0ΠY (mmmm)	
ULTIMATE STRENGTH	140 Kgf/mm ²
YIELD STRENGTH	120 Kgf/mm ²
RELATIVE ELONGATION	6%
IMPACT STRENGTH	4 Kgf.M/cm ²

FOR COMPONENT NO
2A42-05-089 - CATCH BODY

MECH. PROPERTIES OF THE MATL. 23ГC2M0ΠY
ULTIMATE STRENGTH 130 Kgf/mm² AND
YIELD STRENGTH 110 Kgf/mm². ABE
ALSO BE ACCEPTABLE

1. ACCEPTANCE OF CASTING IS CARRIED OUT AS PER GOST 977-75 (PARAGRAPH 2 AND 3) BUT WHILE MANUFACTURING CASTING AS PER MELTED MODELS AS PER OST 3-4365-79
2. MECHANICAL PROPERTIES OF STEEL IS DETERMINED ON THE SPECIMENS, CUT FROM THE TEST BARS AS PER GOST 977-75 AFTER CARRYING COMPLETE HEAT-TREATMENT PROCESS
3. TENSILE TEST IS CARRIED OUT AS PER GOST 1497-73 ON CYLINDRICAL SPECIMEN WITH DIAMETER 10 mm. WITH LENGTH 50 mm TESTS ON SPECIMENS (SAMPLES) ON 5mm DIAMETER WITH 25mm LENGTH IS PERMITTED
4. DETERMINATION OF IMPACT STRENGTH IS CARRIED OUT AS PER GOST 9454-78 ON THE SPECIMEN OF TYPE I AT NORMAL TEMPERATURE AND AS PER GOST 9454-78 AT LOW TEMPERATURE.

12. SURFACE FINISH RZ 80 MAX.
13. SPECIAL TEST :- MAGNETIC FLAW DETECTION.
14. CLEANING :- SAND BLASTING.
15. CASTING BELONGS TO GROUP II, OST 3-4365-79 (SPECIAL PURPOSE CASTING)

UN CONTROLLED COPY AS PER LAST PG (0) / 15/10/11
CERTIFIED CORRECT COPY OF APPROVED DRAWINGS AT THE DATE 20/10/11 BY 18/11/11-16-57
DESIGN & DRAWING OFFICE (MVA) / 15/10/11
ORDNANCE FACTORY, TIRUCHIRAPALLI-16
INDI. MAZL. AND RADIOGRAPHIC TEST ADDED IN SHEET NO. 2
SHEETS: 1/2

② B	DR NO. 007/95, dt. 9-2-95	U
①	STORE DRG. NO ADDED	U
SL. NO	AMENDMENTS	SIG & DATE.

DRG NO:	64 C 5089 250 H3
ORDNANCE FACTORY	TIRUCHIRAPALLI-16
APPROVED:	08-'88
CHECKED:	AWM/PROJ
REDRAWN:	F/M.PROJ

GUIDELINES FOR PROCUREMENT AND INSPECTION OF INVESTMENT CASTINGS REF. CONTROLLEATE OF QUALITY ASSURANCE (METALS) ICHAPUR. LETTER NO. MQA-1/94/1.2 Dt. 05 MAY '94.

INDIGENOUS MATERIAL

- ⑤ ~~IS: 10343 Gr. 4D, OR BS: 3146 Pt. 1-74, TYPE CLA-5 GRADE 'B'~~
~~IS: 10343 Gr. 4D, CASTING TO BE HEAT-TREATED TO ACHIEVE 41.5-51.5 HRC~~
~~SEPARATELY CAST TEST BARS SHALL MEET THE SPECIFIED MECH. PROPERTIES~~
~~INCLUDING IZOD IMPACT VALUE 14J MIN.~~
~~OR~~
~~BS: 3146 Pt. 1: 1974, TYPE CLA-5 GRADE 'B'~~

RADIOGRAPHIC TEST

- (a) RADIOGRAPHIC ACCEPTANCE STANDARD OF THE CASTING SHOULD BE AS PER ASTM-E-192 - Gr. A. ⑥
- (b) 100% OF THE ADVANCE SAMPLE (NOT LESS THAN 5) WILL BE SUBJECTED TO RADIOGRAPHIC TEST.
- (c) RADIOGRAPHIC TEST OF ADVANCE SAMPLE WILL BE CARRIED OUT BY CQA(MET) ICHAPUR.

OR

③ THE AREA QUALITY ASSURANCE OFFICER CONCERNED WOULD GET THE RADIOGRAPHIC TEST DONE IN HIS PRESENCE AND FORWARD THE PLATES TO CQA (MET) ICHAPUR FOR SENTENCE AND APPROVAL OF THE MOULD.

(d) BULK PRODUCTION WOULD COMMENCE ONLY AFTER MOULD AND MATERIAL HAS BEEN APPROVED BY CQA(MET) ICHAPUR.

(e) 5% OF THE CASTING SELECTED AT RANDOM FROM ^{THE} BULK WOULD BE SUBJECTED TO RADIOGRAPHIC TEST. THIS MAY BE DONE UNDER THE ARRANGEMENT OF THE AREA QUALITY ASSURANCE OFFICER AND SENTENCE MAY BE AWARDED BY HIM BASED ON THE STANDARD OF THE ADVANCE SAMPLES CLEARED BY CQA(MET) ICHAPUR.

REF. :- CONTROLLERATE OF QUALITY ASSU(W) JABALPUR LETTER NO. 50431/CQAIW/QA-11 DATED 14 MARCH 95.

⑤ ~~CONTROLLERATE OF QUALITY ASSU(W) ICHAPUR~~
~~LETTER NO. MQA-3/LIN/3/W DL. 03 MAY 1995~~
~~INDIGENOUS MATERIAL: IS 10343 Gr. 4E WITH C% 0.45 - 0.50 AND MECHANICAL PROPERTIES SPECIFIED IN THE SPECIFICATION FOR THE GRADE.~~
~~AUTHORITY: CQA(METALS) ICHAPUR LY. NO. MQA-3/ITS/B/I DL. 6/11-6-97~~

⑥ MATERIAL: IS: 10343 - 1993 Grade 19Q, WITH C% 0.45 - 0.5 ⑦

H ⑧	DA.No. 004/20 Dt. 30.06.20 Gr. A-Added
G ⑦	DA.No. 001/16, DC.No. 19446 W Hf. 9.5 W
F ⑥	DA.No. 007/14 Dt. 18.09.14 <i>Sadh</i> 18/9/2014 1-1-16
E ⑤	DA.No. 052/97 Dt. 11-8-97 <i>Sadh</i> 11/8/97
UPDATED.	DA.No. 022/97 Dt. 23-3-97 <i>Sadh</i> 23/3/97
D ④	DA.No. 70/05 Dt. 21.8.95 <i>Sadh</i>
C ③	DA. 020/95 Dt. 11-4-95 <i>Sadh</i> 11-4-95
AMENDMENTS	DESCRIPTIONS SIG. & DATE

SHEETS 2/2	APPROVED	ORDNANCE FACTORY TIRUCHIRAPALLI	COMPONENT NO. 2442-05-089 CATCH BODY
<i>Sadh</i> 11-4-95 DRAWN	CHECKED		DRG. NO. 64C 5089 250 H 3