

INDIGENOUS MATERIAL

⑥ IS:10343 Gr. 4D OR BS:3146 Pt. 1-74, TYPE QLA-S G/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.

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

UN CONTROLLED COPY

17.11.2020

Design & Drawing Office
 Ordnance Factory,
 Tiruchirappalli-620016

RADIOGRAPHIC TEST

- (a) RADIOGRAPHIC ACCEPTANCE STANDARD OF THE CASTING SHOULD BE AS PER RSTM-E-192
- (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

THE AREA QUALITY ASSURANCE OFFICER CONCERNED WOULD GET THE RADIOGRAPHIC TEST DONE IN HIS PRESENCE AND FORWARD THE PLATES TO 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/CQAW/QA-11
 DATED 14 MARCH 95.

④ GUIDLINES FOR PROCUREMENT AND INSPECTION OF INVESTMENT CASTINGS. REF.:- CONTROLLERATE OF QUALITY ASSURANCE (METALS) ICHAPUR, LETTER NO. MQA-1/QA1/1.2.06.05 MAY 94

REF:- CONTROLLERATE OF QUALITY ASSU(M) ICHAPUR
 2. NO. MQA-3/LIW/3/W Dt. 03 MAY 1995

⑥ 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/BI Dt. 6th-6-97

⑦ INDIGENOUS MATERIAL: IS:10343-1999 GR 19Q WITH CARBON 0.45 - 0.50

⑦ G	DA.No.001/16 DC.No. 19446-W 14.09.15	PP 1:1.16
F ⑥	DA No. 052/97 Dt. 11-8-97	
UPDATED.	DA No. 022/97 Dt. 23-3-97	23/3/97
E ⑤	DA No. 70/95 Dt. 7-8-95	
D ④	DA. 020/95 Dt. 11-4-95	Sadhi 11-4-95
AMENDMENTS	DESCRIPTIONS	SIG. & DATE

② DA No.005/16 Dt. 04.05.16

SHEETS 2/2	APPROVED	<i>[Signature]</i> 12-4-95	ORDNANCE FACTORY	COMPONENT NO. 242-05-028
Sadhi DRAWN	CHECKED	<i>[Signature]</i> 12-4-95 I/C.30mm D&DO	TIRUCHIRAPALLI	CONNECTING LINK RIGID DRG. NO. H 64C 5028 250 03

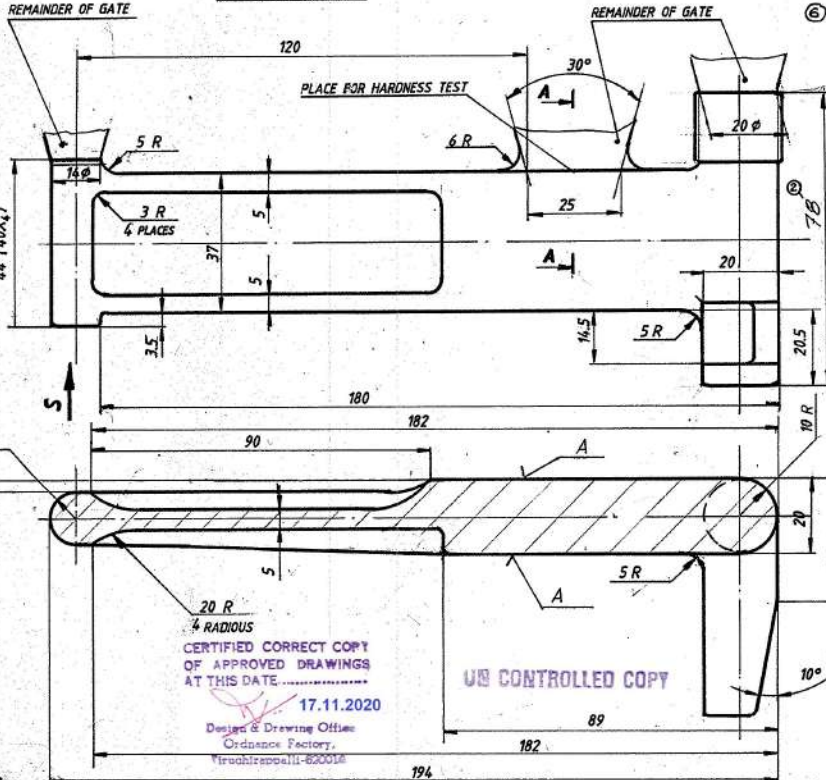
VEITED FOR MATERIAL ONLY

AS PER LAST DC (1) No. 1/17/14

200.0.3/TS/B/14/11-6-97

MAV JAGADISH
Sr. Scientific Officer
Sr. Quality Assurance Engg (ASST)
Tiruchirapalli-620016.

CASTING DRAWING



CHEMICAL COMPOSITION OF THE MATERIAL 23X1C2M0.15

C	0.20 - 0.25
Si	1.8 - 2.0
Mn	0.5 - 0.8
Cr	0.6
Mo	0.25 - 0.30
S	0.10 - 0.15
P	0.025 MAX.
Ni	0.025 MAX.

MECHANICAL PROPERTIES OF THE MATERIAL 23X1C2M0.15

ULTIMATE STRENGTH	140 Kgf/mm ²
YIELD STRENGTH	120 Kgf/mm ²
RELATIVE ELONGATION	6%
IMPACT STRENGTH	4 KJ/CM ²

CASTINGS AND TEST BARS ARE SUBJECTED TO FOLLOWING HEAT-TREATMENT -
 a. PRIMARY HEAT-TREATMENT (PRIOR TO MACHINING)
 i. NORMALIZING AT TEMPERATURE 700±25°C FOR 1.2 HOURS.
 ii. TEMPERING AT TEMPERATURE 720±25°C FOR 4 HOURS.
 b. FINAL HEAT-TREATMENT (AFTER MACHINING) FOR TEST BARS ONLY AS PER FOLLOWING SEQUENCE OF OPERATION
 i. MACHINING AT TEMPERATURE 1000±50°C SOAKING TIME 30 MIN. AT 1000°C.
 ii. TEMPERING AT TEMPERATURE 720±25°C FOR 4 HOURS.
 b. HEATING FOR NORMALIZING AND HARDENING IS TO BE CARRIED OUT WITH PROTECTION OF CASTINGS FROM DECARBURIZATION AND OXIDATION.

- DIMENSIONS ARE IN mm.
- SCALE - 1:1
- FIRST ANGLE PROJECTION
- HARDNESS AFTER PRELIMINARY HEAT-TREATMENT HB 269 MAX.
- UN-SPECIFIED CASTING RADII 2 mm.
- PATTERN TAPER (DRAFT ANGLE) AS PER GOST 3212-80
- CASTING DEFECTS ON NON-MACHINED SURFACES ALLOWED AS PER GOST 3-4365-79
- IMPACT STRENGTH SHOULD BE CONTROLLED ON THE SAMPLES.
- ON THE SURFACE 'A' SHRINKAGE DEPRESSION IS PERMITTED.
- CORRECTION OF DEFECTS IS PERMITTED.
- STRAIGHTENING OF CASTING IS PERMITTED.
- WEIGHT OF THE CASTING - 1.15 Kgs.
- MATERIAL - 23X1C2M0.15, TY APV 115-78
- CLEANING - SAND BLASTING
- SPECIAL TEST TO BE CARRIED; MAGNETIC FLOW DETECTION AND 'X' RAY TEST.

- SURFACE FINISH - MAXIMUM
- CASTING BELONGS TO GROUP II OST 3-4365-79 (SPECIAL PURPOSE CASTING)
- 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
- MECHANICAL PROPERTIES OF STEEL IS DETERMINED ON THE SPECIMENS CUT FROM THE TEST BARS AS PER GOST 977-75 AFTER CARRYING OUT COMPLETE HEAT-TREATMENT PROCESS.
- 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 945-78 ON THE SPECIMEN OF TYPE I AT NORMAL TEMPERATURE AND 75 PER GOST 945-78 AT LOW TEMPERATURE.

CASTING BELONGS TO GROUP NO II (SPECIAL PURPOSE CASTINGS) AS PER GOST 977-75 AND RADIO SCAPHIC TEST ADDED IN SHEET NO. 2

①	DA. NO. 009/95 OS. 9-2-96	✓
②	DIM. ADDED	✓
③	STORE DRG. NO ADDED	✓
④	AMENDMENTS	✓

SHEETS: 1/2
FOR COMPONENT NO
2A42-05-028-TOWER LINK

Redrawn: Sadr 15/16/84	Checked: Arathiraman	Approved: 08-88	Proj: F/M PROJ	Proj: A/WM/PROJ	ORDNANCE FACTORY TIRUCHIRAPALLI-16	DRG NO: 64C 5028 250 03
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