

INDIGENOUS MATERIAL

IS:10343-1999, GR 18Q <sup>ⓑ</sup>

① ~~IS:10343-GR 18Q~~ OR BS: 3146 PL.1-74 TYPE CLA-5 GRADE 'B'  
~~IS: 10343 Gr. 18Q~~ 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-

② ~~BS: 3146: PL.1: 1974, TYPE CLA-5 GRADE 'B'~~

RADIOGRAPHIC TEST

(a) RADIOGRAPHIC ACCEPTANCE STANDARD OF THE CASTING SHOULD BE AS PER ASTM-E-192, GRADE 'A'

(b) 100% OF THE ADVANCE SAMPLE (NOT LESS THAN 5) WILL BE SUBJECTED TO RADIOGRAPHIC TEST.

③ (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.

THE

(e) 5% OF THE CASTING SELECTED AT RANDOM FROM 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/CQAV/QA-11

DATED 14 MARCH 95.

CONTROLLERATE OF QUALITY ASSURANCE (METALS) ICHAPUR  
 LETTER NO. MQA-3/LIA/3/W dt 03 MAY 1995

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

17.11.2020

Design & Drawing Office  
 Ordnance Factory,  
 Tiruchirappalli-620016

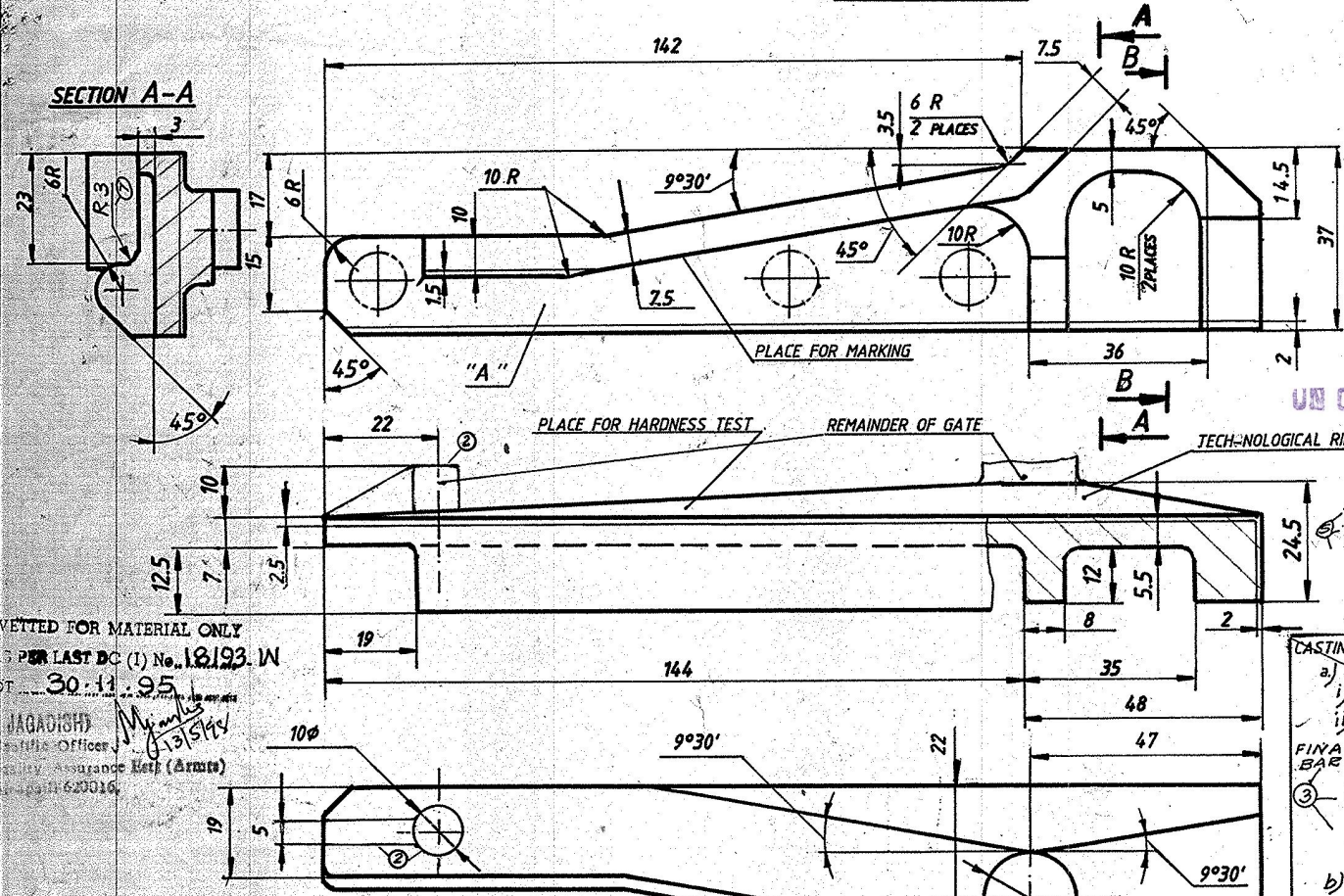
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③	DA.No.001/16 DC.No.19446-W 14.09.15	PP 1.1.16
7.	DA.No.005/10 Dt. 03/07/2010	S. Venkatesh
⑥	DA.No.006/98 Dt. 24-4-98	S. Venkatesh
UPDATED	DANo. 012/97 dt. 22-02-97	S. Venkatesh
E ④	DA.No.7-8-95 DA.No.70/95	Sadhi
D ④	Dt. 11-4-95 DA.025/95	Sadhi 11-4-95
AMENDMENTS	DESCRIPTIONS	SIG. & DATE

SHEETS 2/2	APPROVED	<i>Per</i> 12.4.95 WM/MW	ORDNANCE FACTORY	COMPONENT NO. 2A42-01-024 PAWL
<i>Sadhi</i> 11-4-95 DRAWN	CHECKED	<i>Venka</i> 12/4/95 1/C.30mm D&DO	TIRUCHIRAPALLI	DRG. NO. 64C 1024 250 H3



CASTING DRAWING



CHEMICAL COMPOSITION OF THE MATERIAL 23XГC2MΦΠY

C	0.20 - 0.24
Si	1.8 - 2.0
Mn	0.5 - 0.8
Cr	0.6 - 0.9
Mo	0.25 - 0.30
V	0.10 - 0.15
S	0.025 MAX.
P	0.025 MAX.
Ni	1.0 Max.

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

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MECHANICAL PROPERTIES OF THE MATERIAL 23XГC2MΦΠY

ULTIMATE STRENGTH	140 Kgf/mm <sup>2</sup>
YIELD STRENGTH	120 Kgf/mm <sup>2</sup>
RELATIVE ELONGATION	6%
IMPACT STRENGTH	4 KgfM/cm <sup>2</sup>

UN CONTROLLED COPY

MATL.: 23XГC2MΦΠY. MECH. PROPERTIES AS PER LAST DC (I) No. 18193 IN. ULTIMATE STRENGTH 130 Kgf/mm<sup>2</sup> AND YIELD STRENGTH 110 Kgf/mm<sup>2</sup> ARE ALSO ACCEPTABLE.

FOR COMPONENT NO 2A42-01-024- PAWL

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

- PRELIMINARY HEAT-TREATMENT (PRIOR TO MACHINING)
  - NORMALIZING AT TEMPERATURE 1000° ± 20° C FOR 1-2 HOURS.
  - TEMPERING AT TEMPERATURE 720° ± 20° C FOR 4 HOURS.
- FINAL HEAT-TREATMENT (AFTER MACHINING) FOR TEST BAR ONLY.
 

AS PER FOLLOWING SEQUENCE OF OPERATION:

 HEATING AT TEMPERATURE 1000° ± 20° C SOAKING TIME IS ONE HOUR, COOLING IN OIL... TEMPERING AT TEMP. 200° ± 20° C FOR 4 HOURS.
- HEATING FOR NORMALIZING AND HARDENING IS TO BE CARRIED-OUT WITH PROTECTION OF CASTINGS FROM DECARBURIZATION AND OXIDATION.

APPROVED FOR MATERIAL ONLY  
AS PER LAST DC (I) No. 18193 IN  
DT 30.11.95

- DIMENSIONS ARE IN mm.
- SCALE - 1:1
- FIRST ANGLE PROJECTION
- HARDNESS AFTER PRELIMINARY HEAT-TREATMENT HB 269 MAX.
- UN-SPECIFIED CASTING RADII 2 mm.
- DRAFT ANGLE AS PER GOST 3212-80
- CASTING DEFECTS ON NON-MACHINED SURFACES AS PER OST 3-4365-79.
- WARPAGE/BUCKLING ALONG THE PLANE SURFACE 'A' UP TO 1.0 mm.
- CORRECTION OF CASTING DEFECTS IS ALLOWED.
- IMPACT STRENGTH SHOULD BE CONTROLLED ON SAMPLES.
- WEIGHT OF THE MATERIAL 0.50 Kgs.
- MATERIAL 23XГC2MΦΠY; TY AAV 116-78.

GUIDELINES FOR PROCUREMENT AND INSPECTION OF INVESTMENT CASTING (REF: CONTROLLERATE OF QUALITY ASSURANCE (METALS), CHAPUR, LETTER NO. MGA-1/10/11.2 dt. 05 MAY 94)

- ACCEPTANCE OF CASTING IS CARRIED OUT AS PER GOST 977-75 (PARAGRAPH TWO AND THREE) BUT WHILE MANUFACTURING CASTING AS PER MELTED MODEL 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) IN 5 mm DIAMETER WITH 25 mm LENGTH IS PERMITTED
- DETERMINATION OF IMPACT STRENGTH IS CARRIED OUT AS PER GOST 9454-78 ON THE SPECIMEN OF TYPE I AT NORMAL TEMPERATURE AND AS PER 9454-78 AT LOW TEMPERATURE

- SURFACE FINISH
- SPECIAL TEST :- MAGNETIC FLAW DETECTION.
- CLEANING :- SAND BLASTING.
- CASTING BELONGS TO GROUP II, OST 3-4365-79 (SPECIAL PURPOSE CASTING)
- STRAIGHTENING OF CASTING IS ALLOWED.

INDI. MATL. AND RADIOGRAPHIC TEST REFER SHEET NO. 2

SHEETS: - 1/2

①	DA. NO. 007/95 dt. 9-2-95	DA. NO. 02/04	13/00A
②	DRG. ADVANCED TO B3		
③	REMAINDER OF GATE ADDED		
④	STORE DRG. NO ADDED		
SL. NO	AMENDMENTS	SIG & DATE	

Redrawn 18/04/88	Checked S. Jeyaraman	Approved 08-88	F.M. PROJ	A.WM/PROJ	ORDNANCE FACTORY TIRUCHIRAPALLI-16	DRG NO: 64 C 1024 250 H3
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