

Page 1 of 5	SPECIFICATION No. CLW/ES/3/0140	ALT-E <i>P</i>
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TENDER SPECIFICATION FOR SET OF PLASTICS FOR WAG-9HC, WAP-7 & WAP-5 3-PHASE ELECTRIC LOCOMOTIVE OF INDIAN RAILWAYS

**SPECIFICATION No.
CLW/ES/3/0140 Alt-E**

ENCLOSURES :

1. ANNEXURES :
2. DRG. NOS.
CLW/ES/3/SK-1/0140,
CLW/ES/3/SK-2/0140.
CLW/ES/3/SK-3/0140.
CLW/ES/3/SK-4/0140.
CLW/ES/3/SK-5/0140.

ISSUED BY

DY. CHIEF ELECTRICAL ENGINEER/D/CONV.

CHITTARANJAN LOCOMOTIVE WORKS

P.O. CHITTARANJAN, 713331

DIST. BURDWAN, WEST BENGAL, (INDIA)

PREPARED BY	CHECKED BY	APPROVED BY
NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.15 12:11:07 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.02.15 12:14:19 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.16 17:20:43 +05'30'
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

Signature Not
Verified

Digitally signed by
NIRANJAN KUMAR
Date: 2023.02.10
11:13:06 +05'30'
Reason: IRPS-CRIS
Location: New Delhi

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ALTERATION RECORD SHEET

Amendment No.	Date of Amendment	Alteration	Reason	Authority
1.	10-02-1998	A	Addition in nos. of drawings. CLW/ES/3/SK-3/0140 FIG.NO.5 in Scope of supply is added.	-sd-
2.	30-04-1999	B	In Scope of supply of sht. No. 4 individual type nos. given as applicable.	-sd-
3.	11-01-2006	C	Fig. no.6 of Sheet.no. 9 added and Fig. no.6 in scope of supply of Sheet no. 4 included.	-sd-
4.	02-07-2010	D	Fig.no.5 (Insulating Plate) (Sh-8) design/Drg. Both material changed and new drawing attached at Sheet 10, as per ABB M/A 449 & Shop requirement.	-sd-
5.	09-03-2021	E	Qty./Loco is to be followed as per Latest category book.	-sd-

Specifications have been digitized and all alterations have been incorporated.

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.15 12:11:42 +05'30' SSE/DRG&DGN (M)	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.02.15 12:14:47 +05'30' SSE/DRG&DGN (M)	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.16 17:21:24 +05'30' DY. CEE/D/CONV

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SPECIFICATION FOR SET OF PLASTICS

1. SCOPE :

This specification covers the manufacture and supply of SET OF PLASTICS for WAG-9 (Co- Co), 6000 HP, 3-phase, 25KV 50 HZ.AC locomotive.

2. SERVICE CONDITION :

2.1 Climatic and environmental condition :-

Maximum atmospheric temperature	: +70 ⁰ c (in sun) & : 50 ⁰ c (in shade)
Normal humidity	: 60%
Maximum humidity	: 100% saturation during rainy season.
Altitude	: 160 m.a.s.l.
Rain fall	: very heavy in certain areas. The equipment should be Designed in such a way as to withstand its running at 10Km /hr. in flood waterLevel of 102mm. above rail level.
Atmosphere during hot weather	: Extremely dusty and desert Terrain in certain areas.
Coastal areas	: Locomotive and equipment Will be design to work in Coastal areas in humid and Salty and laden atmosphere.
Vibration	: The equipment sub-system and their mounting arrangement will be designed to withstand vibration and shocks encountered in service as Specified in correspondence unless otherwise prescribed.

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NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.15 12:12:06 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.02.15 12:15:12 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.16 17:21:49 +05'30'
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

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3. STANDARD :

The relevant IEC, BS, DIN, Standard & Indian Standard shall apply with respect to all materials used in the Manufacture of PLASTIC.

4. SCOPE OF SUPPLY

NOTE - ALL Materials should be fire retardant / Self Extinguisher Type as per IS : 11731 or any other relevant standard.

Fig. No.	Description	ABB Ref. Ident. No.	Qty./ Loco	Matl.
1. ✓	COVER (TYPE-1)	3EHP230140P0001	1	Polyester Resine
2.	COVER (TYPE-2) SCREENING COVER	3EHP330154P0002	2	Reinforced Polyester Resin
2.	-DO- (Type-3)	3EHP330154P0001	2	-DO-
3. ✓	CASING	3EHP330156P0001	1	Polyester Resin
4.	HV CONNECTOR CLIP	3EHP431521P0001	1	Laminated Plastic sheet hard treated on one side
5.	INSULATING PLATE	HBT416046P0004	125	THERMOSETTING PLAST
6.	THREADED BAR	3EHP431041P0001	4	GLASS REINFORCED PLASTIC

5. SUBMISSION OF TENDER QUOTATION:

- 5.1 All tender documents including the quotation shall be submitted in duplicate including any Correspondence till a contract is finalised.
- 5.2 The tenderer shall give sufficient information to prove that his factory has adequate facilities and Capacity to manufacture the PLASTIC to meet fully the technical requirements of the specification and quality of materials and workmanship.
- 5.3 Quotation will not be considered complete unless all information is furnished and are therefore Liable to be rejected.
- 5.4 Detailed drawings of the plastic should be submitted for approval of purchaser.

PREPARED BY	CHECKED BY	APPROVED BY
NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.15 12:12:37 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.02.15 12:15:40 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.16 17:22:11 +05'30'
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV

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6. DRAWINGS :

The following drawings are attached with the specification :

Drg. No. : CLW/ES/3/SK-1/0140 , CLW/ES/3/SK-2/0140, CLW/ES/3/SK-3/0140,
CLW/ES/3/SK-4/0140,& CLW/ES/3/SK-5/0140.

6.1 Technical documents and drawings to be furnished by the supplier as part of the contract.

7. TESTS :

1) Type test and routine test shall be carried out according to the standard.

2) fire retardant test as per IS: 11731.

8. TECHNICAL DOCUMENTS TO BE SUPPLIED BY THE SUPPLIER :

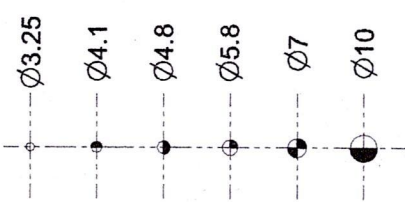
- | | | |
|------|---|-------------|
| I) | Type test reports | : 10 copies |
| II) | Routine test report along with each set | : 4 copies |
| III) | Maintenance manual | : 20 copies |
| IV) | Detailed drawings | : 6 copies |

9. The tenderer shall confirm that the equipments are as either used in 3 – phase locomotive manufactured by ABB for Indian railways or similar.

10. NOTE:

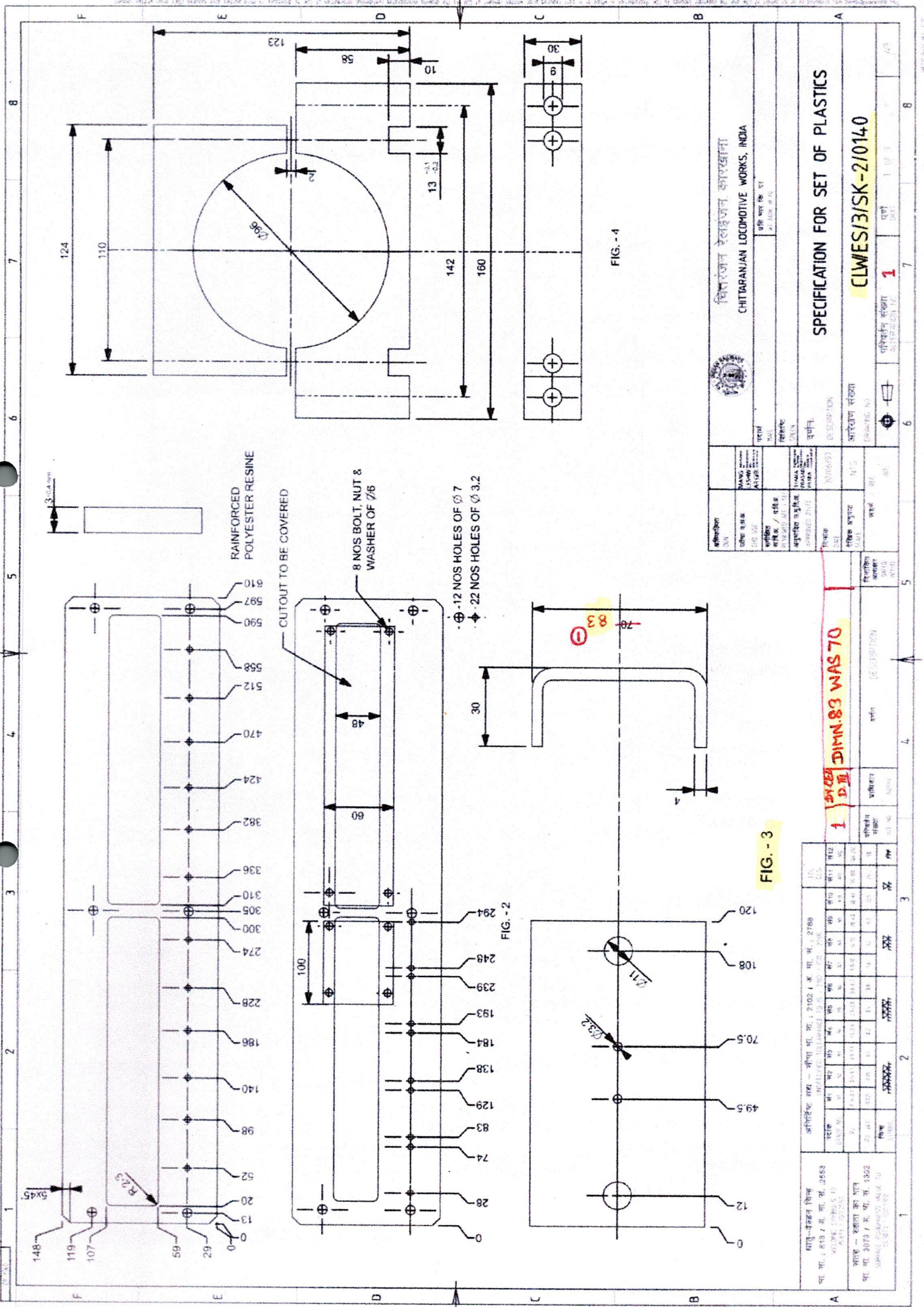
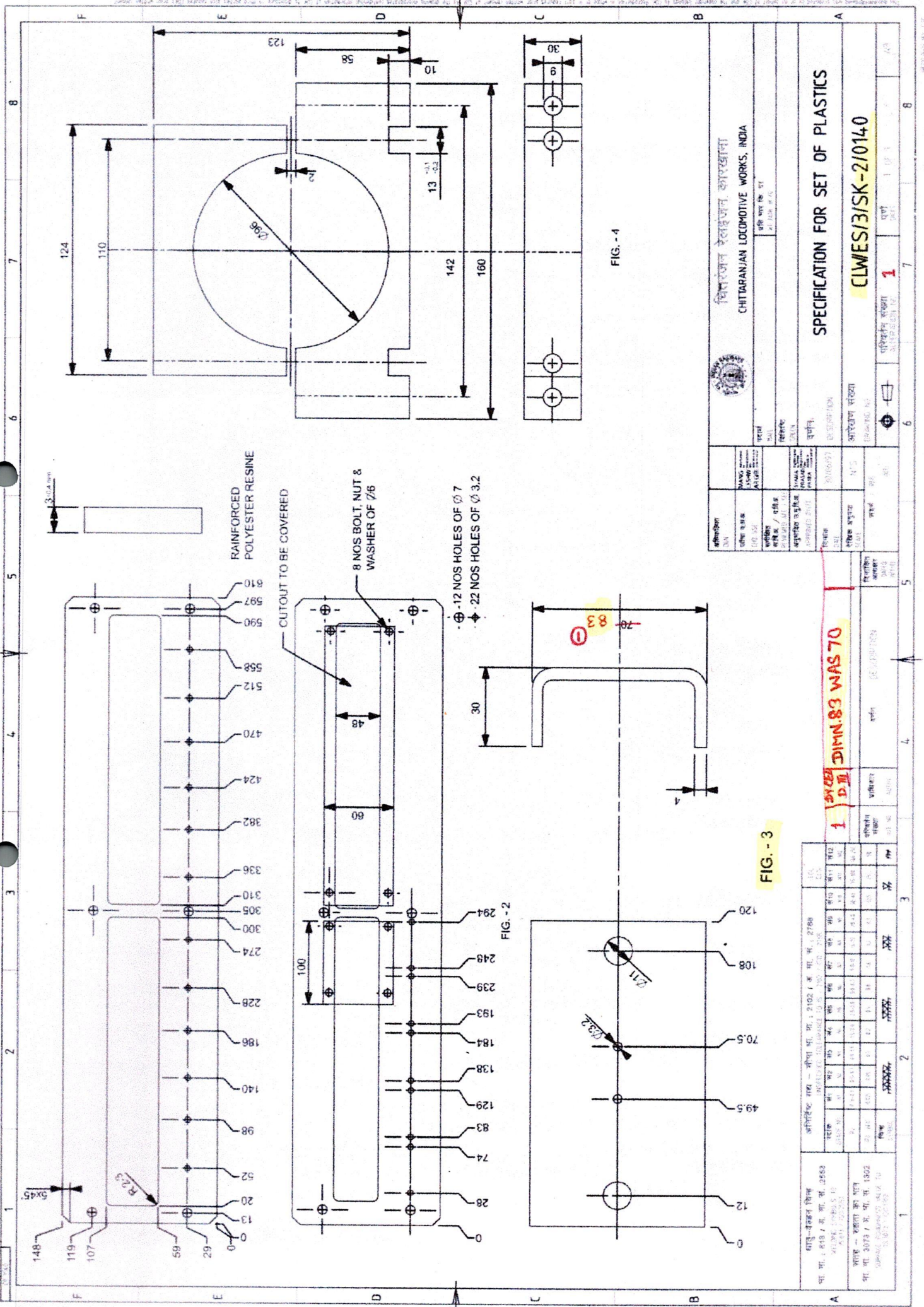
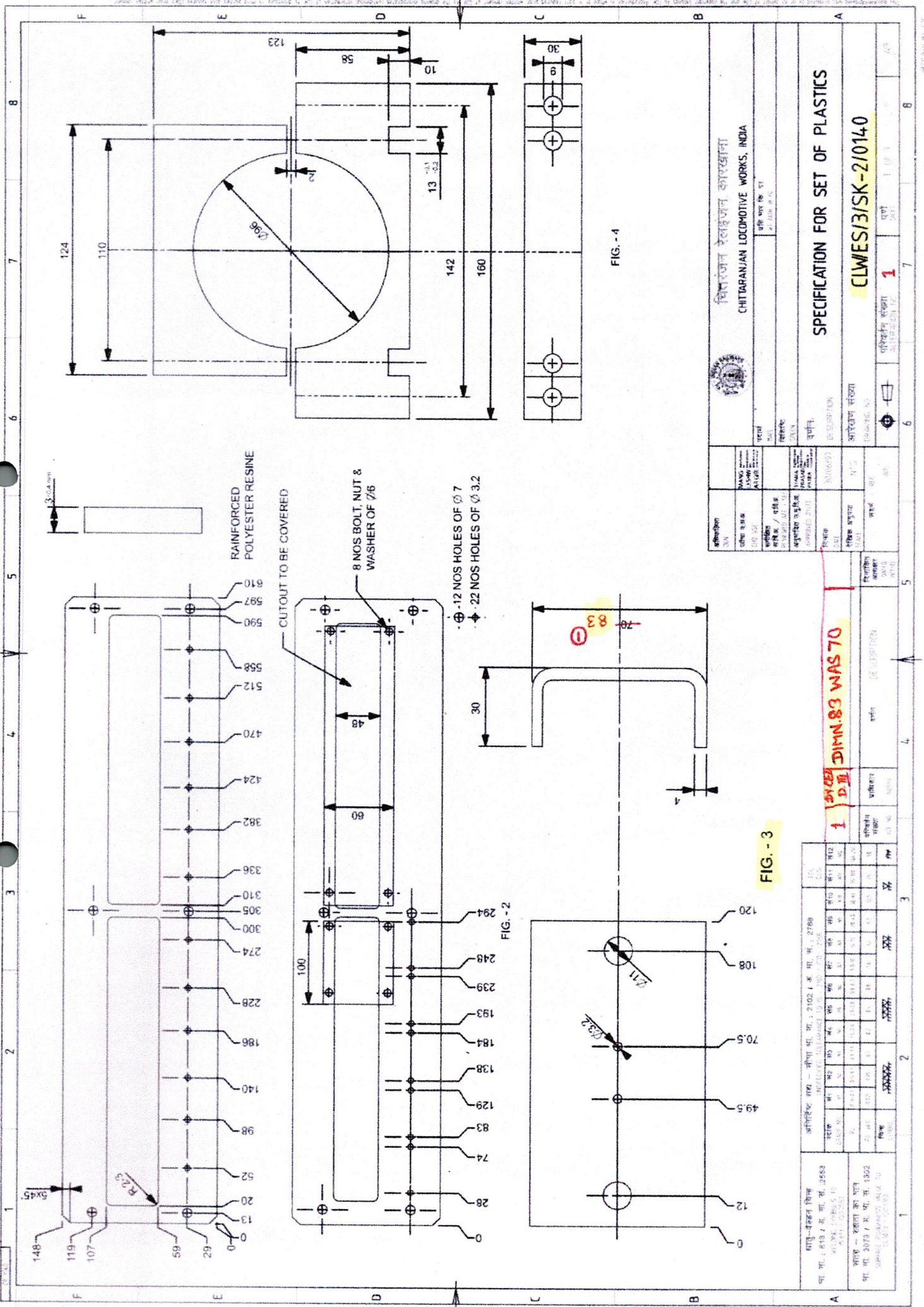
TYPE NO. OF EACH ITEM IS REQUIRED TO BE ENGRAVED.

PREPARED BY	CHECKED BY	APPROVED BY
NIRANJAN KUMAR Digitally signed by NIRANJAN KUMAR Date: 2023.02.15 12:13:00 +05'30'	MANGLES HWAR GIRI Digitally signed by MANGLESHWAR GIRI Date: 2023.02.15 12:16:03 +05'30'	SYAMA PRASAD PATRA Digitally signed by SYAMA PRASAD PATRA Date: 2023.02.16 17:22:33 +05'30'
SSE/DRG&DGN (M)	SSE/DRG&DGN (M)	DY. CEE/D/CONV



Draft Drawing of Cover (Type-1)

[illegible]

[illegible]

<p>भा. मा. : 2813 / अ. मा. सं. : 2562</p> <p>राज्य शास्त्र विभाग, १०</p> <p>अ. मा. सं. : २५६२</p>	<p>अतिरिक्त प्रा. मा. : 2102 / अ. मा. सं. : 2788</p>	<p>16</p>
<p>भा. मा. : 3073 / अ. मा. सं. : 1302</p> <p>राज्य शास्त्र विभाग, १०</p> <p>अ. मा. सं. : १३०२</p>	<p>16</p>	<p>16</p>

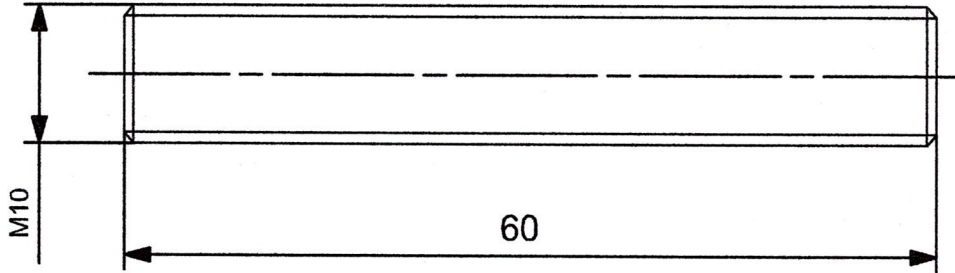


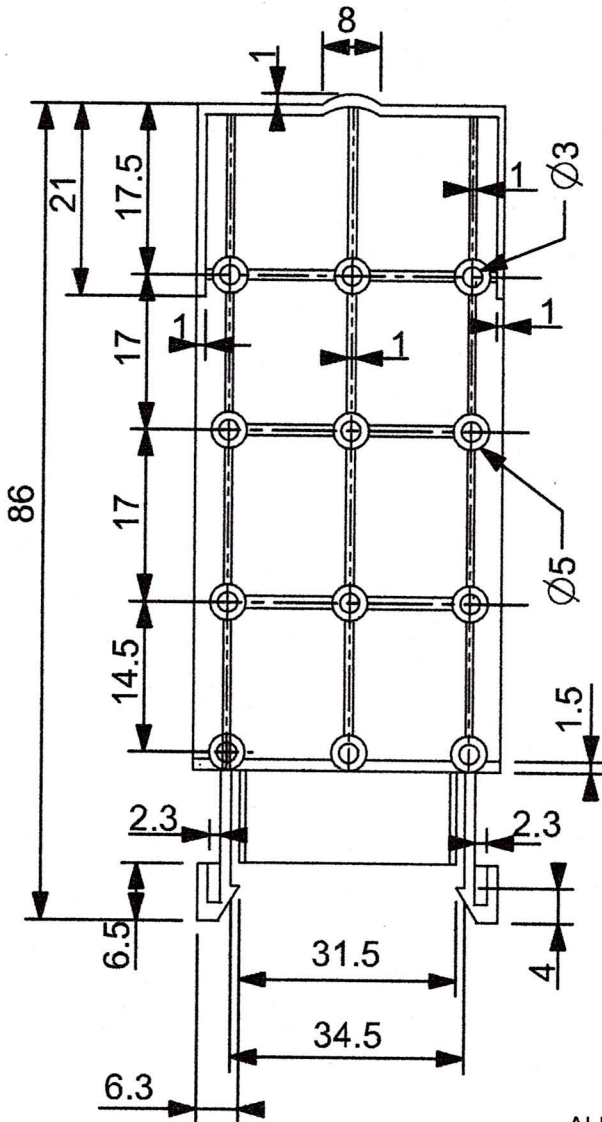
FIG - 6

THREADED BAR M10 X 1650 GRP
ABB IDENT. NO. 3EHP 431041P0001.

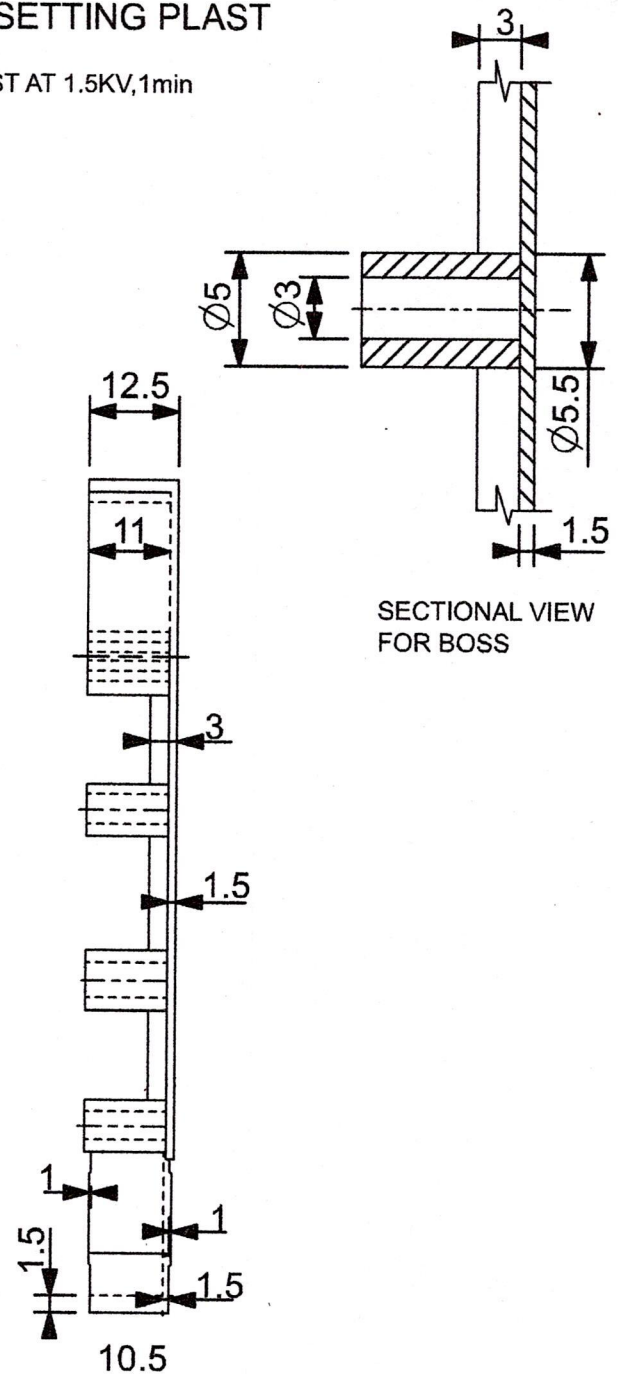
MATERIAL :- GLASS REINFORCED PLASTIC (GRP)
QTY./LOCO :- 4

परिवर्तन संख्या ALT. NO.		प्राधिकार AUTHY	वर्णन DESCRIPTION		दिनांक DATED INITIAL	अधिकृत DGN	जोधा व.अ.अ. CHD SSE		MANGL ESHWAR R GIRI	पदार्थ MATL	प्रति भार कि. ग्रा. WT. EACH IN KG						
सतह - रुखाता का मान मा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:3073 / ISO:1302		अनिर्दिष्ट सतह - सीमा मा. मा. : 2102 / अ. मा. सं. : 2768 UNSPECIFIED TOLEARANCE TO IS : 2102 / ISO : 2768		TOL. CLS.	अनुमोदित उ.मु.वि.अ. APPROVED DYCEE	SYAMA PRASA D PATRA	विशिष्ट SPECN		वर्णन DESCRIPTION								
पदार्थ GRADE NO.		सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12	रैखिक अनुपात SCALE	NTS	आरेखण संख्या DRAWING NO.	CLW/ES/3/SK-4/0140
Rz		0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.0	5.0-6.3	9.0-12	16-25	30-40	50-63	75-100	160-250	संदर्भ / REF.		परिवर्तन संख्या ALTERATION. NO.	
Ra μm		0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50	संदर्भ / REF.		परिवर्तन संख्या ALTERATION. NO.	
चिन्ह SYMBOL		XXXXXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX		संदर्भ / REF.		परिवर्तन संख्या ALTERATION. NO.	
चिन्ह SYMBOL		XXXXXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX		संदर्भ / REF.		परिवर्तन संख्या ALTERATION. NO.	








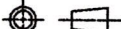
DI-ELECTRIC TEST AT 1.5KV,1min



ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.



SECTIONAL VIEW
FOR BOSS

													अधिकृत DGN				चितरंजन रेलइंजन कारखाना CHITTARANJAN LOCOMOTIVE WORKS, INDIA									
परिवर्तन संख्या ALT.NO.		प्राधिकार AUTHY		वर्णन DESCRIPTION						दिनांक बाबत DATED INITIAL		समीक्षित सवि.अ. / व.वि.अ. REVIEWED AEE / SEE		MANG LESHW AR GIRI		पदार्थ MATL THERMOSETTING PLAST		प्रति भार कि. ग्रा. WT. EACH IN KG								
सर्वह — रुखाता का मान मा. मा. 3073 / अ. मा. सं. 1302 SURFACE ROUGHNESS VALUE TO IS:8173 / ISO:927													अनिर्दिष्ट सह — सीमा मा. मा. : 2102 / व. मा. सं. : 2708 UNSPECIFIED TOLERANCE TO IS : 2102 / ISO : 2768						TOL. CLS.		अनुमोदित समु.वि.अ. APPROVED DYCEE		SYAMA PRASAD PATRA		विशिष्ट SPECN	
बाहु-वेल्डन चिन्ह मा. मा. : 813 / व. मा. सं. : 2563 WELDING SYMBOLS TO IS:813 / ISO:2553																					वर्णन DESCRIPTION		SPECIFICATION FOR SET OF PLASTICS			
पदांक GRADE NO.		सं1 N1	सं2 N2	सं3 N3	सं4 N4	सं5 N5	सं6 N6	सं7 N7	सं8 N8	सं9 N9	सं10 N10	सं11 N11	सं12 N12	दिनांक DATE		30/06/97		आरेखण संख्या DRAWING NO.								
Rz		0.16-0.3	0.5-0.7	0.9-1.1	1.5-2.0	2.5-3.8	5.0-4.3	9.0-12	16-25	30-40	50-63	75-100	160-250	रैखिक अनुपात SCALE		NTS		CLW/ES/3/SK-5/0140								
Ra μm		0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50	संदर्भ / REF.		ALT-		परीक्षण संख्या ALTERATION NO.								
चिन्ह SYMBOL																						पर्ण SHEET 1 OF 1		A4		

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