

Final DRAFT SPECIFICATION	SCHEDULE OF TECHNICAL REQUIREMENTS FOR ANODIZED ALUMINUM BRAILLE STICKERS FOR SIGNAGE ON RAILWAY COACHES	MMDTS-22001 Rev.:01 Date: 10.01.2025 Page 1 of 15
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Name	Designation	Signature	Date	Level
Abhishek	JE / Design		10.01.2025	Prepared
A.K.Agnihotri	SME / Design		10.01.2025	Agreed
Shobit Pratap Singh	Dy. CME / Design		10.01.2025	Reviewed
D.K.Singh	CDE		10.01.2025	Approved

SN	Rev. /Amndt.	Date	Change in brief
1	0	25.06.2022	First issue
2.	Amndt. Slip no.-1	28.12.2023	Sub Clause no. 2(V) added. Documents to be submitted by supplier along with offer during tender.
3.	Amndt. Slip no.-2	10.06.2024	SN-2 of clause no. 5.2 updated-Test method for Accelerated weathering test changed from ASTM G 53-93 to ASTM G154-23
4.	01	10.01.2025	<p>a) Clause 2 :Documents to be submitted along with offer modified</p> <p>b) Clause 6: Prototype approval added in new clause no. 6 modified.</p> <p>c) Clause 7: Quality Assurance, test & documents added in new clause no. 7.</p> <p>d) Clause 5: Type test and acceptance tests segregated in new clause no. 5.</p> <p>e) Clause 7: “Supplier shall submit test certificate of parameters (clause 5) of specification for Type Tests & Acceptance tests from :</p> <p>(a) Any NABL accredited lab (in-house or outside) having tests & test method mentioned in clause 5 of specification in its scope of accreditation from NABL or report from NTH/NPL. Test report must contain NABL logo/seal, in case reports are submitted from NABL accredited lab.</p> <p>(b) In case, there is no NABL accredited lab is available in India for some tests (with test method mentioned in the specification) and the test facility for same tests (with test method mentioned</p>

			<p>in the specification) are also not available with NTH/NPL, then for those tests, report from any Government's lab/any Government recognized lab for such test in India will be acceptable.</p> <p>(c) In rare case, when test facilities are not available as per (a) & (b) of this Para above, test certificate from NABL accredited lab not having tests & test method mentioned in clause 5.1 & 5.2 in its scope of accreditation from NABL shall be acceptable, subject to prior approval of the purchaser for such specific tests.</p> <p>f) Clause 8: Process audit requirement (in every 3 years) added.</p> <p>g) Clause 12: for List of Machineries & plant and testing facilities added.</p>
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1. SCOPE

This specification covers general and technical requirements of anodized aluminium Braille stickers to be used as signage for passengers on Indian Railways. These stickers may be provided onto the interior and exterior of coaches. Latest edition of the standards shall be applicable wherever mentioned without year.

2. DOCUMENTS TO BE SUBMITTED ALONG WITH OFFER:

- i. **Supplier/OEM** as per Rev.0 or latest of this specification shall submit clause wise comments on the specification for compliance and deviation (if any).
- ii. Supplier/OEM shall submit test certificate of parameters (clause 5) of specification from:
 - (a) Any NABL accredited lab (in-house or outside) having tests & test method mentioned in clause 5 in its scope of accreditation from NABL or report from NTH/NPL. Test report must contain NABL logo/seal, in case reports are submitted from NABL accredited lab.
 - (b) In case, there is no NABL accredited lab is available in India for some tests (with test method mentioned in the specification) and the test facility for same tests (with test method mentioned in the specification) are also not available with NTH/NPL, then for those tests, **report from any Government's lab/any Government recognized lab for such test in India will be acceptable.**
 - (c) **In rare case, when test facilities are not available as per (a) & (b) of this Para above, test certificate from NABL accredited lab not having tests & test method mentioned in clause 5.1 & 5.2 in its scope of accreditation from NABL shall be acceptable, subject to prior approval of the purchaser for such specific tests.**
In absence of any of above details for offered product, the offer would not be considered.
- iii. **The submitted test reports along with offer shall not be more than three (03) years old from the date of tender opening.**
- iv. The supplier shall submit Technical data sheets and material safety data sheet for the sticker, Test reports as per clause 5 by an accredited agency,
- v. Certificate from the National Association for Blind (NAB) or equivalent agency for readability and correctness of the Braille text on the stickers along with offer during tender. In the certificate from the NAB, the agency shall specify the language (English/Hindi/other) and the message of the Braille text on the sticker

3. OPERATING CONDITIONS

Ambient Condition: On fitment in the coaches, the sticker will be subjected to the following climatic conditions

- 3.1. Ambient temperature: -10 °C to 55 °C
- 3.2. Altitude: from sea level up to 2500 meters
- 3.3. Maximum temperature under sun 70°C
- 3.4. Relative humidity: upto 95%
- 3.5. Coaches may operate in coastal areas with continued exposure to salt laden air
- 3.6. Coaches exteriors are cleaned with liquid cleaning agent to RDSO spec no. M&C/PCN/101/2007 using brushes with non-metallic bristles or in automatic car washing plants. The interiors are cleaned with wet/dry wiping.

4. TECHNICAL REQUIREMENTS

- 4.1. The sticker shall have two layers: base layer and Braille layer. The material for base and Braille layer shall be anodised aluminium (designation u as per IS 737). The base layer shall provide strength and rigidity to the sticker. The two layers shall be integrated with 3M 467MP Acrylic Adhesive or equivalent .Braille layer shall display the information along with tactile Braille script. The sticker shall be homogenous and layers shall be imperceptible.
- 4.2. The required text and graphic shall be impregnated and sealed with a transparent anodic oxide layer. The font style and size of the text shall be as per drawing. The sticker shall be free from dents and defects. No additional coating layer shall be used for protection of the exposed surface.
- 4.3. The thickness of the Braille layer shall be between 0.2 mm to 0.3 mm. The composite thickness of the sticker shall be 1mm. Schematic cross section of sticker is shown in Appendix I.
- 4.4. The sticker shall have mounting holes (as per drawing) and adhesive tape (3M 467MP Acrylic Adhesive or equivalent) for installation in coaches.
- 4.5. The sticker shall conform to the performance/requirements as laid out in clause 5.
- 4.6. The stickers shall not have any harmful effect on living beings, coaches, or the environment.
- 4.7. The thickness and tolerance over dimensions of the sticker shall be as per the tender drawings and IS: 2676 - 1981, respectively.

5. PROPERTIES AND PERFORMANCE CHARACTERISTICS

5.1. Acceptance Tests

S N	Characteristics	Requirements	Test Method
1.	Abrasion Resistance	No pronounced loss of readability after 7000 abrasion cycles on Taber Abraser (model 171 or equal) CS-17 Calibrase Wheels with 1kg weight. Sample for testing should be free of Braille markings.	ASTM D 4060
2.	Acid Corrosion Resistance	Weight loss of anodized surface not to exceed 0.2 mg/cm ²	IS 5523:83 Sodium Sulphite Immersion Test
3.	Heat Resistance 120 °C for 3 hours	No pronounced loss or degradation of readability	Appendix-II
4.	Adhesion between Base and Braille layers test	Peel adhesion of 5-17 Newton/cm after 72 hours	ASTM D 3330 Test Method A for Peel Adhesion at 180° angle
5.	Stain Resistance Test	There shall be no colour stain after the test	IS 5523:83 Marking Test
6.	Ease of Cleaning	Rating of 8 and above	Appendix-III

7.	Aluminium grade of Braille and Base layers	Should match the composition of 19002 or 19500	IS 504 (1963)
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5.2. Type Tests

S. N	Characteristics	Requirements	Test Method
1.	Corrosion resistance from neutral salt spray	No deterioration or softening of anodic layer after 720 hours	IS 9844 (1981)
2.	Accelerated Weathering Test	No deterioration of the image or pronounced loss of readability after 84 cycle(672 hours) of Fluorescent UV-Condensation test (cycle time:8hours; 4 Hrs U.V Light from UV-B lamps with a peak emission @313 n.m and 4 hrs. condensation alternatively; Temperature:50°C)	ASTM G53-93

6. PROTOTYPE APPROVAL:

The Firm shall supply a sample along with the following details at the time of prototype testing as per PO or as per applicable guideline:

- i. Supplier shall submit test certificate of parameters (clause 5) of specification from:
 - (a) Any NABL accredited lab (in-house or outside) having tests & test method mentioned in clause 5 of specification in its scope of accreditation from NABL or report from NTH/NPL. Test report must contain NABL logo/seal, in case reports are submitted from NABL accredited lab.
 - (b) In case, there is no NABL accredited lab is available in India for some tests (with test method mentioned in the specification) and the test facility for same tests (with test method mentioned in the specification) are also not available with NTH/NPL, then for those tests, **report from any Government's lab/any Government recognized lab for such test in India will be acceptable.**
 - (c) **In rare case, when test facilities are not available as per (a) & (b) of this Para above, test certificate from NABL accredited lab not having tests & test method mentioned in clause 5.1 & 5.2 in its scope of accreditation from NABL shall be acceptable, subject to prior approval of the purchaser for such specific tests.**

In absence of any of above details for offered product, the offer would not be considered.

- ii. Technical data sheets and material safety data sheet for the sticker
- iii. Invoice for raw material purchase (aluminium sheet)
- iv. Certificate from the National Association for Blind (NAB) or equivalent agency for readability and correctness of the Braille text on the stickers. In its certificate, the agency shall specify the language (English/Hindi/other) and the message of the Braille text on the sticker.

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- v. The supplier shall supply sample stickers of each type (seat number sticker, chain pull alarm system, etc.) as per the properties and performance characteristics mentioned in clause 5 along with the test reports.
- vi. The prototype sample may be examined and tested as per the tests specified at clause 5. Suppliers shall incorporate changes suggested by railway in the prototype as well as in the bulk supply. The bulk manufacturing shall be undertaken only after approval of the prototype by the Design office. IR shall have the right to repeat prototype approval in subsequent orders also. The decision of the railway in this regard shall be final.
- vii. The bulk manufacturing shall be undertaken only after approval of Prototype. This clause of Prototype approval is applicable for the first supply by new firm as well as in case of change of design and change of manufacturing process or raw material.

7. QUALITY ASSURANCE, TEST & DOCUMENTS:

Requirement description	Requirement detail	<u>Remarks</u>
Quality Assurance plan	<p>The manufacturer shall have the detailed quality Assurance plan. The Plan shall be submitted for the approval by respective PU. The QAP document shall clearly document the following and control the test record formats.</p> <ol style="list-style-type: none"> 1. Control over outsourced products and processes 2. Testing of raw material and establishing its traceability 3. Sampling Plan 4. Type Tests 5. Acceptance tests 6. Raw Materials 	<p>The QAP shall be submitted in PDF as per MCF doc no. MMDF0011 dated 08.02.2022 (Annexure-A)</p>
Type Tests	<p>These tests shall be done on a sampled lot of prototype. Such Tests are required only on initial approval, change of design and chance of manufacturing process or raw material.</p> <p>These tests are to be repeated as detailed in prototype approval process after every 24 months or as specified as quality control measure.</p> <p>These tests are required to be furnished with supply of each lot. However, the reports for tests conducted in the last two years from the date of supply shall be valid</p> <ol style="list-style-type: none"> 1. Corrosion resistance from neutral salt spray 2. Accelerated Weathering Test. <p>However, if the consignee or inspecting agency desires to do the type tests, before 24 months, the supplier should not deny the same. There are various circumstances when type tests may be needed on next supply before two (02) years of last supply /last type tests. e.g.:</p> <ul style="list-style-type: none"> • In case of doubt in type test certificate. (Previous) • Complaint regarding type test certificates. • Failure of material attributable to any of the parameters covered in type tests, etc . 	<p>The records of the type tests shall be maintained by the manufacturer and shall be made available upon demand.</p> <p>These records shall be traceable and verifiable.</p>

	Moreover, during type test, all tests listed in acceptance tests shall also be conducted.	
Acceptance tests	<p>These tests shall be done on all or samples of lot for bulk supply. Sampling shall be done as per IS:2500</p> <p>Each lot shall consist of a maximum of 50 coach sets of stickers. For every lot of supply, 3 pieces shall be drawn at random as per IS: 4905 (1968). None of the samples shall fail for following tests for the acceptability of the lot. If a sample fails in any of the tests, double the original sample size shall be drawn from the same lot and tested. In case any sample fails in re-testing, the entire lot shall be rejected.</p> <ol style="list-style-type: none"> 1. Abrasion Resistance. 2. Acid Corrosion Resistance 3. Heat Resistance 120 °C for 3 hours 4. Adhesion between Base and Braille layers test 5. Stain Resistance Test 6. Ease of Cleaning 7. Aluminium grade of Braille and Base layers <ul style="list-style-type: none"> • All other parameters apart from Type test shall be checked as per Acceptance test. • Documents for type test with above detailed periodicity & validity shall also be checked during acceptance test & enclosed with acceptance test documents. 	<p>These shall be conducted by the consignee or their authorized agency prior to dispatch. All infrastructures required to enable acceptance tests shall be provided by the bidder / OEM.</p> <p>The records of the acceptance tests shall be enclosed along with the supply consignment. These records shall be traceable and verifiable.</p>

Note:

1. Supplier shall submit test certificate of parameters (clause 5) of specification for Type Tests & Acceptance tests from :

- (a) Any NABL accredited lab (in-house or outside) having tests & test method mentioned in clause 5 of specification in its scope of accreditation from NABL or report from NTH/NPL. Test report must contain NABL logo/seal, in case reports are submitted from NABL accredited lab.
- (b) In case, there is no NABL accredited lab is available in India for some tests (with test method mentioned in the specification) and the test facility for same tests (with test method mentioned in the specification) are also not available with NTH/NPL, then for those tests, **report from any Government's lab/any Government recognized lab for such test in India will be acceptable.**
- (c) **In rare case, when test facilities are not available as per (a) & (b) of this Para above, test certificate from NABL accredited lab not having tests & test method mentioned in clause 5.1 & 5.2 in its scope of accreditation from NABL shall be acceptable, subject to prior approval of the purchaser for such specific tests.**

In absence of any of above details for offered product, the offer would not be considered.

8. PROCESS AUDIT REQUIREMENT(in every 3 years):

Audit of OEMs for manufacturing & testing activities of material will be done by M/s RITES or any agency authorized by concerned PU in every 3 years.

It shall be responsibility of OEM to get audit done by M/s RITES or any agency authorized by concerned PU at its own cost.

Auditor will audit manufacturing & testing process at premises of the supplier. During audit, all tests (for facilities which are available in premises of supplier) shall be conducted as per specification & shall be made part of the report. However, auditor shall pick & send sealed sample to labs as detailed in Note of Para 7 of this specification for testing of all parameters in Clause 5.1& 5.2.

Reports of tests from labs shall also be made part of audit report. However, provisional audit report may be issued meanwhile, till receiving reports from labs.

OEMs shall keep valid audit report & submit the valid audit report on demand. For type test, report not older than three (03) shall be submitted during audit.

At any stage of procurement i.e. tender opening date, Purchase order placement date & during supplies, valid process audit report shall be available with supplier/tenderer. However, in case, audit report validity of three (03) years has expired but the supplier/tenderer has applied for audit/re-audit to RITES/or agency authorized by concern PUs well in advance i.e. at least three (03) months before expiry date of last audit report, case of such supplier/tenderer shall be proceeded & shall not be rejected on this account. However, for such cases, it shall be responsibility of supplier/tenderer to submit valid audit report within three (03) months after expiry at validity of last audit report. In case of new suppliers, CCA report shall be considered first audit report.

9. MARKING

- 9.1.** The sticker must have the manufacturer's identification mark along with the date of manufacturing in MMYYYY format. The attributes of the identification mark shall be as shown below.

Font Style	Font Size(vertical length)	Location of Mark
ARIAL(BOLD)	1.5mm	Right Bottom

10. PRINTING OF STICKERS

- 10.1.** The print has to be sub surface, sealed and non destructible by abrasion, solvents and acids.
- 10.2.** Instructions in Braille should be embossed at a height of 0.6 mm minimum. The text, text size, distance between two text and word embossed on the sticker should be as per the Braille standard ISO 17049-2013.
- 10.3.** Braille text may be positioned suitably or as per drawing to minimize the distortion of ordinary text/graphics.

11. WARRANTY

- 11.1.** The anodized aluminium sticker supplied shall have warranty against defective material and performance for colour, text, graphics, and Braille text for a minimum period of 6 years from the date of installation for interior and exterior application.

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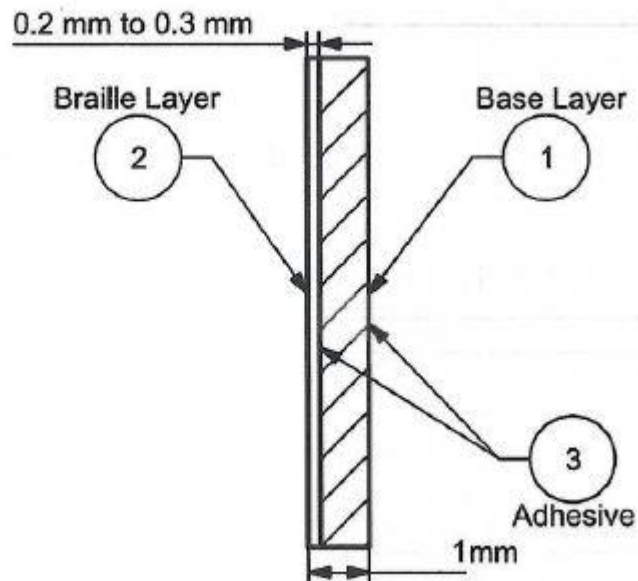
- 11.2.** In case the material shows any defect, fades, or fails to perform as per the specification within the warranty period, it shall be replaced free of cost by the supplier.

12. MANUFACTURING AND TESTING FACILITIES

Any tenderer for this item must be an OEM of the aluminium Braille sticker. It must have the following manufacturing facilities.

- 12.1.** Facility for aluminium sheet anodization with an approval from the central/state pollution control board or MoU with a body having anodizing facility and pollution control certificate.
- 12.2.** Aluminium sheet graphic printing/development facility
- 12.3.** Braille embossing facility
- 12.4.** Sheet metal operations (blanking, punching, cutting, drilling, others)
- 12.5.** Hole punching machine.
- 12.6.** Radius corner cutting machine.
- 12.7.** Buffing Machine
- 12.8.** Shearing Machine.

APPENDIX-I : SCHEMATIC OF ALUMINUM BRAILLE STICKER



APPENDIX-II : HEAT RESISTANCE

An electric oven capable of maintaining a continuous heat of 200 °C shall be used for this test. Sample shall be tested in an electric oven which has been preheated to 40 °C. The temperature of the oven is then increased to 120 °C and maintained at this temperature for 3 hours. Remove the sample from the oven and visually examine. There shall be no pronounced legibility loss or degradation.

APPENDIX-III : Ease of Cleaning

A regular cleaning agent, having a pH of 6.5-8.0, shall be diluted with water of any hardness in the ratio of 1:10 with which it shall be possible to achieve a cleaning rating of at least 8, as given in table A.

Table A

Surface Condition	Rating
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Clean, no dirt or stains	10
Very slight dirt or stains visible	8
Slight dirt/stains visible	6
Moderate dirt and stains visible	4
Severe dirt and stains visible	2
Extremely dirty/stained	0

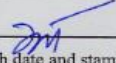
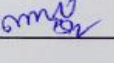
MCF QAP format (Annexure-A)

Name of the firm

Head Office Address	Manufacturing Unit Addresses	Add more columns if more required
ABC XYZ STATE with PIN Telephone: Mobile: Email:	ABC XYZ STATE with PIN Telephone: Mobile: Email:	

PL Number of the item	
Description of the item	
Specification/Drawing number of the item	
Purchase order number with date	

Date of submission of QAP: DD.MM.YYYY

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ANNEXURE-I

QAP	PL Number & Item Description	Internal Doc. No.	Revision
	Name of the firm	ABCD-1234	XX

Index of QAP

1	Company Profile	3
2	Certificates and Essential Documents	3
3	Process Flow Chart/Installation Flow Chart	3
4	Details of Procurement - Raw material/Components/Sub-assemblies	3
5	Inspection Procedure	4
6	Rejection Handling Plan	4
7	Tool and Machine Calibration Plan	4
8	Requirement of Qualified/Experienced Personnel as per Specification	5

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ANNEXURE-I

QAP	PL Number & Item Description	Internal Doc. No.	Revision
	Name of the firm	ABCD-1234	XX

1. Company Profile (*Maximum 250 words*)

May include brief history, date of setup, founders, products/services, organization chart, article of association of the company as per companies act, 1956.

2. Certificates and Essential Documents

Clear images/scans of factory license and ISO certifications (9001, 14001, others). Please ensure that the text is legible.

3. Process Flow chart/Installation Flow Chart

Description of manufacturing process

- A. Process flow chart indicating various stages/activities of manufacturing process for an individual product, with quality control points
- B. Details of manufacturing & testing processes to comply specification(s)

Sl. No.	Clause	Requirement of manufacturing process as per specification	Process details to comply the specification requirements

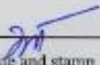

Note

- (i) Process flow chart shall indicate all the operations involving procurement, handling, manufacturing, & testing of the product from raw material to finished product, including RDSO/RITES/Consignee inspection/dispatch.
- (ii) There should be a separate flow chart for each item.

4. Details of Procurement - Raw material/Components/Sub-assemblies

- A. Details of components/sub-assemblies manufactured in-house

Sl. No.	Item Name	Drawing No	Material Grade	Source of Raw Material

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ANNEXURE-I

QAP	PL Number & Item Description	Internal Doc. No.	Revision
	Name of the firm	ABCD-1234	XX

B. Details of components/sub-assemblies purchased from approved sources of ICF/MCF/RCF/RDSO

Sl. No.	Item Name	Drawing No	Material Grade	Source (Firm name & Address)

C. Details of outsourced/imported items

Sl. No.	Item Name	Drawing No	Material Grade	Source (Firm name & Address)

5. Inspection Procedure

Provide the inspection process followed at the firm for subject item(s). It may include stage inspections where critical parameters are inspected before sending to the next stage, material composition test when the material is received from an outside agency, inspection of material properties and critical dimensions at the time of final dispatch to Indian Railways units. Kindly provide details in the following format.

Sl. No.	Type of inspection	Sample Size & its Frequency of inspection	Inspection parameter	Mode of inspection/ Test equipment used	Criteria or limits of acceptance	Record of inspection maintained at Register No./Computer file name & address
	Raw material or Incoming product/ Assembly or Stage/Final dispatch of the item to consignee					

Note: Provide internal inspection dimensional/material checklists for raw material, stage assembly, final assembly, as annexure.

6. Rejection Handling Plan

Rejections are part and parcel of any manufacturing process and can occur at any stage. It is essential to have a clear plan to handle the rejections due to various reasons. In a few situations, rework may be done to correct the workpieces. In others it might not be feasible and/or recommendable. A rejection handling plan clarifies the rejection criteria and further required processing for rework or scrapping. Analyzing rejects is a key component to improve the efficiency and quality of the output.

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ANNEXURE-I

QAP	PL Number & Item Description	Internal Doc. No.	Revision
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Kindly provide the details of handling rejection of work-in-process (WIP) and recording such incidents.

7. Tool and machine calibration plan

The machines, tools, fixtures, jigs, gauges, and instruments used for manufacturing, testing, and inspection should be regularly calibrated to ensure that they are accurate for their intended use. A schedule of calibration for all the essential machines, tools, gauges, and instruments may be planned by taking into account both usage rate and that machine's particular maintenance needs. Kindly provide details in the following format.

Sl. No.	Name and ID of Tool/Machine/Gauge/Instrument	Make and Model Number	Range/Capacity	Frequency of calibration	Due date of calibration	Record of calibration maintained at Register No./Computer file name & address

8. Requirement of Qualified/Experienced Personnel as per Specification(s)

Details of qualification/experience of the quality control personnel specified in the relevant STR/MDTS/Specification for the items to be manufactured may be provided in the following format.

Sl. No.	Specified Requirements		Details of Personnel Employed			
	Clause number with specification details	Qualification/Experience	Name	Designation	Technical Qualification	Experience

Note: Welding procedure specification (WPS), Welding Procedure Qualification Record (WPQR) and Welder Qualification Test Certificate (WTC) to be submitted wherever applicable.

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Note: “This QAP does not have any deviation from Purchase order” will be written on front page of QAP.

Comments/suggestions received from firms and MCF's decisions on them are given below.

1. In Clause no 2 (S.No. ii a) & Clause no 6 i(a)

Description draft of MMDTS-22001, Rev-01:

In Clause no 2 (S.No. ii a) & Clause no 6 i(a) Any NABL accredited lab (in-house or outside) having tests & test method mentioned in clause 5 in its scope of accreditation from NABL or report from NTH/NPL. Test report must contain NABL logo/seal, in case reports are submitted from NABL accredited lab.

Firm's comments:-

(i) UNIQUE PRINTERS & STATIONERS :

Need Amendment as "In-house NABL lab" requirement could be open to manipulation and misuse by vendors. Vendors can submit false/fake test reports to the Railways. This condition should be removed from the draft specification.

(ii) KINELECTRO LINES INDIA PRIVATE LIMITED: The in-house NABL lab condition should not be included in the draft standard since vendors might misuse it. They have the ability to misrepresent the outcomes of internal testing.

(iii) STROKES INDIA: In-house NABL is not viable, this condition should be removed from the draft specifications because vendors can misuse this condition. They can declare false declaration of IN-house test result/reports.

MCF Decision: Not Accepted. NABL Accreditation shall be relied. All firms are free to develop in-house NABL accredited lab.

2. Clause no. 2 (S.No. iii)

Description draft of MMDTS-22001, Rev-01:

The submitted test reports along with offer shall not be more than one (01) years old from the date of tender opening.

Firm's comments:-

(i) KINELECTRO LINES INDIA PRIVATE LIMITED: The Validity of Acceptance test report should be a year old from the tender date, and the Type test report should be two years old.

(ii) STROKES INDIA: The Validity of Acceptance test report should be a year old and the Type test report should be two years old from the tender opening.

MCF Decision: Accepted and accordingly Clause no.2 (S. No.iii) has been modified

3. Clause no. 2 (S.No. iv)

Description draft of MMDTS-22001, Rev-01:

Valid audit report/CCA report except by bidder seeking developmental order based on availability of M&P & shall be subjected to CCA before placement of purchase order if its bid is acceptable.

Firm's comments:-

(i) UNIQUE PRINTERS & STATIONERS :-

Audit of OEMs for manufacturing and testing activities of material by RITES or any third party agency is not viable because it involve huge amount of investment to be spent by MSME units. In-house testing facilities cost Rs more than 50Lacs. Moreover the vendors have to spend the cost of Audit report every three year which is not viable. So this clause should be removed from draft specification. CCA should be applicable only on developmental/new vendors

(ii) **KINELECTRO LINES INDIA PRIVATE LIMITED:** This criterion should only apply to emerging vendors and new sources.

(iii) **MASTER LABELS ENTERPRISES:** It is not affordable for MSME units to install testing facilities IN-House for the purpose of Audit report. This clause removed from the draft specification.

(iv) **STROKES INDIA:** Audit of OEMs for manufacturing and testing activities of material by RITES or any third party agency is not practically possible because no vendors would like to involve any third party in his business secrecy. Installation of testing facilities IN-house is not financially viable for small scale vendors. This clause is to be removed from draft specification.

MCF Decision: Accepted. This clause has been removed from the specification.

4. Clause no. 7

Description draft of MMDTS-22001, Rev-01:

The manufacturer shall have the detailed quality Assurance plan. The Plan shall be submitted for the approval by respective PU. The QAP document shall clearly document the following and control the test record formats.

1. Control over outsourced products and processes
2. Testing of raw material and establishing its traceability
3. Sampling Plan
4. Type Tests
5. Acceptance tests
6. Raw Materials

(I) **UNIQUE PRINTERS & STATIONERS :-**

Need Amendment –“ This item is non technical/non safety item, there is no Quality Assurance plan is required on this item. It should be applicable on large scale industries. Our manufacturing process is very simple i.e. Anodizing, Designing, Printing, Braille, Adhesive & Fabrication. There is no complicated technique like Welding, machining etc to manufacture this item. This condition should be removed from the draft specification..

(ii) **KINELECTRO LINES INDIA PRIVATE LIMITED:**

Since this product is non-technical and non-safe, no quality assurance plan is necessary. It appears to be effective in large-scale sectors. Our production method, which consists of anodizing, designing, printing, Braille, adhesive, and construction, is really simple. Complex procedures like welding, machining, etc. are not used in the creation of this item. This condition should be removed from the proposed specification.

(iii) **MASTER LABELS ENTERPRISES:** We have a simple process of manufacturing. QAP is not required for this item. MSME units cannot afford testing facilities On-house. Railway should have their own testing equipment required for Acceptance & Type test. This clause should be removed from the draft specification

(iv) **STROKES INDIA:** MCF QAP formant should be applicable on the large scale industries for safety/technical items. It should not be applicable for on non safety items. As per QAP vendors

have to install Acceptance test & type test facilities in-house which is not financially possible for MSME. This clause is to be removed from the draft specification.

MCF Decision: Not acceptable as Quality Assurance plan (QAP) in manufacturing is very basic mandatory requirement which serves as a proactive approach to ensure that products meet specific quality standards.

5. Clause no. 7 Type Tests

Description draft of MMDTS-22001, Rev-01:

These tests shall be done on a sampled lot of prototype. Such Tests are required only on initial approval, change of design and change of manufacturing process or raw material. These tests are to be repeated as detailed in prototype approval process after every 24 months or as specified as quality control measure. These tests are required to be furnished with supply of each lot. However, the reports for tests conducted in the last two years from the date of supply shall be valid

1. Corrosion resistance from neutral salt spray
2. Accelerated Weathering Test.

However, if the consignee or inspecting agency desires to do the type tests, before 24 months, the supplier should not deny the same. There are various circumstances when type tests may be needed on next supply before two (02) years of last supply /last type tests. eg: In case of doubt in type test certificate. (Previous) Complaint regarding type test certificates. Failure of material attributable to any of the parameters covered in type tests, etc. Moreover, during type test, all tests listed in acceptance tests shall also be conducted.

(i) UNIQUE PRINTERS & STATIONERS :-

The record of the type tests is not possible to maintain by the manufacturer. As MSME units cannot afford In-house testing facility for type tests. For Salt Spray Chamber & UV Weathering Resistance testing machine cost more than Rs 35 Lac. This condition should be removed from the draft specification.

(ii) KINELECTRO LINES INDIA PRIVATE LIMITED:

The type test information cannot be tracked by the manufacturer, due to the fact that MSME units lack access to an internal testing facility for type tests. The weathering resistance testing equipment costs around Rs 25 lac, while the salt spray chamber costs between Rs 5 and Rs 7 lac. This condition should be removed from the proposed specification.

- (iii) **STROKES INDIA:** AS per clause no. 5.2 of MMDTS 22001 all the type test facilities are available in NABL labs and vendors test his material from these labs. So In-house testing facilities are not financially viable for MSME units because Salt spray chamber cost Rs 10-12 lacs & UV weathering chamber cost re 25-30lacs. These testing facilities should be installed by the Railways itself. This clause is to be removed from the draft specification.

MCF Decision: Mandatory requirement of In-house testing facility has been removed. However, test reports as per specification shall be required.

6. Clause no. 7 Acceptance tests.

Description draft of MMDTS-22001, Rev-01:

These tests shall be done on all or samples of lot for bulk supply. Sampling shall be done as per IS: 2500. Each lot shall consist of a maximum of 50 coach sets of stickers. For every lot of supply, 3 pieces shall be drawn at random as per IS: 4905 (1968). None of the samples shall fail for following tests for the acceptability of the lot. If a sample fails in any of the tests, double the original sample size shall be

drawn from the same lot and tested. In case any sample fails in re-testing, the entire lot shall be rejected.

1. Abrasion Resistance.
2. Acid Corrosion Resistance
3. Heat Resistance 120 °C for 3 hours
4. Adhesion between Base and Braille layers test
5. Stain Resistance Test
6. Ease of Cleaning
7. Aluminium grade of Braille and Base layers

All other parameters apart from Type test shall be checked as per Acceptance test.

Documents for type test with above detailed periodicity & validity shall also be checked during acceptance test & enclosed with acceptance test documents

- (i) **UNIQUE PRINTERS & STATIONERS:** Need Amendment- For Acceptance tests, In-house facility is not possible for MSME units/vendors. Acceptance test facility cost more than Rs 15 Lacs. This condition should be removed from the draft specification.
- (ii) **KINELECTRO LINES INDIA PRIVATE LIMITED:** Acceptance testing cannot be carried out internally by MSME units or vendors. Usability of the acceptance test costing roughly Rs 10–12 Lacs. This condition should be removed from the proposed specification.
- (iii) **STROKES INDIA:** AS per clause no. 5.1 of MMDTS 22001 all the acceptance test facilities are available in NABL labs and vendors test his material from these labs. So In-house testing facilities are not financially viable for MSME units because Acceptance test equipments cost 12-15 lacs. These testing facilities should be installed by the Railways itself. This clause is to be removed from the draft specification.

MCF Decision: Mandatory requirement of In-house testing facility has been removed. However, test reports as per specification shall be required.

7. Clause no. 8 Process audit Requirement

Description draft of MMDTS-22001, Rev-01:

Audit of OEMs for manufacturing & testing activities of material will be done by M/s RITES or any agency authorized by concerned PU in every 3 years. It shall be responsibility of OEM to get audit done by M/s RITES or any agency authorized by concerned PU at its own cost. During audit, all tests shall be conducted as per specification & shall be made part of the report. OEMs shall keep valid audit report & submit the valid audit report on demand.

- (i) **UNIQUE PRINTERS & STATIONERS :** Need Amendment- Being a regular supplier of Braille stickers/signage as per ICF/MD/SPEC253 & MMDTS 22001 we cannot declare our manufacturing process/technique to any PUs or any third party inspecting agency. This is our business secrecy. Manufacturer will not show his manufacturing process. Moreover It is not possible to Install Acceptance & Type testing facilities in-house for MSME vendors due to huge investment. This condition should be removed from the draft specification.
- (ii) **KINELECTRO LINES INDIA PRIVATE LIMITED:** As a reliable supplier of Braille stickers and signage that complies with MMDTS 22001 and ICF/MD/SPEC253, we are unable to reveal our production process or approach to any PUs or other inspection agencies. This is our company's trade secret. No manufacturer will show off how he makes things. This clause should be removed from the proposed specification.
- (iii) **MASTER LABELS ENTERPRISES:** The process of audit mention in clause no.8 is not possible for MSME units. It is not affordable for MSME units to install testing facilities In-House for the

purpose of audit report. The payment of audit fee every 3 years is not viable. This clause removed from the draft specification.

- (iv) **STROKES INDIA:** Audit of OEMs for manufacturing & testing activities of material will be done by M/s RITES or any third party agency is not required because it involves the leakage of our production process & no vendors would like to involve any third party in his business secrecy. In-house testing facilities are not financially viable for MSME units. This clause is to be removed from the draft specification

MCF Decision: Not acceptable. Regular audits are needed as a quality control measure in compliance to Minutes of meeting held on 14.11.2024 at Railway Board.

Mandatory requirement of In-house testing facility has been removed. However test reports as per specification shall be required. Accordingly Clause no. 8 and clause no. 12.9 have been modified.

Clause no. 12.9 IN-HOUSE TESTING FACILITIES:-

Description draft of MMDTS-22001, Rev-01:

Firm must have following In-house testing facilities as given under:-

- a) Taber abrasion tester
- b) Heat Resistance testing machine.
- c) Peel Adhesion testing machine.
- d) Salt spray chamber
- e) Chemical and metallurgical testing machine for Al grade base layer

- (i) **UNIQUE PRINTERS & STATIONERS:** Need Amendment-“ MSME unit cannot afford In-house testing facility.

For Taber tester machine 7.5 Lacs

For Heat Resistance testing 1 lac

For Peel Adhesion machine 3 lacs

For Salt spray chamber 10 lacs

For aluminium grade testing is not possible on spectrometers analytical machine. This test can be conducted with WET analysis method by strohleim apparatus. Vendors have to appoint specialized person to conduct this test, which is not viable for vendors.

In-house testing facility clause should be removed from the draft specification.

- (ii) **KINELECTRO LINES INDIA PRIVATE LIMITED:** An internal testing laboratory cannot be funded by the MSME unit. Regarding the Taber tester machine for 50K heat resistance tests, 7.5 lacs Regarding the Peel Adhesion Machine 3 lacs 5-7 lacs for the salt spray chamber. The analytical machine of the spectrometer cannot test aluminum grade.

The WET analysis method by Strohlein apparatus can be used to perform this test. To perform this exam, vendors must designate a specialist which suppliers cannot profit from.

- (iii) **STROKES INDIA:** In-house testing facilities are not financially viable for MSME units because Acceptance tests equipment& type test equipment cost more than 50 lacs. These testing facilities should be installed by railway itself. There is no machine available for Aluminium grade testing for Braille & Base layer. In-house testing facilities are to be removed from the draft specification.

MCF Decision: Mandatory requirement of In-house testing facility has been removed. However test reports as per specification shall be required. Accordingly Clause 12.9 has been modified.