

Modern Coach Factory, RaebareliRev-02

RBL-MD33211 (Part File)

Dated: 01.11.2023

**Sub: Procedure for Prototype and Sample approval by Mechanical Design/
Electrical Design.**

Ref: MoM of PRM No 123-G/MCF/RBL/Meeting, Vol-IV dated 28.10.23.

Following procedure is to be followed during prototype/Sample approval by Mechanical Design/Electrical Design office:

A. Prototype Approval

1. Prototype approval of sample is required for first supply of an item from a new supplier/vendor for that item to MCF or first supply of a new design item from vendors as specified in the PO.

There can be instances where major modifications are done in the drawing/specification of an old item. In such cases also, all suppliers/vendors is required to get prototype approval as per condition in PO.

MCF will do prototype approval only for the POs placed by it. For POs placed by other units as per any MCF specification or drgs, they themselves are required to do the prototype approval.

2. Any item offered against any purchase order for Prototype approval shall only be routed through concerned Stores Depot. Direct receipt from any other agency shall invariably be not entertained by Design.
3. Vendor should submit one prototype sample to respective stores depot alongwith **two sets** of "all physical & chemical testing reports from NABL accredited labs and the BOM as per PO or as per firm's tender offer (as applicable)." These labs should be accredited for testing of respective test parameters as per test method mentioned in the specification. In case, no lab is accredited from NABL for testing of a parameter as per test method mentioned in the specification, then test report from government labs (like NTH, NPH etc) will be acceptable for such parameters. If any test facility is not available in India then report from international labs will be accepted subject to that these labs should be accredited for testing of these parameters as per test method mentioned in the specification with any international accreditation agency. The accreditation agency in such cases should itself be accredited with international bodies like ILAC or equivalent.

For specific tests related to the item (as test facilities for these tests may not be available with any NABL accredited lab/ Government labs etc), firm's WTC should be accepted or these tests will be done at firm premises jointly by Railway and firm.

4. Prototype details received from vendor shall be offered by Stores on the Receipt Inspection Note along with the following:
- Complete BOM as per PO or BOM quoted by the vendor in the tender
 - WTC/NABL Test reports/Government Lab report/Other test reports etc as applicable (as per Para 3)
 - Internal Dimension report
 - Bill of lading in case of imported items or bill from authorised distributor

One set of documents to the Lab and 2nd set of documents to design

The physical prototype sample should be sent to the Lab for checks as per Para 5 by the concerned Stores Depot.

Note: In case of non-submission/incomplete submission of one or more of above mentioned documents including partial submission of WTC reports/ NABL test reports/ Government Lab report/other test reports etc, the prototype offer shall be rejected without making any further reference by the lab.

5. Inspection of prototype sample would be carried out in two stages as below.

a. Inspection by the Lab:

i) Dimensional Test Report:

The dimension checks would be carried out by M & C lab for parameters specified in drgs/specifications. In the dimensional inspection report, all the dimensions including critical derived dimensions as specified in the complete assembly drawings shall be recorded.

| Sr.No | Specified parameter/ value | Actual Value | Deviation | Remarks |
|-------|-------------------------------|-----------------|-----------|---------|
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ii) Physical & chemical testing Report (M & C test report):

As per directive in ref letter para 7 (b), normally no physical & chemical testing (M&C tests) are required to be done by the lab at MCF.

However, lab reserves the right to verify/cross-check the submitted reports as mentioned at point 3 above by testing of submitted sample at their end (either in in-house or from outside lab) after taking approval of CQM.

Lab should scrutinise the reports submitted by the firm as mentioned in point 3 above and dimensional checking results as mentioned in point 5 (a) (i) above. Based upon above details, lab should submit its recommendations/observations to Design clearly highlighting the variations w.r.t. to specification/drawings, if any.







After completion of all the requisite tests/checks as mentioned above, report shall be submitted by Quality dept. to Mech. Design/Electrical Design.

b. Physical fitment test report:

Physical fitment test shall be carried out, if the item could be dismantled from the coach easily. Else, item shall be fitted only if the lab reports are conforming.

If the dimensional test report is non-conforming and deviations are such that item cannot be fitted in the coach, fitment test may not be done.

Even if M&C test reports (submitted by the firm or checked by lab) is non-conforming, fitment test of the prototype sample shall be carried out, so that result of all prototype tests can be advised in one go to the firm.

Advice for fitment test shall be issued by Design office to the concerned shop, wherever, fitment test is applicable/possible. The fitment test shall be carried out by concerned Shop. Concerned Shop will arrange to collect the sample from M&C lab for fitment test.

Shop should fit the prototype sample and required to provide physical fitment report to Design office. This report should be signed by the concerned shop officer.

Only in complex items like turnkey contract items, major assembly/sub-assembly e.g. modular toilet, Side wall assembly, Ceiling assembly etc, completely new items etc, joint note with Design and other related departments like Quality, Planning, Electrical etc are required to be prepared.

6. Prototype report by Design:

Design is required to take into account the lab recommendations and Physical fitment report and should issue the prototype approval/dis-approval report to Stores/firm/Planning/Quality/Shop etc for further action.

Complete Inspection report covering M&C Test reports, dimensional test report and the fitment test report (if applicable) will be put up to CDE/CEDE with clear recommendations for acceptance/ rejection or modification in the prototype. CDE/CEDE shall be the authority for the approval/ rejection or issue advise for modification of the prototype. CDE/CEDE on merits of the case can also issue prototype approval on improvement advice. Final decision, accordingly, shall be communicated to all concerned.

B. Sample Approval

There may be instances where approval of sample, which could be a sub-part of a complete prototype, is sought before inspection of complete prototype. In such



cases, following procedure should be followed:

1. Firm should submit the sample with all test reports as per para 3 above.
2. Sample will be offered by the concerned depot officer to CDE/CEDE for approval in the Stores case file along with the WTC / NABL accredited lab reports/ Government Lab reports/Other test reports etc received from the vendor for all the tests specified in specification/drawings.
3. Sample will be inspected by Mech. Design/Electrical Design as per specification.
4. Inspection report would be put up by the concerned unit of Design Office to Dy CME Design/ Dy CEE/D, who will examine and put up to CDE/CEDE with recommendation and specific reference to acceptability of deviations, if any. CDE/CEDE shall be the authority for the approval/ rejection or issue advise for modification of the sample. Final decision, accordingly, shall be communicated to the concerned stores officer.

C. Approval of prototype/Pilot sample/FAI of turn-key material:

In turn-key contract, many items are supplied in a single PO; hence, following procedure should be followed for prototype/Pilot sample/FAI of turn-key material:

1. Procedure for prototype approval mentioned in the specification of turn-key material as well as procedure mentioned below should be followed for its prototype approval:
 - a. Process mentioned at para A should be followed except para mentioned at point 5 (a) (i) regarding dimensional checking.
 - b. Instead of detailed dimensional checking by lab as per drawing/specification, relative physical fitment of all the items may be checked in the coach during fitment after lab clearance of material received for prototype.
2. If procedure for prototype approval is not mentioned or not mentioned clearly in the specification of turn-key material, following procedure should be followed:
 - a. Process mentioned at para A should be followed except para mentioned at point 5 (a) (i) regarding dimensional checking.
 - b. Instead of detailed dimensional checking by lab as per drg/spec., relative physical fitment of all the items may be checked in the coach during fitment after lab clearance of material received for prototype.
3. As turn-key contract covers multiple items and also has fitment/commissioning in its scope, generally many points related with fitment and quality is noted during initial joint inspections which are subsequently attended by the firm. Because of interfaces with multiple items, some points (material properties







related or workmanship related) related with some of the items may remain balance. In such cases, to expedite the further inspection of material for supply, provisional prototype approval may be given subject to attending of balance points/replacement of items before turn out of the coach.

- D. It is noted that many times, firms are requesting for waiver of prototype approval either through Stores or directly to Design. In such cases, to standardise the process, following is recommended:
1. Application for prototype approval waiver received through Stores Department should only be processed. Accordingly, firms should only approach to Stores for any such request.
 2. Only in following cases prototype approval waiver should be given:
 - a. When the firm has already got prototype/Pilot sample approval/FAI done from any other PU like RCF or ICF or from RDSO for the same item within last 5 years from the date of its application for prototype waiver to MCF.
 - b. When prototype waiver has been given by any other PU like RCF or ICF or by RDSO for the same item within last 5 years from the date of its application for prototype waiver to MCF.
 - c. When the firm has supplied the same item to any other PU against developmental or regular order and same has been accepted within last 5 years from date of its application for prototype waiver to MCF. Proof of acceptance of the supplied material is required to be provided by the firm.

Same item:

- Item with same drawing/ specification no. with same alteration
- Item with same drawing/ specification no. with different alteration having minor changes.
- Has supplied parent assembly, having the item for which waiver is sought, as subassembly.

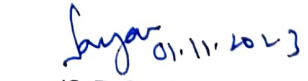
E. Monitoring of Prototype Approval:

Store depot will generate a fortnightly statement of prototype pending with other deptt in the following format, which shall be reviewed by all concerned for early disposal of pending cases.

| Sr. No. | Item | Firm's Name | PO Details | Received date at depot | Date of sending to M&C and Design office | Receipt Inspection Note and date | Remarks |
|---------|------|-------------|------------|------------------------|--|----------------------------------|---------|
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01/11/2023
(M.K. Gupta)
CMT


01/11/23
(C.S. Shyam)
Dy.CEE/D&D


01.11.2023
(S.P. Govil)
Dy.CME/Design-I

Cc:

PCMM :May kindly include this letter in all upcoming tender documents so as to have clarity on the subject.