



TME 2013

PRODUCT STANDARD

TME DIVISION, BHOPAL

TM 12546

Rev. No. 02

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Quality Requirement of Magnet Frame/Stator Frame & its End fittings (In case where there is not mandatory requirement of checking on 3DCMM)

1.0. For mechanical assembly components (magnet frame/stator frame & its end fittings) (In case where there is not mandatory requirement of checking on 3DCMM) purchased in fully finished condition, BHEL inspection for the components/lot shall be done at BHEL Bhopal and final acceptability of the component/lot will be based on this inspection.

1.1. Supplier has to furnish all the documents along with consignments as per quality requirements mentioned in this product standard.

2.0. Quality requirement:

Sl. No.	Parameters	Requirement	Norm for Acceptability and Rejection
1.	Prototype inspection for the first time supply to BHEL Bhopal	In case of any supply of components (against a particular drawing) for which no supply has been done earlier by vendor to BHEL, prototype clearance of 6 sets of component at BHEL will be required before bulk supply.	Rejection of the prototype will require the supplier to offer new set of prototype components.
2.	Unique Identification of components	The identification marking of the components shall be done as per the requirement of specification TM12548.	In case of non-Compliance of requirement the component will be rejected.
3.	Dimensional report	Supplier to ensure that all dimensions and geometrical tolerances are as per drawing. Dimensional report of each component must be submitted against each lot/Store Receipt Voucher (SRV). The supplier report of the components must contain all the tolerated dimensions and geometrical tolerances.	In case of non-submission of reports against each SRV, the lot will not be acceptable. In case of non-conformity observed in supplier report the components are liable to be rejected

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Distribution

Prepared

Checked

Approved

Date: 18/04/2014

TME - 2 MNX - 1
TXM - 1 TAM - 1
QTM - 1

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4. Material test certificate:
1. For magnet frame/stator frame, end shield/ cartridge, shaft mounted bearing assy. components like wipers, sleeves, retaining collars etc.

Supplier to furnish following material test certificates:

Sl. No.	Component material type	NABL laboratory TC	Manufacturer's TC
a.	Castings / forgings	x	Per heat & heat treatment batch
b.	Plates (except AA10108/ AA10113)	Per heat	Per heat
c.	Plates (AA10108/ AA10113)	x	Per heat

2. For other end fittings except magnet frame/stator frame, end shield/ cartridge, shaft mounted bearing assy. components like wipers, sleeves, retaining collars etc.

Sl. No.	Component material type	NABL laboratory TC	Manufacturer's TC
a.	Castings / forgings	Per heat & heat treatment batch	Per heat & heat treatment batch
b.	Plates (except AA10108/ AA10113)	Per heat	Per heat
c.	Plates (AA10108/ AA10113)	x	Per heat

Based on non-conformity in the test certificates, whole lot is liable to be rejected.

5. Material testing at BHEL:
1. For magnet frame/stator frame, end shield/ cartridge, shaft mounted bearing assy. components like wipers, sleeves, retaining collars etc.

i) Supplier to furnish test samples for material testing at BHEL as given below:

Sl. No.	Component material type	Test sample
a.	Castings	One sample per heat & heat treatment batch
b.	Forgings	i) One sample per heat & heat treatment batch in case drawing calls for manufacturing from forged bar. ii) For shaft mounted bearing assy. components, one sample in case the ordered quantity is more than 200 nos. otherwise the requirement of clause 4.2.a) to be followed.

In case of non-conformity in test sample the whole lot is liable to be rejected.



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		ii) The supplier to give proof by manufacturer's certificate that test samples (with sample no.) are representative of a particular heat & heat treatment batch for casted/forged components and particular heat for plates. Heat, heat treatment batch, manufacturer's trade mark & sample no. legibly to be punched marked on the test samples (at the ends). iii) In case of different lots, if the material supplied is of same heat & heat treatment batch for castings/forgings and same heat for plates, the supplier to furnish proof in support of it based on manufacturer's certificate & quantity purchased for execution of this PO.	
	2. For other end fittings except magnet frame/stator frame, end shield/ cartridge, shaft mounted bearing assy. components like wipers, sleeves, retaining collars etc.	i) Supplier to keep 1 additional test sample (till completion of particular PO) for material testing to be carried out at BHEL minimum once in a year for each component ordered to a particular supplier. Further material testing within one year is to be decided by QTM as per quality checking requirement. ii) Heat, heat treatment batch, manufacturer's trade mark & PO no. legibly to be punched marked on the test sample (at the ends).	
6.	Surface finish of the components	Unless otherwise specified in the drawing, the surface finish on the machined surfaces shall be 6.3 μm. The surface finish on un-machined surfaces shall be as per IS:3073. Supplier to ensure surface finish on 100% jobs & the surface finish report of 20% randomly selected components to be furnished along with consignment.	Based on non-conformity in components, whole lot is liable to be rejected.
7.	Dimensional Check at BHEL	The dimensions of components shall be checked on 3D CMM* at BHEL on samples (min. 1 no. or min. 10% of the received quantity against each lot/SRV) selected on random basis and final acceptability of the lot shall be decided after inspection at BHEL Works.	Whole lot is liable to be rejected in case of discrepancies.

(*)- The gauges are provided to manufacturer for reference purpose for ease in manufacturing. The responsibility to manufacture as per drawing dimensions lies with the manufacturer.



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8.	NDT of the supplied material	Supplier to furnish records of NDT conducted on components as per drawing requirement, specification requirement and records of the same to be submitted along with the supply. NDT on sample basis shall also be conducted at BHEL.	Based on non-conformity in supplier reports and test samples tested in BHEL, whole lot is liable to be rejected.
9.	Any other requirement	Supplier to furnish compliance certificate of other requirements mentioned in drawing/specification. For compliance of other requirements necessary check on sample basis shall also be conducted at BHEL.	Based on non-conformity observed in supplier certificate or BHEL inspection of samples, whole lot is liable to be rejected.
10.	Packing of the components	Supplier shall ensure proper packing of components to prevent any damage to components during transit. Machined surfaces shall be suitably protected with air bubble polythene sheet/foam sheet.	The components received in damaged condition will not be acceptable.

Notes: 1) In case of dispute between this specification & corporate material specification regarding material testing requirement mentioned in sl. nos. 4 & 5 of clause 2.0, the conditions mentioned in corporate material specification (called in the drawings) shall be followed. If required, clarification of the same may be taken from TME.

2) All the test certificates/reports shall have reference of identification marking of the component.

3) The clarification sought by the supplier regarding specification or compliance of the requirements of the specification shall not be considered as reason for delay in delivery.