

1X800 MW KOTHAGUDAM

TECHNICAL SPECIFICATION FOR ANCILLARY MATERIAL

SPECIFICATION NO: PE-TS-410-169-M038 (REV-00)



**BHARAT HEAVY ELECTRICALS LIMITED, POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, INDIA**

	TITLE: TECHNICAL SPECIFICATION ANCILIARY MATERIAL 1X800 MW KOTHAGUDAM	SPECIFICATION NO. PE-TS-410-169-M038
		REV. NO.: 00
		DATE: 20.12.2016
		SHEET: 1 OF 1

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**SPECIFIC TECHNICAL
REQUIREMENT FOR
ANCILLARY MATERIAL**

SPECIFICATION NO:PE-TS-410-169-M038

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1 GENERAL

This specification covers the design, materials, manufacturing and testing of ancillary materials required for application of thermal insulation on piping and equipment at Vendor's or/ and sub-Vendor's works inclusive of packing requirements. In case of contradiction between Section-I and DataSheet-A of Section-II, DataSheet-A of Section-II will prevail.

2 MATERIALS

- 2.1 All the material to be supplied under this specification shall be new, unused and free from any defects.
- 2.2 Binding wires, stitching wires and lacing wires shall be of galvanized / stainless steel conforming to IS:280 / IS:6528. All the wires shall be supplied in coil form.
- 2.3 Mild steel flats, lugs etc. shall be as per IS:2062. Flats and lugs shall be supplied in coil form.
- 2.4 Screws used for cladding sheet joints shall be self-tapping type with washers. Both screws and washers shall be cadmium/zinc coated or stainless steel as per requirement of BOM conforming to the applicable standards.
- 2.5 All other materials i.e. bolts & nuts, rivets, aluminium band & seals etc. shall be of commercial quality conforming to applicable standards.

2.6 SEALING COMPOUND

Joint sealing compound shall be used between the overlapping of the Protective Cladding Sheet of Thermal Insulation to make cladding joints vapour tight and to prevent Moisture & Water from entering into the insulation. They shall be of self-setting paste type. The sealing compounds shall be suitable for and comply with the following parameters:

- | | | |
|-----------------------------|---|--|
| a) Service Temperature | : | To Withstand 100°C |
| b) Approximate weight | : | 1.5 Kg / litre |
| c) Viscosity | : | Soft Paste |
| d) Drying Time | : | 8 hours or as specified by the manufacturer. |
| e) Application | : | Trowel or as recommended by the manufacturer |
| f) Average volatile matters | : | To be specified by the manufacturer. |

The shelf-life of sealing compound being approximately 1 year, it should be dispatched only after getting clearance from site.

3 CERAMIC FIBRE PAPER

- 3.1 The ceramic fibre paper shall be suitable for and comply with the following parameters:

- | | | |
|--|---|--|
| a) Classification Temperature (°C) | : | To be Suitable for a Minimum of 600°C. |
| b) Thickness (mm) | : | 3 mm |
| c) Bulk Density (Kg / m ³) | : | 128 Kg / m ³ (Minimum) |
| d) Size (mm) | : | 1000mm x 500mm |

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4 INSPECTION AND TESTING

- 4.1 All the materials to be supplied under this specification shall be of good quality meeting requirements of applicable standards.
- 4.2 In case of all ancillary materials, supplier shall furnish a certificate that the materials supplied complies with the requirements of applicable standards.

5 PACKING & MARKING

- 5.1 Materials like binding wires and lacing wires shall be packed in Polythene lined hessian.
- 5.2 Bolt & nuts, rivets, screws etc. shall be packed in polythene bags and further shall be packed in wooded boxes. The wooden boxes should be marked with indelible ink.
- 5.3 Sealing compound shall be packed in metallic drums/tins.
- 5.4 Mild steel lugs shall be packed in polythene lined hessian. Mild steel flats shall be wrapped with polythene lined hessian.
- 5.5 Ceramic fiber paper shall be packed in such a way that no moisture can enter even if the packing is kept in the open atmosphere (exposed to rain), by suitably providing polythene covers.
- 5.6 The following details shall be legibly and indelibly marked on all the packages:
 - a) BHEL Purchase order number
 - b) Project Name
 - c) Name of supplier
 - d) Material / Item.
 - e) Item details (Size / Thickness / Gauge / Dimension)
 - f) Weight of the package
 - g) A caution note "Always store under covered shed and on raised platform"

6 DOCUMENTS REQUIRED ON DISPATCH

Before dispatch of the equipment the vendor shall furnish the following in original for BHEL review and acceptance.

- a) Material Test certificates.
- b) Shop test reports and certificates.

	DATA SHEET- A ANCILLARY MATERIALS REQUIRED FOR APPLICATION OF THERMAL INSULATION 1X800 MW KOTHAGUDAM		SPECIFICATION NO. PE-TS-410-169-M038	
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B.O.M.

Sl. no	ANCILLARY	SPECIFICATION	DENSITY / SIZE / THICK	UNIT	QUANTITY (one unit)
1	Binding Wire, Stainless Steel	PE-SS-410-169-M038	0.9 mm dia. (20 SWG)	Kg	400
2	Lacing wire, Stainless Steel	PE-SS-410-169-M038	0.9 mm dia. (20 SWG)	Kg	300
3	Binding Wire, Galvanised Steel	PE-SS-410-169-M038	0.9 mm dia. (20 SWG)	Kg	3500
4	Lacing wire, Galvanised Steel	PE-SS-410-169-M038	0.9 mm dia. (20 SWG)	Kg	2900
5	M.S. Straps/Flats	PE-SS-410-169-M038	20 mm x 3 mm	Kg	6300
6	Sealing compound	PE-SS-410-169-M038	----	Kg	700
7	Self-tapping screw with washers -SS	PE-SS-410-169-M038	No. 8 x 19 mm long	Set	301200
8	Ceramic mill board	PE-SS-410-169-M038	3 mm thick	Kg	700
9	MS rivets	PE-SS-410-169-M038	3 mm dia 12 mm long	Nos.	56500
10	Bolts & Nuts	PE-SS-410-169-M038	10 mm dia 60 mm long	Set	4800
11	Bolts & Nuts	PE-SS-410-169-M038	10 mm dia 40 mm long	Set	4800
12	Bolts & Nuts	PE-SS-410-169-M038	10 mm dia 25 mm long	Set	4800
13	Anodised Aluminium bands	PE-SS-410-169-M038	20 mm x 0.6 mm	Kg	5100
14	Seals for aluminium bands	PE-SS-410-169-M038	To suit Al. bands	Kg	500
15	GI toggle clips	PE-SS-410-169-M038	----	Nos.	1000

NOTE:-

- Bidder to quote/ fill all columns individually. No cost is to be made inclusive in Ex.-works price or other heads. Non-compliance to this may lead to rejection of bid.
- Bidder to mention the base NALCO ingot rate in the unpriced offer for item at Sl. No. 13 & 14 (proof of base NALCO ingot rate i.e. print out of the base rate from NALCO website to be attached).

	COMPLIANCE SHEET ANCILLARY MATERIAL 1X800 MW KOTHAGUDAM TPP	SPECIFICATION NO. PE-TS-410-169-M038
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A) Technical Details: Bidder to tick whichever is applicable.

1	Specific Technical requirements of Section - I	Accepted	Not Accepted
2	Data Sheet-A of Section – II	Accepted	Not Accepted

B) Deviations to the technical specification are not acceptable. However, if there are any deviations due to unavoidable reasons then the same to be clearly specified in the schedule of deviation. In case of no deviations, schedule of deviations to be filled as NIL by bidder.

C) All reports, test certificates etc. to be submitted during contract shall be subject to BHEL / Customer review / approval.