



Bid Number/बोली क्रमांक (बिड संख्या):  
GEM/2023/B/3296519  
Dated/दिनांक : 22-03-2023

### Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	01-04-2023 18:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	01-04-2023 18:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	180 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Heavy Industries And Public Enterprises
Department Name/विभाग का नाम	Department Of Heavy Industry
Organisation Name/संगठन का नाम	Bharat Heavy Electricals Limited (bhel)
Office Name/कार्यालय का नाम	10250020-pem, Noida
Total Quantity/कुल मात्रा	150000
Item Category/मद केटेगरी	WIRES 1 X 2.5 MM2 CU PVC , WIRES 1 X 4.0 MM2 CU PVC
BOQ Title/बीओक्यू शीर्षक	PVC WIRES FOR MAITREE PROJECT
MSE Exemption for Years of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover	No
Startup Exemption for Years of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover	No
Document required from seller/विक्रेता से मांगे गए दस्तावेज़	Experience Criteria,Certificate (Requested in ATC),OEM Authorization Certificate,Additional Doc 1 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया	Yes
RA Qualification Rule	H1-Highest Priced Bid Elimination
Type of Bid/बिड का प्रकार	Two Packet Bid
Primary product category	WIRES 1 X 2.5 MM2 CU PVC

**Bid Details/बिड विवरण**

<b>Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय</b>	3 Days
<b>Payment Timelines</b>	Payments shall be made to the Seller within <b>90</b> days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC)
<b>Evaluation Method/मूल्यांकन पद्धति</b>	Total value wise evaluation

**EMD Detail/ईएमडी विवरण**

Required	No
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**ePBG Detail/ईपीबीजी विवरण**

Advisory Bank	State Bank of India
ePBG Percentage(%) / ईपीबीजी प्रतिशत (%)	5.00
Duration of ePBG required (Months) / ईपीबीजी की अपेक्षित अवधि (महीने).	24

(a). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

**Beneficiary/लाभार्थी :**

SBI  
10250020-PEM, Noida, Department of Heavy Industry, Bharat Heavy Electricals Limited (BHEL), Ministry of Heavy Industries and Public Enterprises  
(Bhel Pem Noida)

**Splitting/विभाजन**

Bid splitting not applied.

**Reserved for Make In India products**

Reserved for Make In India products	Yes
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**MSE Purchase Preference/एमएसई खरीद वरीयता**

MSE Purchase Preference/एमएसई खरीद वरीयता	Yes
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1. Bid reserved for Make In India products: : Procurement under this bid is reserved for purchase from Class 1

local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. However, eligible micro and small enterprises will be allowed to participate. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020 . In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

2. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25%(selected by Buyer) percentage of total QUANTITY.

3. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

4. Reverse Auction would be conducted amongst all the technically qualified bidders except the Highest quoting bidder. The technically qualified Highest Quoting bidder will not be allowed to participate in RA. However, H-1 will also be allowed to participate in RA in following cases:

- i. If number of technically qualified bidders are only 2 or 3.
- ii. If Buyer has chosen to split the bid amongst N sellers, and H1 bid is coming within N.
- iii. In case Primary product of only one OEM is left in contention for participation in RA on elimination of H-1.
- iv. If L-1 is non-MSE and H-1 is eligible MSE and H-1 price is coming within price band of 15% of Non-MSE L-1
- v. If L-1 is non-MII and H-1 is eligible MII and H-1 price is coming within price band of 20% of Non-MII L-1

## **WIRES 1 X 2.5 MM2 CU PVC**

**(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)**

Brand Type/ब्रांड का प्रकार	Unbranded
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### **Technical Specifications/तकनीकी विशिष्टियाँ**

<b>Specification Document</b>	<a href="#">View File</a>
<b>BOQ Detail Document</b>	<a href="#">View File</a>

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्र**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्र	Delivery Days/डिलीवरी के दिन
1	HASEEN AHMED	700043,Haseen Ahmed/Sr. Mgr/PG-1 BHARAT HEAVY ELECTRICALS LTD. C/O KOLKATA PORT, NETAJI SUBHAS DOCK/KPT DOCK, KOLKATA, PIN CODE-700043	123000	999

**WIRES 1 X 4.0 MM2 CU PVC****(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)**

Brand Type/ब्रांड का प्रकार	Unbranded
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**Technical Specifications/तकनीकी विशिष्टियाँ**

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S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्र	Delivery Days/डिलीवरी के दिन
1	HASEEN AHMED	700043,Haseen Ahmed/Sr. Mgr/PG-1 BHARAT HEAVY ELECTRICALS LTD. C/O KOLKATA PORT, NETAJI SUBHAS DOCK/KPT DOCK, KOLKATA, PIN CODE-700043	27000	999

**Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें**

1. **Generic**

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

2. **Generic**

Bidder shall submit the following documents along with their bid for Vendor Code Creation:

- a. Copy of PAN Card.
- b. Copy of GSTIN.
- c. Copy of Cancelled Cheque.
- d. Copy of EFT Mandate duly certified by Bank.

3. **Generic**

The buyer organization is an institution eligible for concessional rates of GST as notified by the Government of India. The goods for which bids have been invited fall under classification of GST concession and the conditions for eligibility of concession are met by the institution. A certificate to this effect will be issued by Buyer to the Seller after award of the Contract. Sellers are requested to submit their bids after accounting for the Concessional rate of GST.  
Applicable Concessional rate of GST :

0.1  
%

Notification No.and date :

41/2017 - Integrated Tax (Rate) dt. 23.10.2017 regarding IGST @0.1% dated 23/10/2017 dated 23/10/2017  
7  
dated  
23/10/2017

4. **Generic**

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

5. **Inspection**

**Nominated Inspection Agency:** On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance:  
Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been selected in ATC):

YES

Post Receipt Inspection at consignee site before acceptance of stores:  
NO

6. **Buyer Added Bid Specific ATC**

Buyer uploaded ATC document [Click here to view the file.](#)

**Disclaimer/अस्वीकरण**

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses

on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

[This Bid is also governed by the General Terms and Conditions/ यह बिड सामान्य शर्तों के अंतर्गत भी शासित है](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो।बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।

**---Thank You/धन्यवाद---**



1367851/2023/PS-PEM

2x60 MW BIFPCL MAITREE KHULNA STPP  
(BANGLADESH)

PE-PQ-421-558-E003

PRE-QUALIFICATION REQUIREMENTS FOR  
PVC INSULATED WIRES

REVISION NO. 0 DATE 15/03/2023

SHEET NO. 1 OF 1

**ITEMS : PVC Wires****SCOPE :**

Supply (Including design) : YES

Erection &amp; Commissioning : NO

1.0	Vendor should be a BIS approved manufacturer of PVC insulated copper wire as per IS-694. or In case, vendor is not a BIS approved manufacturer of PVC insulated copper wire as per IS-694, then vendor can offer PVC insulated copper wire of any BIS approved make subject to submission of following documents:  a) Undertaking from BIS approved manufacturer (along with its valid BIS certificate) of offered make to get the inspection & testing of aforesaid wires carried out at manufacturer's works. b) Credentials of the manufacturer of offered make to meet the PQR requirements of S. No. 2 to 5 below. c) Vendor's Credentials to meet S. No. 6 below.
2.0	Availability of test reports of PVC insulated copper wire to establish in-house capability at manufacturer's works to carry out all routine, type & acceptance tests as per relevant IS.
3.0	Capacity of manufacturing 50 km of PVC insulated copper wire per month.
4.0	Manufactured and supplied at least one (1) km of PVC insulated FR copper wire.
5.0	Manufactured and supplied at least 50 km of PVC insulated copper wire in one or more orders.
6.0	Minimum two (2) nos. purchase orders for PVC insulated copper wire shall be submitted which should not be more than five (5) years old from the date of techno-commercial bid opening for establishing continuity in business.

**NOTES:**

1. In place of PVC insulated copper wire, documents submitted for LT Power/control cables shall also be considered.
2. Consideration of offer shall be subject to customer's approval of bidders, if applicable.
3. Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
4. Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/ collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
5. After satisfactory fulfilment of all the above criterial requirement, offer shall be considered for further evaluation as per NIT and all other terms of the tender.

PREPARED BY	CHECKED BY	REVIEWED BY	APPROVED BY
 M S S RAJPAL (MANAGER)	 MEGHA (MANAGER)	 AYAN SAHA (DGM)	 SANDEEP LODH (Sr. DGM)
			 DEBASIS NATH AGM (DH-ELECT)

**2X660 MW BIFPCL MAITREE KHULNA STPP  
(BANGLADESH)**

**VOLUME-II**

**TECHNICAL SPECIFICATION  
FOR  
*PVC INSULATED WIRES***

**SPECIFICATION NO: *PE-TS-421-558-E003***

***REVISION: 00***



**BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR  
PROJECT ENGINEERING MANAGEMENT  
NOIDA, UP (INDIA) – 201301**



**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-421-558-E003

VOLUME II

SECTION I

REVISION 00

DATE: 15.03.2023

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	SPECIFIC TECHNICAL REQUIREMENTS	01
	DATA SHEET – A	01
	CHECKLIST FOR SUBMITTING TECHNICAL PQR DOCUMENTS	01
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*Total nos. of sheets including cover & separator sheets = 68 sheets*



**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-421-558-E003

VOLUME II

SECTION I

REVISION 00

DATE: 15.03.2023

**COMPLIANCE CERTIFICATE**

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same
2. There is no technical deviation with respect to specification.
3. Only those technical submittals which are specifically asked for in NIT to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the description/ quantities from those given in BOQ-Cum-Price schedule of the specification shall not be considered (i.e., technical description & quantities as per specification shall prevail).

-----  
BIDDER'S STAMP & SIGNATURE

1367851/2023/PS-PEM-EL

**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-421-558-E003

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**SECTION – I**



## TECHNICAL SPECIFICATION FOR PVC INSULATED WIRES

SPECIFICATION NO. PE-TS-421-558-E003

VOLUME II

SECTION I

REVISION 00

DATE: 15.03.2023

### 1.0 SCOPE

- 1.1 Manufacture, Inspection and Testing at Manufacturer's works, proper sea worthy packing and delivery (as per NIT) of PVC Wires conforming to this specification.
- 1.2 Technical requirements of PVC insulated wires are indicated in Data Sheet-A & Section-II.
- 1.3 The stipulation of Data Sheet-A shall prevail in case of any conflict between the stipulations of Data Sheet-A & Section-II.

### 2.0 BILL OF QUANTITIES

The bidder to quote for items as per price schedule attached with NIT.

### 3.0 SPECIFIC TECHNICAL REQUIREMENTS

<b>S.No.</b>	<b>Reference Clause No. of Section- II</b>	<b>Specific Requirement/ Change</b>
1	4.0	<b>Clause 4.0 shall be read as: Wire should be sourced from BIS approved manufacturer of PVC insulated copper wire as per IS-694.</b>
2	<b>5.0 PACKING</b>	Packing and Marking PVC wires shall be suitably protected, coated, covered or boxed and crated to prevent damage or Deterioration during transit, handling and storage at site till the time of erection. Packing shall be done to ensure protection against the coastal environment prevailing at site. PVC wires shall be packed as per the guidelines given under technical specification for Sea worthy packing for Export Jobs (Part of this specification). The Contractor shall be responsible for all loss or damage during transportation, handling and storage due to improper packing. Packing and shipping instructions are detailed in the attached Packing specification. Packing as per clause no. 8.4.7 (Category-VIII) of technical specification for Sea worthy packing for Export Jobs (Specification Number PE-TS-888-100-A001) to be followed.

### 4.0 DRAWINGS & DOCUMENTS TO BE SUBMITTED

- 4.1 Documents shall be submitted after placement of order for BHEL & customer's approval as specified in NIT.
- 4.2 Documents shall be furnished through BHEL's document management system (WRENCH) portal.

1367851/2023/PS-PEM-EL

**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES**

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DATE: 15.03.2023

**Notes:**

1. Vendor shall submit the dates for drawing/document submission/BHEL comments/resubmission after approval of all the documents.
2. In BOM each of the item to be uniquely identified with item code no. or item Sl. No. Supplier to ensure that all the items which will find separate mention in the packing list are covered in detailed BOM. Supplier to give following undertaking in BOM: " The BOM provided here completes the scope (in content and intent) of material supply under PO no. ---- dtd ----- Any additional material which may become necessary for the intended application of supplied item/package will be supplied free of cost in most reasonable time."



**TECHNICAL SPECIFICATION  
FOR PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-421-558-E003

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SECTION I

REVISION 00

DATE: 15.03.2023

**DATA SHEET-A**

**1.0 APPLICABLE STANDARDS & CODES**

- a) IS:694 PVC insulated unsheathed and sheathed cables/cords with rigid and flexible conductor.
- b) IS:5831 PVC insulation and sheath of electric cables.
- c) IS:8130 Conductors for insulated electric cables and flexible cords.
- d) IS:10810 Methods of tests for cables.

2.0 MAKE  BIS approved  As per enclosed sub-vendor list

3.0 TYPE OF WIRE :  
 FIRE-RESISTANT (FR)  FIRE-RESISTANT LOW SMOKE (FRLS)

**4.0 CONDUCTOR**

- a) NO. OF CORES : 1
- b) MATERIAL : High conductivity  
untinned annealed copper
- c) Type : Stranded conductor
- d) CLASS : Class-2 as per IS: 8130
- e) MINIMUM NUMBER OF STRANDS : As per IS: 8130 (table-2)
- f) MAX. RESISTANCE OF CONDUCTOR : As per IS: 8130 (table-2)

**5.0 INSULATION**

- a) INSULATION MATERIAL : PVC, Type-A as per IS :5831
- b) NOMINAL INSULATION THICKNESS : As per IS: 694 (table-3)

6.0 MAX. OVERALL DIA. : As per IS: 694 (table-3)

7.0 STANDARD BUNDLE LENGTH : 90-100 meters (For all sizes)



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-427-558-E003

VOLUME II

SECTION I


REVISION 00

23.02.2023

**CHECK LIST FOR SUBMITTING TECHNICAL PQR DOCUMENTS**

Bidder to submit signed & stamped copy of checklist shall be submitted alongwith technical offer to ensure completeness of PQR documents.

Checklist		Remarks	Tick as applicable [√]	
1.	Valid BIS certificate enclosed	Specify date of validity	Yes [ ]	No [ ]
2.	Internal (in-house ) type test report submitted	•Routine test	Yes [ ]	No [ ]
		•Type test	Yes [ ]	No [ ]
		• Acceptance test To be Included in internal test report	Yes [ ]	No [ ]
3.	Capacity of manufacturing 100Km of PVC wire per month	Proof of manufacturing such as •NSIC certificate •MSME certificate •Chartered engineer certificate •Any other document submitted <i>Note: chartered accountant certificate is not a valid proof for establishing manufacturing capacity</i>	Yes [ ]	No [ ]
4	Manufactured & supplied at least 1 Km of PVC FR copper wire	Proof of manufacturing & supplied FR copper wire such as •Purchase order submitted and	Yes [ ]	No [ ]
		•Dispatch documents (Performa invoice, dispatch details) submitted	Yes [ ]	No [ ]
5	Manufactured & supplied at least 100 Km of PVC copper wire in one or more orders	Proof of manufacturing & supplied copper wire such as •Single or multiple Purchase order copies submitted and	Yes [ ]	No [ ]
		•Single or multiple Dispatch documents (Performa invoice, dispatch documents) submitted	Yes [ ]	No [ ]
6	Copy of min two PO for PVC wires submitted	•Copy of Purchase order submitted	Yes [ ]	No [ ]

	<b>MANUFACTURER/ BIDDER/ SUPPLIER NAME &amp; ADDRESS</b>		<b>STANDARD QUALITY PLAN</b>				SPEC. NO :		DATE:	
			CUSTOMER :				QP NO.: PE-QP-999-558-E003, R01		DATE: 10.07.2020	
			PROJECT:				PO NO.:		DATE:	
			ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		SECTION: II		SHEET 1 OF 4	



SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
1	2	3	4	5	6		7	8	9	*	**			
					M	C/ N				D	M	C	N	


**1.0 RAW MATERIAL/BOUGHT OUT ITEMS**

1.1	CONDUCTOR (COPPER)	1. Physical properties	MA	Physical Tests	Sample/ Batch	-	IS:8130	IS:8130	Certificate of conformance	✓	P/ V	V	-	
		2. Elec. Properties	MA	Electrical Tests	Sample/ Batch	-	-do-	-do-	-do-	✓	P/ V	V	-	
1.2	PVC Compound for insulation	1. Material Properties	MA	Physical Tests	Sample/ Batch	-	IS 5831	IS 5831	Certificate of conformance	✓	P	V	-	

**2.0 ROUTINE/ ACCEPTANCE/ TYPE TEST**




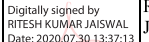
2.1	PVC Wires	SURFACE DEFECTS	MA	Visual	IS 694 Annex A	-	IS:694	IS:694	Insp. And test report from manuf.	✓	P/ V	V	-	BIS APPROVED MAKE
2.2		CONSTRUCTION OF WIRE	MA	Visual/ Measurement	-DO-	-	IS-694 (table-3) IS-8130 (table-2) Appd DS	IS-694 (table-3) IS-8130 (table-2) Appd DS	-DO-	✓	P/ V	V	-	
2.3		TYPE TESTS	CR	Tests	One sample	One sample of		IS:694 (TABLE-1)	IS:694 (TABLE-1)	Test cert.	✓	P	W	

BHEL				BIDDER/ SUPPLIER				FOR CUSTOMER REVIEW & APPROVAL							
ENGINEERING		QUALITY		Sign & Date		Seal		Doc No:		Sign & Date		Name		Seal	
Prepared by:	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by:		KUNAL GANDHI			Reviewed by:							
Reviewed by:	PRAVEEN DUTTA	PRAVEEN DUTTA	Reviewed by:		R. K. JAISWAL			Approved by:							

	MANUFACTURER/ BIDDER/ SUPPLIER NAME & ADDRESS		STANDARD QUALITY PLAN				SPEC. NO :		DATE:	
	CUSTOMER :				QP NO.: PE-QP-999-558-E003, R01				DATE: 10.07.2020	
	PROJECT:				PO NO.:				DATE:	
	ITEM: PVC Wires			SYSTEM: STATION LIGHTING SYSTEM		SECTION: II			SHEET 2 OF 4	

SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY	REMARKS
1	2	3	4	5	6		7	8	9	*	**	
					M	C/ N				D	M C N	

					of each wire type & size	each wire type & size							project Order supply from rate Contract. 2) Refer note 1 & 2
2.4		<b>ACCEPTANCE TESTS</b> a) Annealing test b) Conductor Resistance test c) Thickness of Insulation d) Tensile strength and elongation at break of insulation e) IR test f) HV Test g) Flammability test h) Oxygen index test i) Temperature index j) Halogen acid	MA	CR	IS 694 Annex A	IS 694 Annex A	IS 694/ IS 8130	IS 10810	Test Report	√	P	W	

BHEL					
ENGINEERING			QUALITY		
Prepared by:	Sign & Date	Name	Checked by:	Sign & Date	Name
MEET SAGAR SINGH RAJPAL		MEET SAGAR SINGH RAJPAL		2020.07.30 13:37:13	KUNAL GANDHI
PRAVEEN DUTTA		PRAVEEN DUTTA		2020.07.30 13:37:13	R. K. JAISWAL


BIDDER/ SUPPLIER	
Sign & Date	Seal

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

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	MANUFACTURER/ SUPPLIER NAME & ADDRESS		STANDARD QUALITY PLAN				SPEC. NO :		DATE:				
			CUSTOMER :				QP NO.: PE-QP-999-558-E003, R01		DATE: 10.07.2020				
			PROJECT:				PO NO.:		DATE:				
			ITEM: PVC Wires		SYSTEM: STATION LIGHTING SYSTEM		SECTION: II		SHEET 4 OF 4				
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY	REMARKS	
1	2	3	4	5	6		7	8	9	* D	**		
					M	C/ N					M	C	

**LEGENDS:**

\*RECORDS, IDENTIFIED WITH "TICK"(✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION,  
 \*\* M: SUPPLIER/ MANUFACTURER/ SUB-SUPPLIER, C: MAIN SUPPLIER/ BHEL/ THIRD PARTY INSPECTION AGENCY, N: CUSTOMER,  
 P: PERFORM, W: WITNESS, V: VERIFICATION, AS APPROPRIATE  
 MA: MAJOR, MI: MINOR, CR: CRITICAL, D: DOCUMENTATION

BHEL					
ENGINEERING			QUALITY		
	Sign & Date	Name		Sign & Date	Name
Prepared by:	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	MUDIT CHOPRA MEET SAGAR SINGH RAJPAL	Checked by:		KUNAL GANDHI
Reviewed by:	PRAVEEN DUTTA	PRAVEEN DUTTA	Reviewed by:	RITESH KUMAR JAISWAL	RITESH KUMAR JAISWAL

BIDDER/ SUPPLIER	
Sign & Date	
Seal	

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:			
	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

RITESH  
KUMAR  
JAISWAL

Reviewed by: RITESH KUMAR JAISWAL  
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**VOLUME IIB**

**TECHNICAL SPECIFICATION  
FOR  
SEAWORTHY PACKING FOR EXPORT JOBS**

**SPECIFICATION NO. PE-TS-888-100-A001**



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

	<b>TITLE</b>	SPECIFICATION NO. <b>PE-TS-888-100-A001</b>	
	<b>TECHNICAL SPECIFICATION FOR SEAWORTHY PACKING FOR EXPORT JOBS</b>	VOLUME II B	
		SECTION D	
		REV. NO. 0	DATE 10/08/2010
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### 1.0 Purpose

The purpose of this specification is to describe minimum packing requirements for the different items/equipment for all export Project and also to define marking and shipping requirements during transportation by ship, road and air for all export jobs.

### 2.0 SCOPE

For export jobs, sea worthy packing capable of performing all necessary functions like prevention of damage to the contents, sufficient to support frequent handling and lengthy period of outdoor storage in adverse weather conditions are required. Workmanship and materials used shall be of high standard meeting the technical requirements and in accordance with best commercial export packing practices. Vendor shall be responsible for sea worthy export packing, however it shall meet the minimum requirements specified herein. Equivalent or better packing methods may be deployed subject to approval of the BHEL/Purchaser. Vendor shall submit the packing procedure for its equivalent for purchaser's approval during detailed engineering.

The scope this specification is to define VENDOR's responsibilities in terms of:

- Preservation of the GOODS/items/equipments before packing.
- Packing of the GOODS for road, rail, sea and/or air transportation to desired destination i.e. project site
- Making cases/crates
- Chemical Treatment/Fumigation before packing to prevent fungus, damage due to termite, borer, rats, etc.
- Marking of cases/crates.
- Other Services required.


### 3.0 Application

This specification is applicable to all the goods to be transported to project site and requires to be in transit for longer duration. *However, for "Misc cable erection items", "Fire sealing system" & "Exothermic welding material", the packing requirements shall be as per the procurement specification.*

### 4.0 Definitions

- "BHEL" : Main EPC vendor
- "OWNER" : Customer for a particular export project.
- "VENDOR" : Company(ies)/VENDOR(s) to whom the BHEL has placed Purchase Order for GOODS/ items/system/package.
- "GOODS": means all or part of the articles, material, equipment supplies including technical documentation, as described in the Purchase Order, to be supplied by VENDOR.
- "PACKER": Packaging Company to whom VENDOR intends to sub-contract the packing in case they do not have own packing capability/facilities .
- "FREIGHT FORWARDER" : Means the Company responsible for performing freight forwarding activities.

### 5. General Information

	<b>TITLE</b>	SPECIFICATION NO. PE-TS-888-100-A001	
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The following requirements are intended as minimum requirements, and compliance to these requirements in no way absolves or relieves VENDOR of any responsibility or obligation outlined in the Purchase Order. In all circumstances, the packing will be designed and constructed in order to support GOODS during transportation as well as to prevent the Goods from damage due to impact, extreme climatic conditions, sun and rain. It must be ensured that the delivery of the GOODS to the jobsite by sea, road or air, in good condition.

GOODS shall be export packed in compliance with the best-established practices for international projects, in accordance with the following instructions. In the event of any conflict between these specified requirement and the established practices, specification requirement shall govern.

Due to climatic conditions and the complex transport operation(s), it is essential that protection and packing is of the highest standard. Packing means to efficiently protect the GOODS during the total transport operation; from the moment they leave the factory until they are delivered to the jobsite, including handling operations (loading/unloading) and storage.

When VENDOR do not have packing capabilities/facilities of their own and therefore intends to sub-contract, VENDOR have to inform BHEL/Purchaser of the name and address of proposed PACKER(s) for approval.

#### **6.0 Criteria for Selection of Packaging**

Packages are to be made according to categories, described in articles 8.1 to 8.5, depending on the type of materials, their fragility and size.

These categories have been established for the protection of equipment and material during multi-mode transports, i.e.: combination of overland and sea transport; containerization, air transportation.

In a general manner, the GOODS have to be packed in such a way that crates, bundles, pallets can be stored into General Purpose containers, wherever possible.

If VENDOR has any doubt about the correct method of protection or packing, he should contact BHEL/Purchaser in order to mutually agree on the adequate type of packing to be used.

Materials can be classified in following categories

- Hazardous Material
- Non-Hazardous Material
- 


Further to above categorisation, non-hazardous materials can be sub- categorised for selection of packing.

#### **6.1 Hazardous Materials**

Though handling of hazardous material may is not applicable in the scope of this specification. All hazardous material must be packed in adherence to the detailed requirement relating to packing, marking and labelling set out in the most recent report of the Board's Standard Advisory Committee on the Carriage of Dangerous Goods in Ships for sea freight, and the Restricted Articles Regulations, laid down by the International Air Transport Association for airfreight.

#### **6.2 Non-Hazardous GOODS**

The scope of this specification is to provide necessary guidelines for packing for power plant equipment, components, Pipings & Valves, Fittings, other structural items, electrical items, spare parts and erection materials. The procedure is defined in subsequent paragraphs in details in clause no. 8.0.

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## 7.0 Marking Instructions & Despatch details, Storage Code

### 7.1 Marking Instructions & despatch details

Packages and crates will be marked with indelible black paint, resistant to seawater. Marking must be perfectly legible.

The shipping marks, which will be as per fig-13, shall be stencilled on two sides and one end in clear characters at least 5 centimetres high (where crate size permits, otherwise use optimum size for each package dimension).

When the GOODS are to be shipped in containers then marking may be stencilled on one end only. However, packages must be stowed in a manner that shows these marks.

Crates containing fragile articles must be packed with special precaution against risk of breakage and must be stencilled on all sides "FRAGILE - HANDLE WITH CARE". Where crates are not to be overturned, VENDOR must show on the crates, clear and readily visible identification as per fig-12, to ensure they are kept in the correct position.

Packages/equipment of 2,000 kg or more must be marked with slinging points on all sides, in addition to the centre of gravity marks.

Number packages consecutively i.e. 1 of 10, 2 of 10, etc. Do not duplicate package numbers. VENDOR is responsible for any loss or damage caused by incorrect marking.

All cases/crates shall also be marked with the appropriate international standard graphic symbols for handling as shown in Fig 12.

As a minimum, all cases/crates are to be marked clearly on all four sides with:

- "HANDLE WITH CARE"
- "RIGHT SIDE UP"
- "KEEP DRY"

In the case of packages with a single gross weight totalling 2,000 kg and/or a height of more than 1m, the centre of gravity shall be clearly marked with the symbol on two adjoining sides. For all items of equipment with an eccentric centre of gravity this symbol shall be marked at the bottom, side and top of the package.


The slinging and lashing points shall be marked with a chain symbol.

When packing in cases/crates, these packages shall also have metal corners at the slinging points. (Fig-11)

External front and rear sides of the boxes to be planed for writing instructions.

Dispatch details such as consigner/consignee address, contract and case details, country of origin, port of delivery, stacking instructions shall be written on one side of the boxes. An anodized aluminum plate as per details and specifications given in fig-13 shall be provided on one side of the boxes.

One copy of packing slip wrapped in polyethylene bag covered with aluminum packing slip holder to be nailed on the external surface of the box. One more copy of the packing slip wrapped in polyethylene bag is to be kept inside the box at the pertinent place.

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## 7.2 Storage Code

The type of storage required is required to be specified, it will be shown on each packaging in **RED colour**.

- X Crates or packages to be stored outdoor without covers
- XX Crates or packages to be stored under tarpaulin
- XXX Crates or packages to be stored in covered or enclosed premises
- XXXX Crates or packages which must be stored in air-conditioned premises

## 8.0 GUIDELINES FOR PACKING GOODS

8.1 In the subsequent paragraphs details of different types of packings for different types of GOODS are defined. Vendor shall make packing details/procedure based on the guidelines and submit for approval.

### 8.1.1 Packing for Pipe, Fittings, Flanges and Valves, Structural Steel

Particular attention should be brought to pipe, fittings, flanges, valves and structural steel. Packing categories for piping and fittings will differ according to the diameter and wall thickness of these products. VENDOR shall comply with the following established practice.

#### IMPORTANT NOTE:

*Depending on the project schedule and availability of ocean vessels, the piping and structural steel may be shipped in containers. In this event, VENDOR has to arrange the packages in such a way it allows the stuffing into Open Top in gauge containers.*

### 8.1.2 Pipe

Where practicable, pipe lengths shall be limited to 11.8 meters.

All pipes 2" included and below shall be packed in crates. All pipes to be capped and ends sealed with waterproof tape.

Pipes over 2" up to 6", shall be bundled and banded in bundles of uniform length. Bundling is carried out with U-IRON or traversal planks, joined with threaded connecting rods with locknuts. Quantities and strapping positions depend on the lengths, with a 120 cm spacing to prevent distortion. Bundle weight shall not exceed 2,000 kg. All pipes are to be capped and ends sealed with waterproof tape (tape is not necessary if end caps are of the pre-shrunk or self-sealing type).

Pipes larger than 6" shall be shipped as single lengths with the ends capped. End caps are to be of the recessed type to enable the use of soft faced hooks, but still completely sealing the end and also protecting the weld.


All stainless steel piping must be packed separately in wooden crates. Any banding of bundles is to be with the same material.

### 8.1.3 Pipe Fittings, Flanges and Valves

All pipe fittings, flanges and valves up to 6", are to be packed in cases/crates. For items over 6", these may be fixed securely to a pallet base and enclosed in a crate, for protection. Where valves have actuators attached, rigidity must be ensured for the valve and actuator. The vulnerable parts of the actuator are to be completely protected within a wooden crate.

All stainless steel fittings, flanges and valves of all sizes, must be packed separately in wooden crates. Any strapping is to be with the same material.

### 8.1.4 Structural Steel

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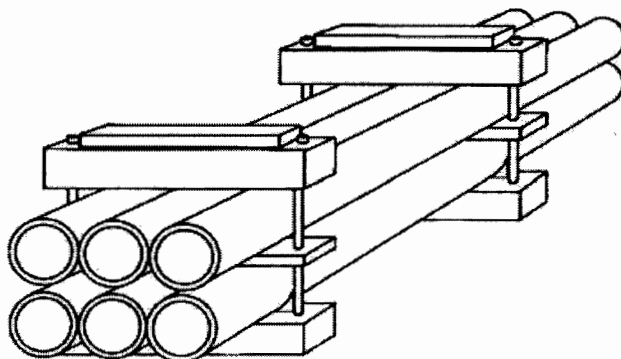
Structural Steel, reinforcing rods, bars, etc., should be packed in bundles of uniform length. Refer to articles 8.1.2, for strapping requirements. Bundle weight not normally to exceed 2,000 kg. Fabricated structures and structural steelwork, etc, should be bundled and packed using wooden beams and long bolting to secure the load.

## 8.2 Bundling – Packing Category I

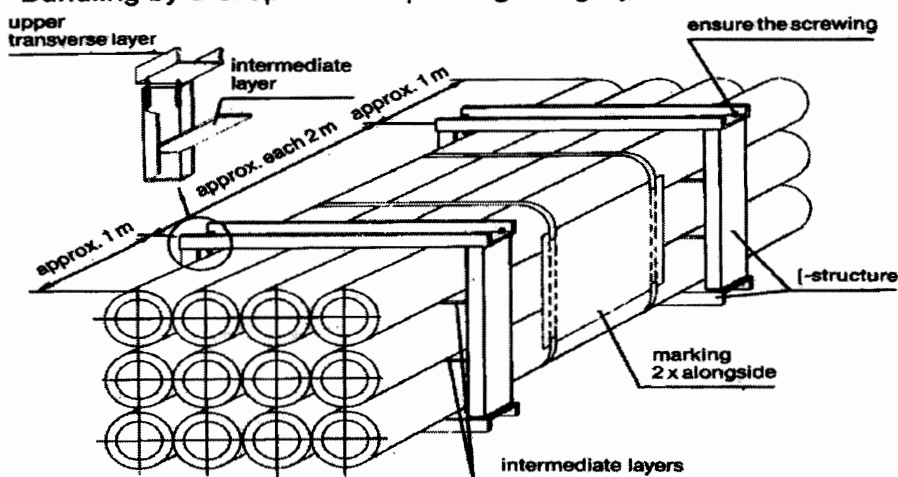
### 8.2.1 Type of Equipment

Equipment which is not subject to damage by corrosion or mechanical effect, i.e. pipes, piping, structural steel.


#### Packing category I



#### Bundling by U-shaped iron – packing category I A



### 8.2.2 Type of Construction

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- Bundling has to be effected
- By squared timber and threaded rods.
- With an intermediate layer (threaded on tightening bolts) according to the weight of the package.
- Wedge-shaped timbers must be added at the outer points of lower layer.
- Between the bolts a spacer must be nailed.
- The bolts must be secured (e.g. by locking nut).
- If single parts could protrude, an appropriate protection must be installed (flat iron or plates).
- Bundling with steel straps or PVC straps is not accepted.

### 8.3 Skids, Square Timber Constructions, Casings – Packing (Category II)

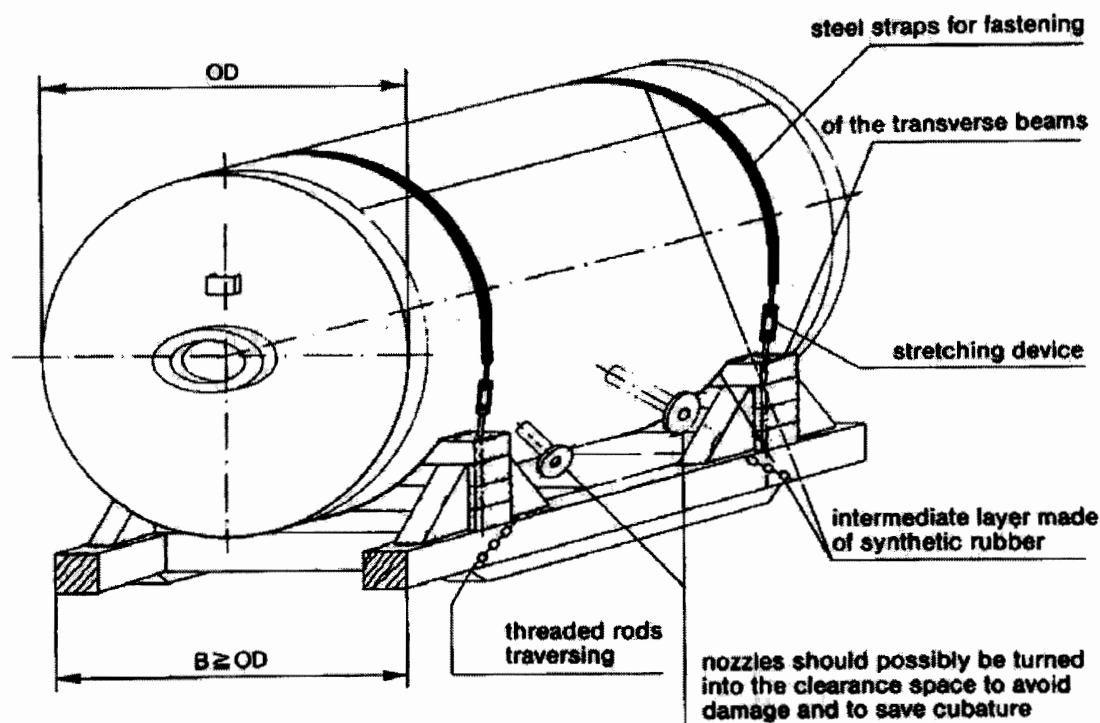
#### 8.3.1 Type of Equipment


Voluminous apparatus, tanks and/or heavy pieces those are not vulnerable to mechanical or corrosive effects.

#### 8.3.2 Type of Construction

- The construction skid can be made of wood or of metal.
- The fastening of the packages on the skid will be made by steel straps (flat iron) which have to be elastically lined, non-slip and securely bolted onto the skids.
- Flange openings have to be closed with gaskets and blind flanges or, if necessary, provided with cover.
- Skid constructions may not be less than the dimensions of the package in length or in width.
- Tanks and apparatus with their own support cradles must be supplied with an anti-slip lining.

#### PACKING CATEGORY-II



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#### 8.4 Packing of GOODS in Wooden Crates/Cases/Boxes

The construction of wooden crate/cases/boxes shall be as per the details indicated in clause 9.0 & Fig 1 to 11. Details indicated in the sketches for different categories Packing crates/boxes are only for a typical equipment considered for illustration.

##### 8.4.1 Packing Category III

###### 8.4.1.1 Type of Equipment

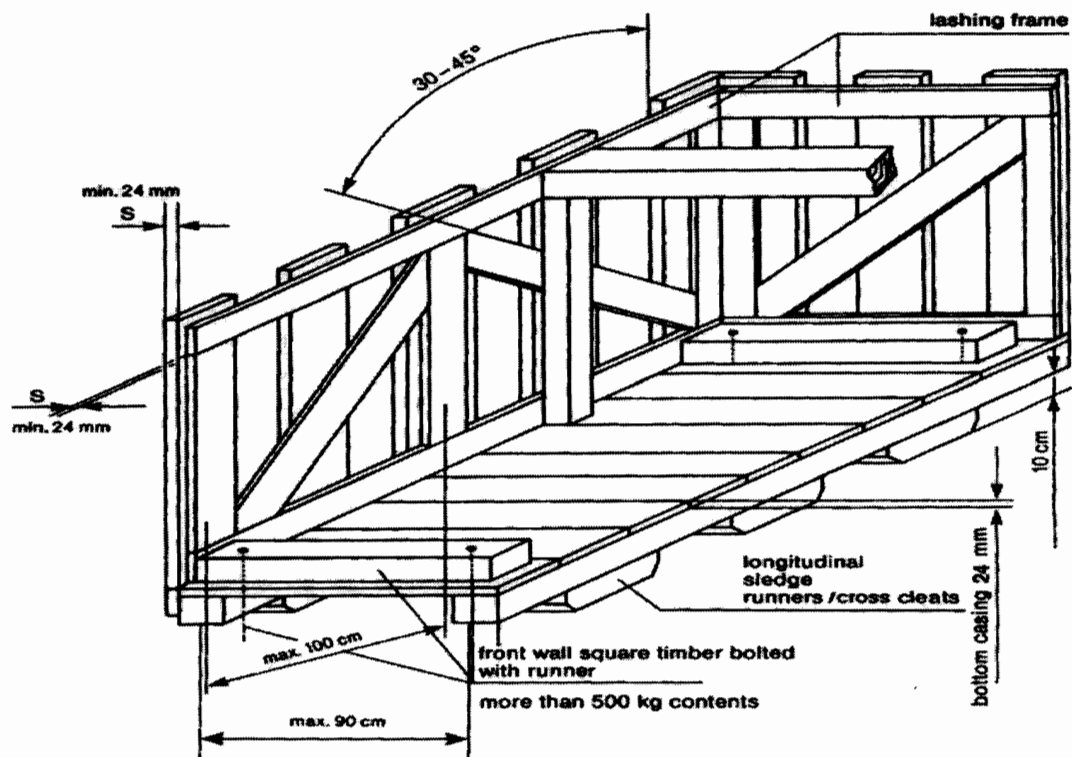
Fabricated equipment, which cannot be transported on cradles; frame-works, prefabricated piping and fittings, mechanical and electrical assemblies. *This type of packing is recommended where many parts of the equipment/component/assembly are not protruding out.*


###### 8.4.1.2 Type of Construction

The equipment must be safely fastened to the bottom with bolts, possibly by the runners or to be spread in such a manner that no protruding parts are possible. For parts, sensitive to rainwater and/or debris, a protection has to be made by a foil cap.

If it is possible that single part could protrude through the front/back side wall, they shall be closed completely. The marking of the package shall be done on plywood plates at the prescribed sides.

#### Packing Category III



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#### 8.4.2 Cases with Lining – Packing Category IV

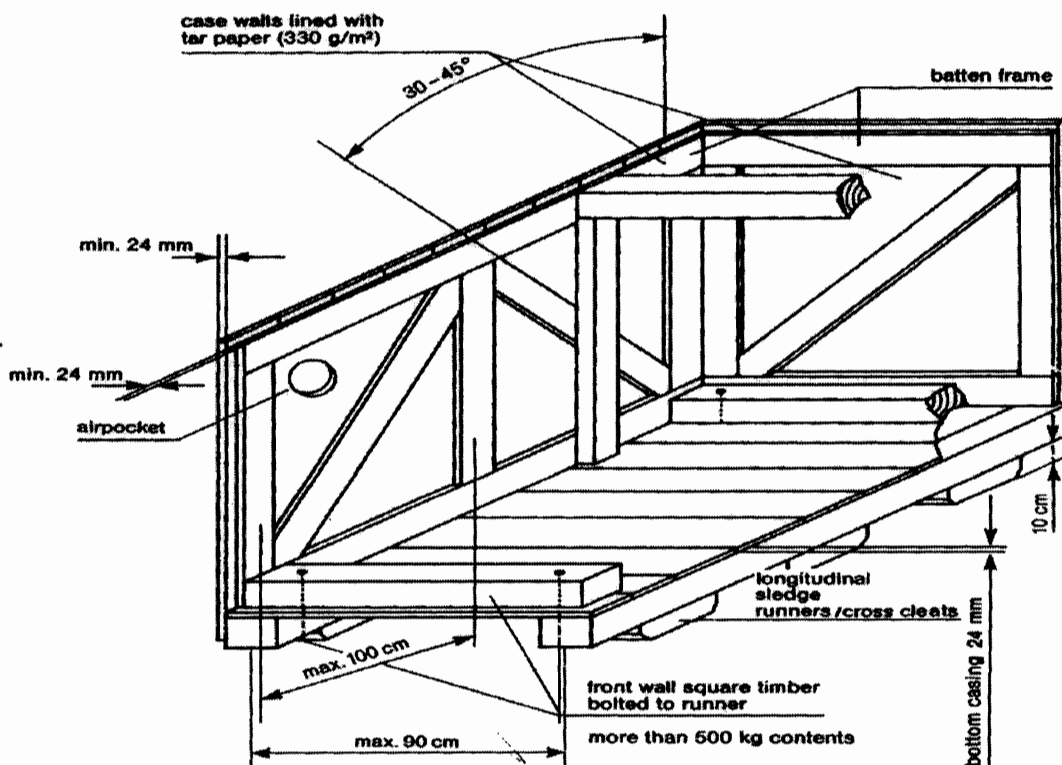
##### 8.4.2.1 Type of Equipment

*Recommended for equipment and mechanical parts Equipment sensitive to mechanical damage or parts and components that are particularly at risk of theft or loss; pumps, elbows, flanges, fittings, tools, erection materials, etc.*

##### 8.4.2.2 Type of Construction


The same type of construction as article 8.4.1.2, but with all sides completely boarded without space between the boards. Sides to be provided with waterproof lining; fabric-reinforced waterproof tar paper or polyethylene-foils resistant to ultraviolet rays can be used. Polyethylene-foil shall be fixed under the lid cover to avoid penetration of water. At weights of more than 500 kg the longitudinal runner must be bolted to the front all square timber. For ventilation inside the case, an opening in the waterproof lining must be placed between the diagonal battens and diagonal joists.

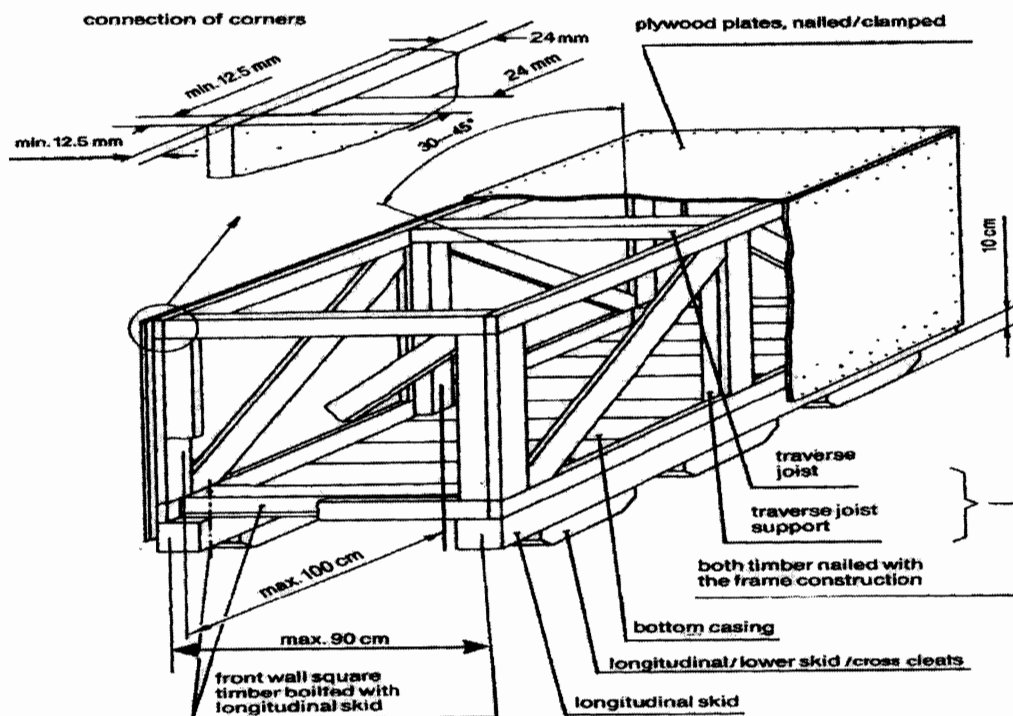
#### Packing Category IV



#### 8.4.3 Cases with Alternative Surface Materials

##### 8.4.3.1 Plywood Box – Packing Category IV A

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Case constructed of 5 layers of watertight, glued plywood with a total thickness of 12.5 mm. The frame must be constructed from minimum 24 mm timber or as per guide lines given above against clause 8.0, Fig 1 to 11 and must be suitable for the weight and nature of the parts to be packed. Planed square timber must be bolted with longitudinal skid and covered with diagonal joists. If applicable, construction of the cover and sides is to include diagonal bracing. Covers consisting of several layers of plywood are to be sealed with durable elastic putty or additional water-resistant sheets to be fixed.

#### 8.4.4 Case with Barrier Material – Polyethylene Foil – Packing Category V

##### 8.4.4.1 Type of Equipment

Sensitive equipment, simple electrical equipment, insulation materials, fire-resistant materials, with non-corrosion- guarantee for a period up to twelve (12) months.

##### 8.4.4.2 Type of Construction


Preservation by welding in polyethylene-foil with addition of desiccants and if necessary, application of non-corrosive contact agents, otherwise, type of construction as indicated in article 8.4.2.2.

Additional marking:

- Case with desiccants.

#### 8.4.5 Case with Barrier Material – Aluminium Compound Foil – Packing Category VI

##### 8.4.5.1 Type of Equipment

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Electrical equipment such as, switchboards, electric motors, sensitive equipment, with non-corrosion guarantee, for a period up to twelve (12) months.

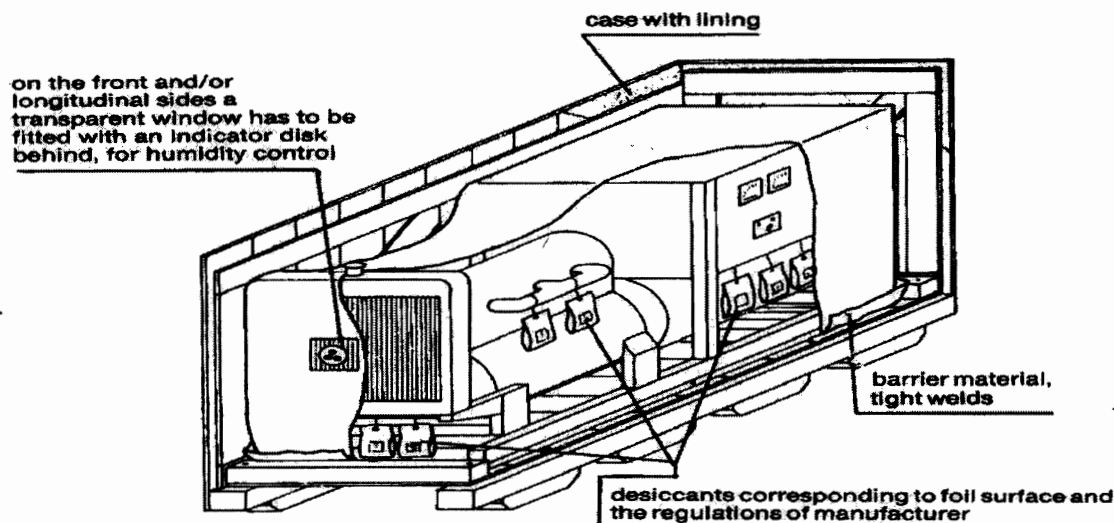
#### 8.4.5.2 Type of Construction

Type of construction as indicated in article 8.4.2.2. Preservation by sealing an aluminium compound foil, with the addition of desiccants. Humidity indicators, if required and installed in the barrier wrapping, shall allow easy control from the outside.

Additional marking:

- Case with desiccants.

#### Packing Category V/VI




#### 8.4.6 Double Case – Packing Category VII

##### 8.4.6.1 Type of Equipment

GOODS which are of high sensitivity to shock, impact and vibration, for instance, special electrical equipment like computers, switchboards, laboratory instruments

##### 8.4.6.2 Type of Construction

Case construction as indicated in article 8.4.2.2, with additional floating inner packing (case-in-case principle), padding corresponding to weight and sensitiveness. Preservation by sealing in aluminium compound foil with the addition of desiccants. The inner case has to be made of plywood or equivalent material with a thickness of 8-12 mm, depending on the weight of the GOODS to be packed. The inner buckles and/or frame borders have to be dimensioned so that the full stability of the inside case will be reached and no twisting is possible. The inner sides of the inside case will be lined with bituminous kraft paper on all sides (except bottom).

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#### 8.4.7 Cable Drum – Packing Category VIII

##### 8.4.7.1 Type of Equipment

All type of cables, wires, ropes, hoses.

##### 8.4.7.2 Type of Construction

For all type of cables refer clause no. 11.1. For other items (wires, ropes, hoses) new or practically new drums are to be used. Planking of the e drums by use of boards, thickness minimum 20 mm, with additional double steel strapping, nailed, and carefully preserved/protected cable ends prior to packing.

#### 8.4.8 Hazardous Materials – Packing Category IX

##### 8.4.8.1 Type of Equipment

Hazardous materials according to the law are explosives, compressed gases, liquefied gases dissolved under pressure or deeply refrigerated, flammable liquids, flammable solids: substances liable to spontaneous combustion; substances which, on contact with water, emit flammable gases, oxidizing substances, organic peroxides, poisonous (toxic) and infectious substances; radioactive materials, corrosives, miscellaneous dangerous goods.

##### 8.4.8.2 Type of Construction

Hazardous materials shall always be packed and documented separately from any other material. Selection of packaging materials, execution of packing and marking as well as documentation shall always be in compliance with the applicable laws and regulations. Any certificates required for transportation or for authorities to be supplied before shipment of the GOODS.

#### 8.4.9 Wooden Floor as a Transport Support – Packing Category X

##### 8.4.9.1 Type of Equipment

Any materials to be stuffed in containers or on flat racks and that are not stowed on standard pallets or otherwise suitably packed

##### 8.4.9.2 Type of Construction


- Longitudinal internal square timbers bolted to the front wall runners, longitudinal skid.
- Maximum distance between longitudinal runners 90 cm (middle to middle of the runner).
- Full boarding of the floor.
- Attaching of lifting lugs and/or iron ropes for lifting/pulling the units off the transport equipment.
- If applicable, preservation of the equipment by sealing in polyethylene-foil or aluminium compound foil and the addition of desiccants.

#### 8.5 Air Transport Packing

##### 8.5.1 General

Certain types of material may have to be shipped by air from their country of origin. This means of transport will be exceptional, and will be used only:

- For GOODS, which are highly sensitive to shock or vibrations, such as computers, electronic instruments, or those of small dimensions and weight.
- For GOODS urgently required at the module yard(s) and/or jobsite.

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### 8.5.2 Type of Packing

Depending on the goods to be packed, VENDOR may use one of the following types:

- A triple-corrugated cardboard container made with waterproofed glue and a barrier layer of polyethylene on the outsides to keep out humidity.
- Wooden/cardboard packing cases: the wood being used for the framework and base of the cases, waterproofed triple-corrugated cardboard being used for the sides and top. These cases are of the "Bell" type, and used for material of small or medium dimensions.
- For larger dimensions, plywood cases are acceptable. The timber characteristics, cross-sections and thickness will be systematically determined by the nature of the loads to be packed.

### 8.5.3 Dimensions

In order to optimize the existing transport facilities (passenger or cargo aircraft), the dimensions of:

- Triple-corrugated containers.
  - Wooden/cardboard packing cases.
  - Plywood cases.
- Are to be adapted to pallets used for air transportation.

## 9.0 Detailed specification for Wooden Crates/Boxes/Cases and other packing materials

### 9.1 Technical specification for wood

The wood shall be Fir, Chir, Silver Oak (Gravillea Robusta), chemically treated mango and Pinewood with moisture content not exceeding 50%. The wood shall have flexural and compressive strength, stiffness, shock absorption and nail retention properties. The wood shall be free from common defects such as warp, bone, twist, knot, cracks, splits, end splits, bend, visible sign of infection and any kind of decay caused by insects or fungus, etc. Surface cracks with maximum depth of 3mm are permissible. A continuous crack of any depth all along the length is not allowed.

### 9.2 Chemical Treatment of Wood:


The wood shall be chemically treated to provide protection against deterioration due to fungi and attack by termites, borers, marine organism and any other kind of infection. It shall be treated only after final processing like cutting, planning, joint grooving, etc.

### 9.3 TYPE, DESIGN & DIMENSION OF WOODEN PACKING CASES:

#### 9.3.1 PACKING OF EQUIPMENTS

Various mechanical, electrical and C&I equipment e.g. Pumps, motors, equipment skids, heat exchangers, control panels, switch gears, transformers, etc. shall be wrapped in weather proof packing and then secured in wooden packing cases. The construction of wooden packing cases/crates shall be as per details given below and also given in figure 1 to 11.

##### 9.3.1.1 Bottom Frame

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The construction of bottom frame shall be as per Fig-2. The No. of slides/runners for bottom frames shall be selected depending upon the weight and overall dimensions of the load to be carried. The equipment shall be secured by fixing their base frame/plate with the help of bolt and nuts etc. to bottom frame of the wooden packing cases/crates. The equipment not provided with base frame/plate like cylindrical vessels, etc to be secured to the bottom frame of the wooden cases with "C" clamps fabricated from steel channels/ angle iron.

#### 9.3.1.2 TOP FRAME

The construction of top frame shall be as per fig-3.

#### 9.3.1.3 END PANELS

The dimension of the end and lateral panels shall be calculated according to overall dimensions of the items to be packed. Diagonal braces shall be used for packing cases having height exceeding 500mm. Details of bracings shall be as per fig 5 to 9.

#### 9.3.1.4 Sling Plate


To facilitate lifting of cases, longitudinal under slide boards shall be fixed. To avoid damage to the box while lifting sling plates shall be provided. Refer fig-11.

#### 9.3.1.5 Angle Iron Cleats

Angle iron cleats shall be used for strengthening the joints as indicated in fig-10


#### 9.3.1.6 Other Requirements

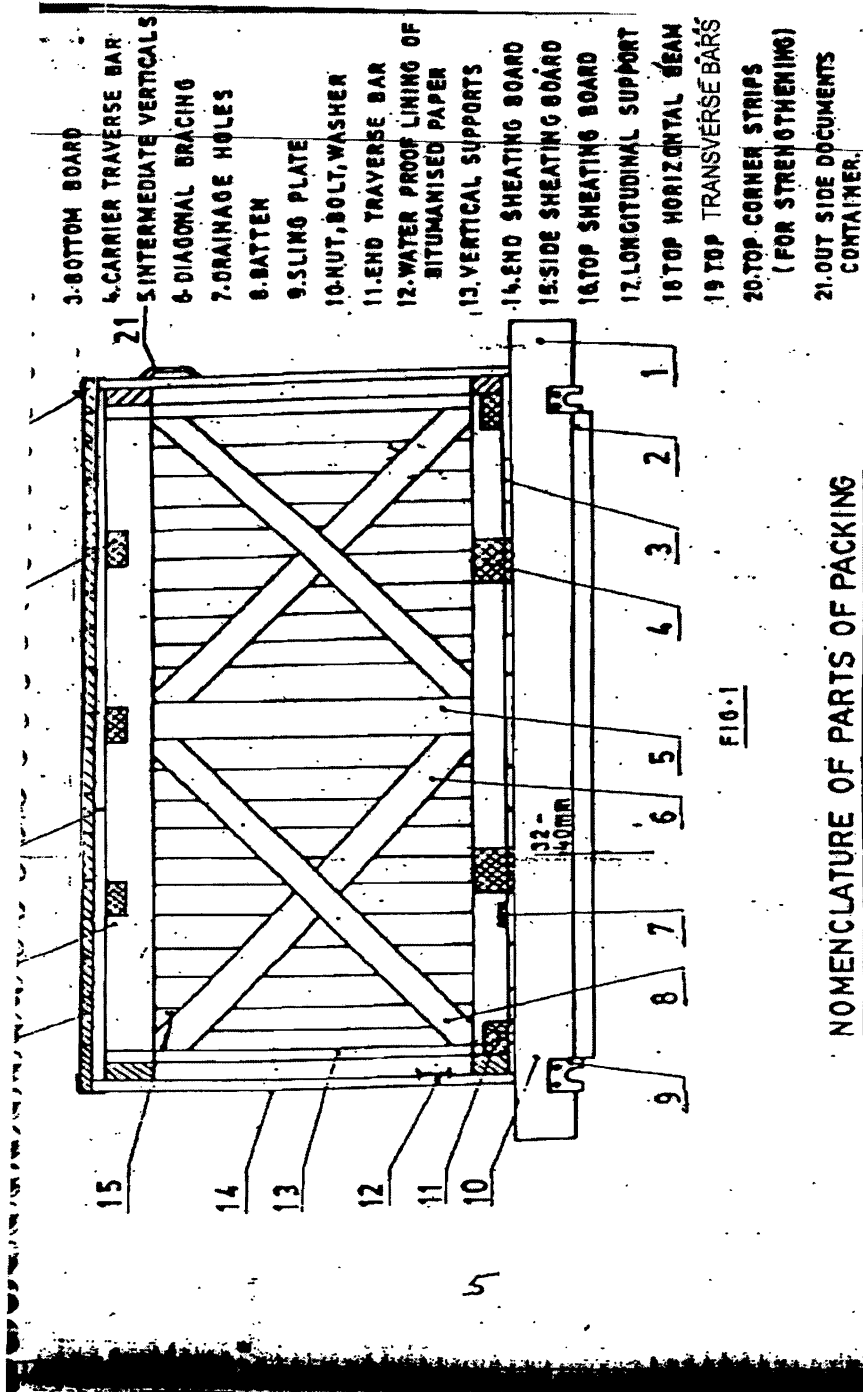
- The thickness of planks for top, bottom, side and end panels shall be at least 25mm. Planks used for this purpose shall be joined with each other by tongue and groove joint. The groove dimension shall be such that tongue fits tightly into groove to make the joint.
- Runners/slides, traverse bars, etc shall be of single length i.e. without any joint. Planks for sheathing, diagonal bracing etc shall also be of single length up to 2400mm, proper jointing is permitted for planks for sheathing and diagonal bracings.
- Each equipment to be individually covered with double polyethylene petticoat. Sheet thickness of polythene sheet shall not be less than 0.175 mm (175 microns). The sealing shall be such so as not to allow moisture inside.
- The inner surface of 4 sides of shooks shall be nailed with bituminized water proof craft paper. Wherever 2 pieces of kraft paper are used, joint shall have an overlap of minimum 20 mm.
- All the inner sides of the box shall be nailed with bitumen coated HESSIAN POLYTHYLENE KRAFT PAPER. For top frame it shall project on all sides by 100mm and shall be nailed on sides. Wherever 2 pieces of kraft paper are used, joint shall have an overlap of minimum 20 mm.
- For delicate equipment like control panels and switchgears, lighting panels and lighting transformers, suitable cushioning material like rubberised coir (min. 50 mm thick and 100 mm wide) shall be provided on their bottom support and the gap between the panel and casing

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shall be filled with rubberized coir with distance between consecutive supports less than 500 mm (ref fig15). For other equipment suitable support from sides of the casing shall be provided.

- Switchgear cubicles, control panels and control desks shall be packed and shipped in separate convenient sections. The components e.g. circuit breakers relays and instruments etc. which are removed from panels for shipping purpose and shall be separately packed and shipped as per packing instructions in clause 10.4.
- Packing case for control panels and switchgear panels shall be finally covered with GI sheet of minimum thickness of 0.4mm.
- Packing cases shall be bound at edges by nailing MS clamps/brackets at sufficient intervals. Further heavier boxes shall be strapped with C clamps (ref fig-4) fabricated from steel channels/angles and lighter boxes shall be strapped with hoop iron strips.
- Silica gel is used for this purpose to protect contents over sufficiently long time from corrosion. Silica gel shall be indicating type confirming to IS-304 (1979) packed in cotton bags placed at different positions inside the packing for absorbing moisture and shall not come into directly contact with equipment/material inside the package. The quantity of silica gel shall be adequate for storage period of one year, however it shall not be less than 4 gm. per ltr. Volume of case subject to minimum 400 gm. Per case.

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**BOTTOM FRAME ARRANGEMENTS**

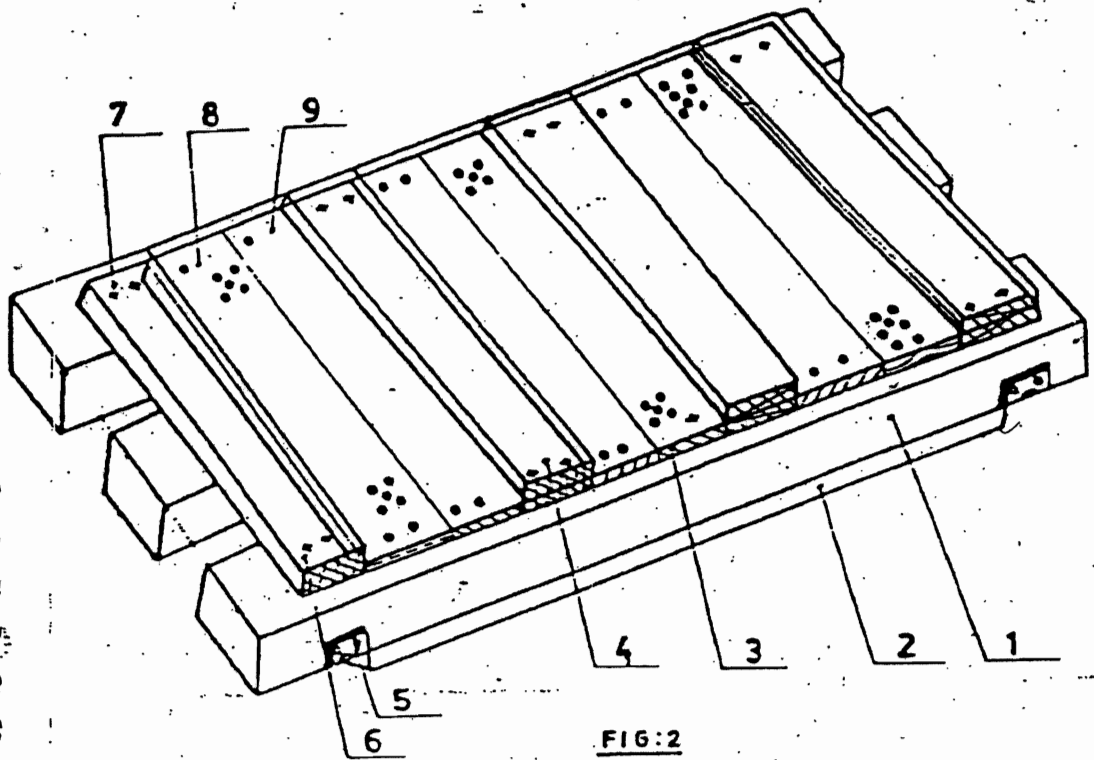


FIG:2


*Nos. of slides: Minimum 2 Nos.  
For length more than 1800 mm or  
load more than 1000kg, nos. of  
slides shall be minimum 3 Nos.  
For dimensions of slides, refer Table 1  
Cross section of end traverse bar; 100 x 100 mm.  
(minimum)*

- 1. SLIDE
- 2. UNDER SLIDE BOARD
- 3. BOTTOM BOARD
- 4. CARRIER TRAVERSE BAR
- 5. SLING PLATE
- 6. TRAVERSE BAR
- 7. BOLT, NUT & WASHER
- 8. DRAINAGE HOLES
- 9. NAILS

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### TOP FRAME ARRANGEMENT

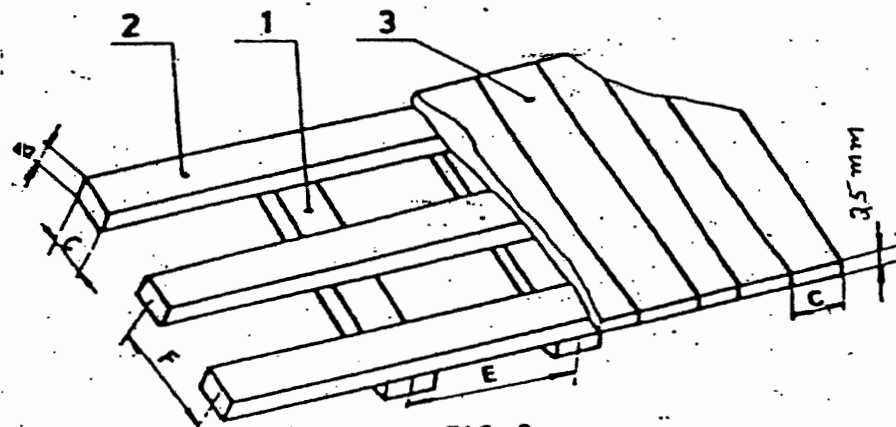
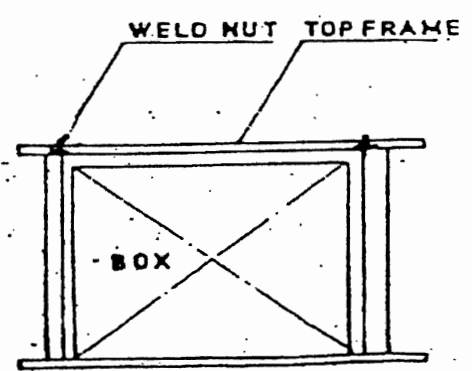
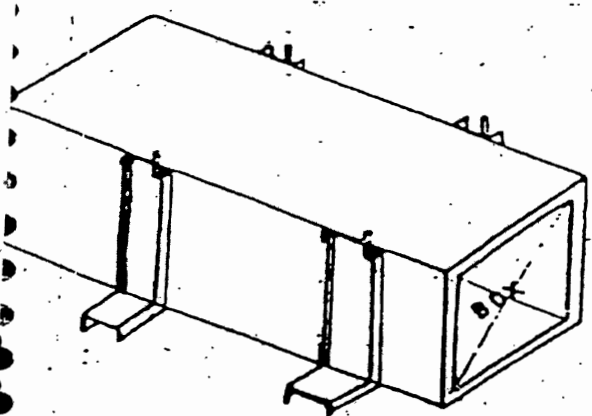


FIG-3


F : 700 to 1000 mm  
 E : 500 to 900 mm  
 : 30x100 mm.

- 1 - Traverse Bars
- 2 - Horizontal Soans
- 3 - Top Board

### ARRANGEMENT OF C-CLAMPS AROUND CASES



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**ARRANGEMENT OF DIAGONAL BRACING AND  
HORIZONTAL SUPPORT**

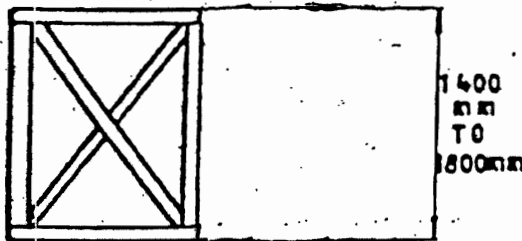


FIG: 6

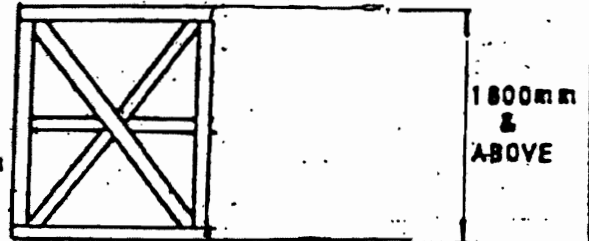


FIG: 8

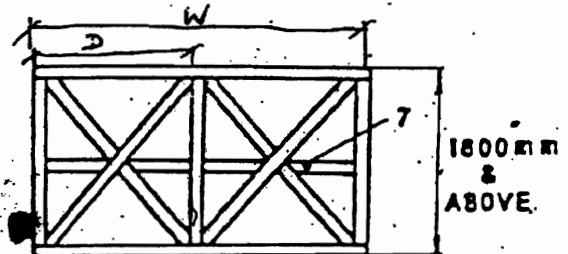


FIG: 7

7- Middle Horizontal Support

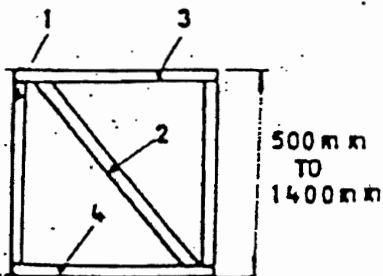


FIG: 5

1- Vertical Support

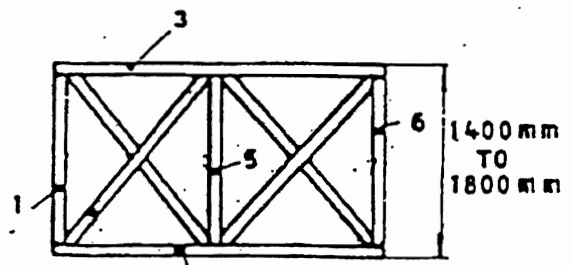



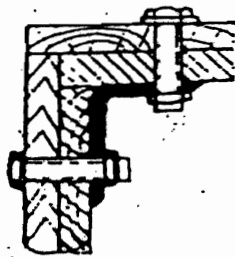
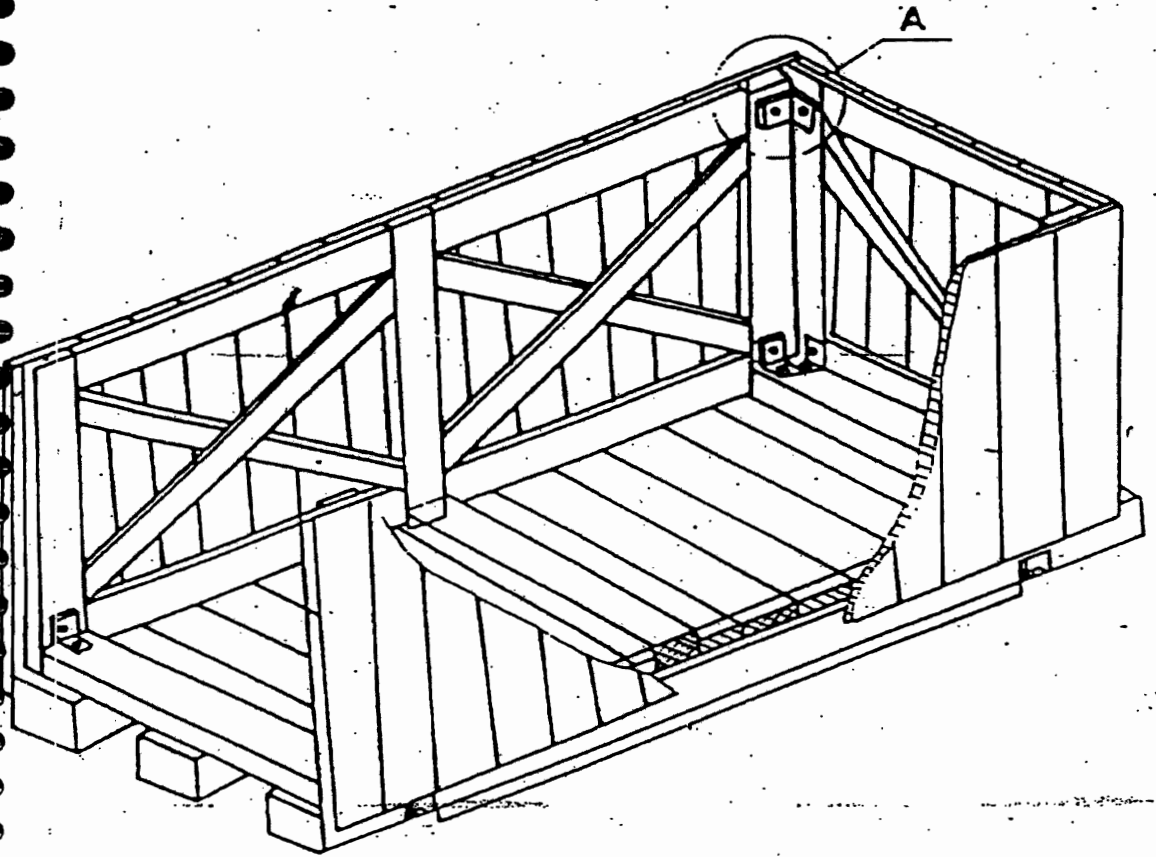
FIG: 7

1, 5, 6 - Vertical Support

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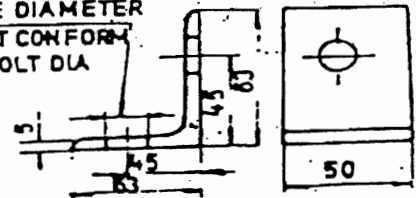
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**ARRANGEMENT OF PACKING CASE**




**DETAIL-A**

HOLE DIAMETER  
MUST CONFORM  
TO BOLT DIA



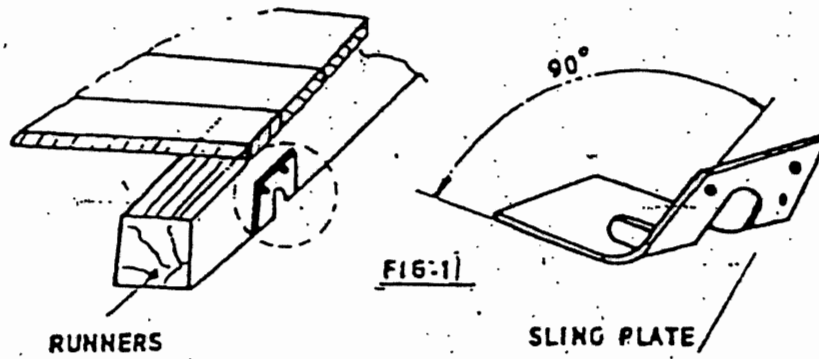
**FIG:10**

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**ARRANGEMENT OF SLING & PLATE ON**

**CASES**



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TABLE-1

LOADS	LENGTHS OF SLIDES						
	600	800	1000	1200	1300	1500	2000
	Cross section b x c				<div style="display: inline-block; border: 1px solid black; width: 80px; height: 15px; vertical-align: middle;"></div> b		
500	50 X 100	50 X 100	50 X 100	50 X 100	75 X 100	75 X 100	100 X 100
800	50 X 100	50 X 100	75 X 100	75 X 100	75 X 100	75 X 100	100 X 100
1000	75 X 100	75 X 100	75 X 100	100 X 100	100 X 100	100 X 110	100 X 150
1500	75 X 100	75 X 100	100 X 100	100 X 100	100 X 100	100 X 150	100 X 150
2000	75 X 100	100 X 100	100 X 100	100 X 150	100 X 150	100 X 150	150 X 150
2500	75 X 100	100 X 100	100 X 150	100 X 150	100 X 150	150 X 150	150 X 150
3000	100 X 100	100 X 150	150 X 150	150 X 150	150 X 150	150 X 150	150 X 150





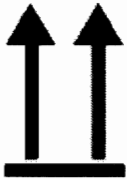




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Table-2

End and side panels	Width of the panel "W"	Distance between longitudinal support (Dimension "D")						
		600	800	1000	1200	1400	1600	1800
		Cross section b x c				Item 1 to 7		
Fig- 5 to Fig-9	600 to 1200	30 X 100	30 X 100	30 X 100	30 X 130	30 X 130	30 X 130	30 X 130
	1201 to 1600	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130
	1601 to 2000	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130
	2001 to 3000	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	30 X 130	40 X 150
	3001 to 4000	40 X 150	40 X 150	40 X 150	40 X 150	40 X 150	40 X 150	40 X 150


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#### INDICATION MARKS ON CASES/BOXES/CRATES

Designation	Symbol	Explanation
Fragile, Handle with care		The symbol should be applied to easily broken cargoes. Cargoes marked with this symbol should be handled carefully and should never be tipped over or slung.
Use no hooks		Any other kind of point load should also be avoided with cargoes marked with this symbol. The symbol does not automatically prohibit the use of the plate hooks used for handling bagged cargo.
Top		The package must always be transported, handled and stored in such a way that the arrows always point upwards. Rolling, swinging, severe tipping or tumbling or other such handling must be avoided.
Keep away from heat (solar radiation)		Compliance with the symbol is best achieved if the cargo is kept under the coolest possible conditions. In any event, it must be kept away from additional sources of heat. It may be appropriate to enquire whether prevailing or anticipated temperatures may be harmful.
Protect from heat and radioactive sources		Stowage as for the preceding symbol. The cargo must additionally be protected from radioactivity.
Sling here		The symbol indicates merely where the cargo should be slung, but not the method of lifting. If the symbols are applied equidistant from the middle or center of gravity, the package will hang level if the slings are of identical length. If this is not the case, the slinging equipment must be shortened on one side.
Keep dry		Cargo bearing this symbol must be protected from excessive humidity and must accordingly be stored under cover. If particularly large or bulky packages cannot be stored in warehouses or sheds, they must be carefully covered with tarpaulins.

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Center of gravity		This symbol is intended to provide a clear indication of the position of the center of gravity. To be meaningful, this symbol should only be used where the center of gravity is not central. The meaning is unambiguous if the symbol is applied onto two upright surfaces at right angles to each other.
No hand truck here		The absence of this symbol on packages amounts to permission to use a hand truck on them.
Stacking limitation		The maximum stacking load must be stated as "... kg max.". Since such marking is sensible only on packages with little loading capacity, cargo bearing this symbol should be stowed in the uppermost layer.
Clamp here		Stating that the package may be clamped at the indicated point is logically equivalent to a prohibition of clamping anywhere else.
Temperature limitations		According to regulations, the symbol should either be provided with the suffix "...°C" for a specific temperature or, in the case of a temperature range, with an upper ("...°C max.") and lower ("...°C min.") temperature limit. The corresponding temperatures or temperature limits should also be noted on the consignment note.
Do not use forklift truck here		This symbol should only be applied to the sides where the forklift truck cannot be used. Absence of the symbol on other sides of the package amounts to permission to use forklift trucks on these sides.
Electrostatic sensitive device		Contact with packages bearing this symbol should be avoided at low levels of relative humidity, especially if insulating footwear is being worn or the ground/floor is nonconductive. Low levels of relative humidity must in particular be expected on hot, dry summer days and very cold winter days.

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Do not destroy barrier		<p>A barrier layer which is (virtually) impermeable to water vapor and contains desiccants for corrosion protection is located beneath the outer packaging. This protection will be ineffective if the barrier layer is damaged. Since the symbol has not yet been approved by the ISO, puncturing of the outer shell must in particular be avoided for any packages bearing the words "Packed with desiccants".</p>
Tear off here		<p>This symbol is intended only for the receiver.</p>

FIG-12

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		BHEL-PEM-DELHI-INDIA			
CONSIGNEE					
MATERIAL					
CUSTOMER REF.			MO. NO.		
DESPATCH ADVICE NOTE NO.			CASE NO.		
DIMENSIONS(MM) LXBXH			NET WT -KGS		GROSS WT -KGS
SPECIAL INSTRUCTIONS	HANDLE WITH CARE -- KEEP DRY DO NOT DROP -- DO NOT TILT				

FIG-13: MARKING PLATE

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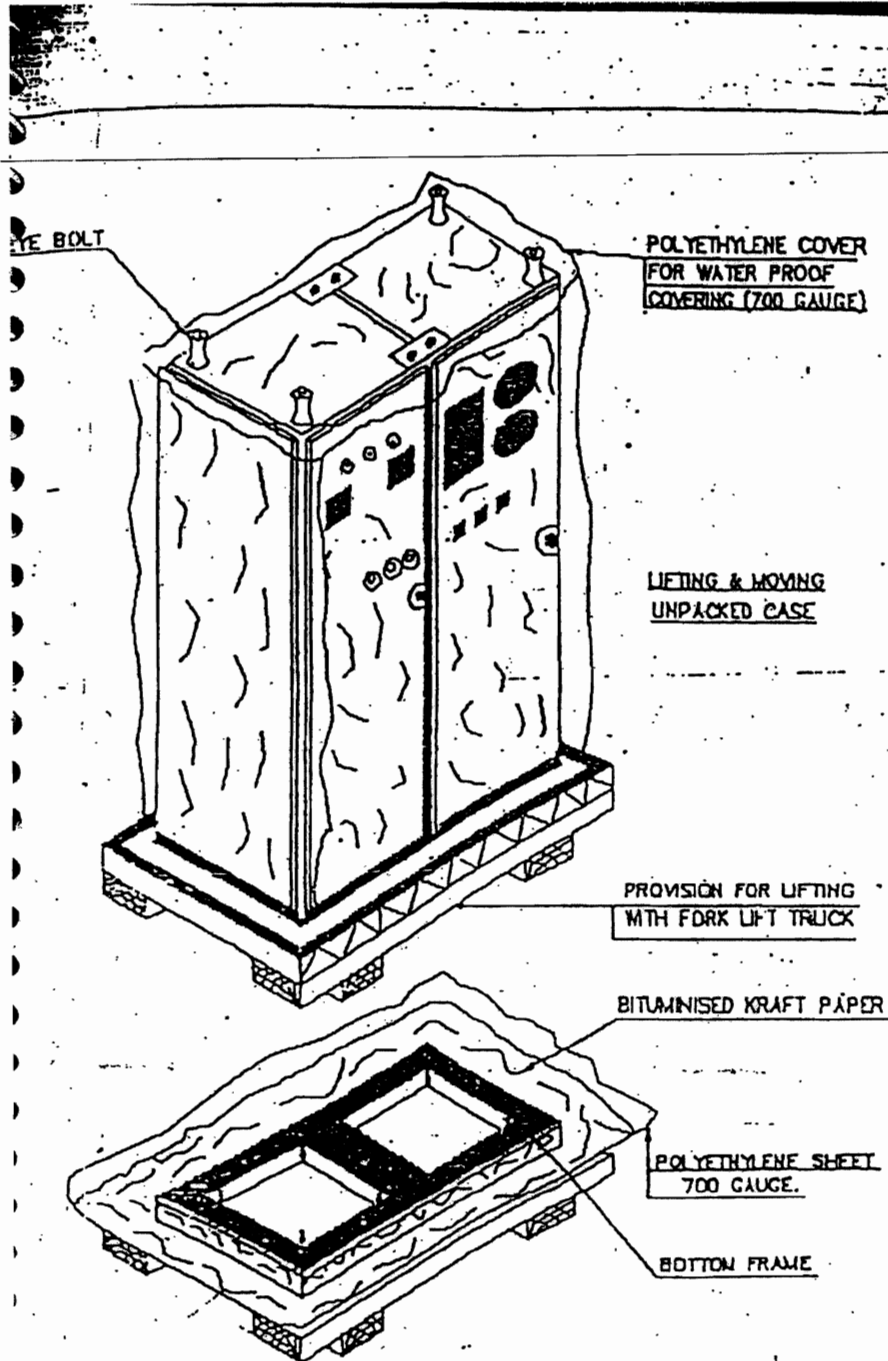



FIGURE-14

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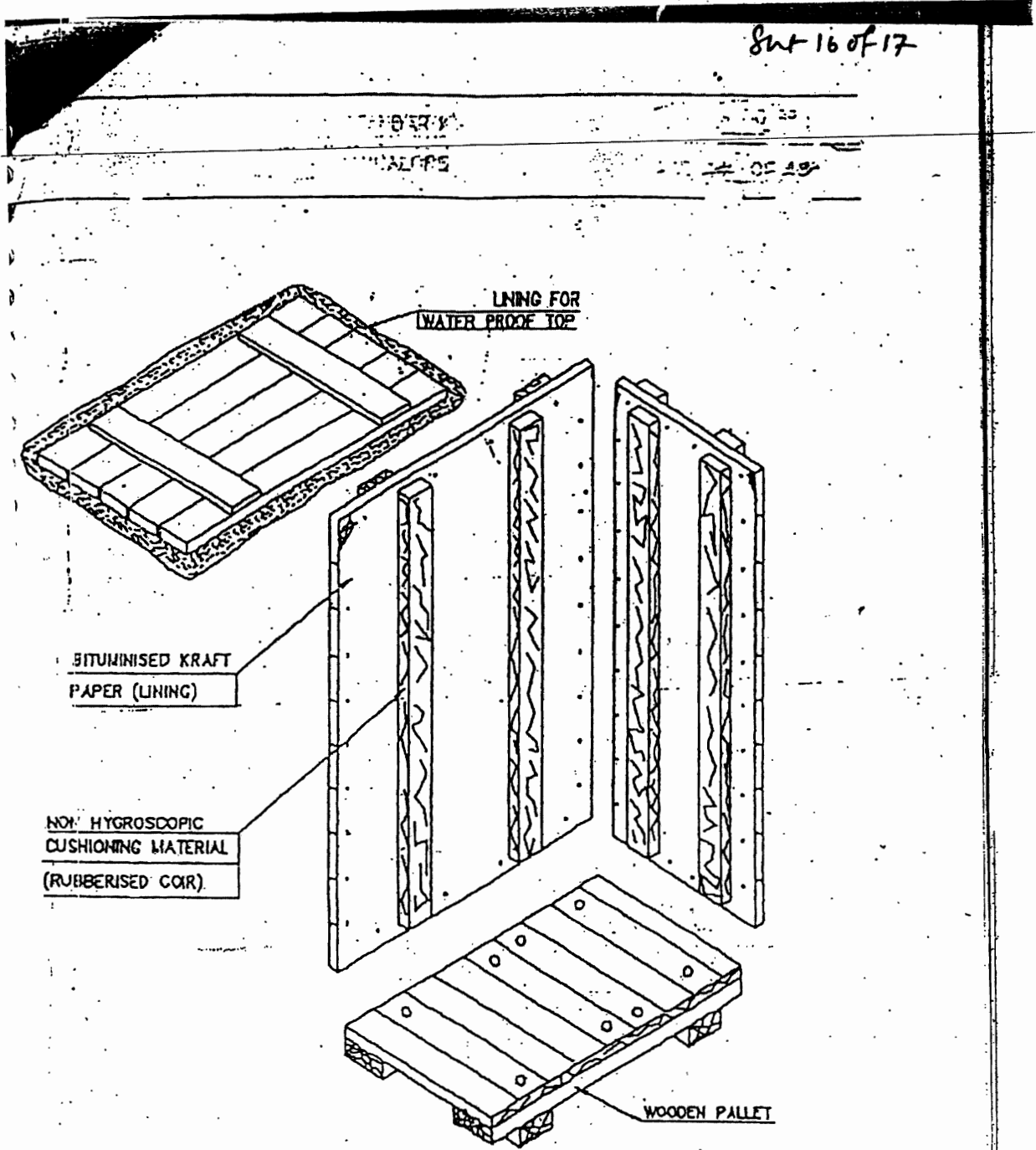



FIGURE-15

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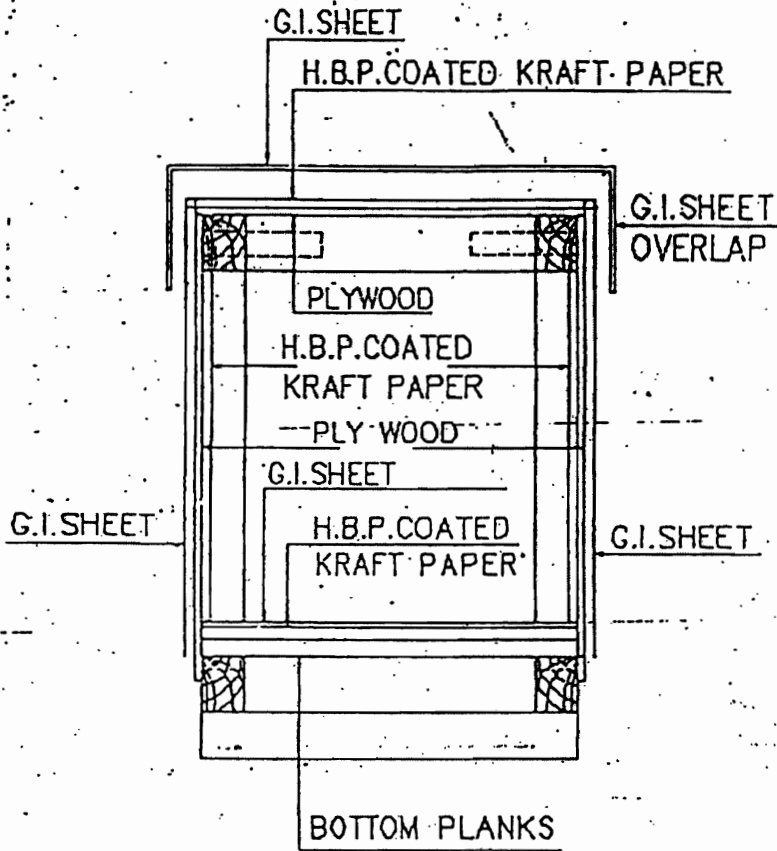



FIG-16 : CLOSED PACKING CASE WITH G.I.SHEET  
SHOWING LAYERS OF PACKING MATERIALS.

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## 10.0 TYPICAL PACKING DETAILS/PROCEDURE FOR MECHANICAL ITEMS

### 10.1 INSULATION MATERIAL (MINERAL WOOL MATTRESSES)

This specification covers the requirements of seaworthy packing and marking for bonded mineral (rock) wool mattresses having metallic hexagonal wire netting as facing on one or both sides.

#### 10.1.1 TYPE OF CONSTRUCTION

Mattress shall be packed in Polythene (of 0.2 mm thickness) all around and sealed to prevent moisture absorption during transit and storage. Further it shall be wrapped with Bitumen coated Polythene bonded/lined Hessian and stitched and then packed in 5 ply DFC carton box.

Silica gel is used for this purpose to protect contents over sufficiently long time from corrosion. Silica gel shall be of indicating type conforming to IS:304-1979 packed in cotton bags placed at different positions inside the packing for absorbing moisture and shall not come into direct contact with the material inside the package. The quantity of silica gel shall be enough for storage period of one year. However, it shall not be less than 4 gms per litre volume of case subject to minimum of 400 gms per case.

Each mattress as well as the packages shall be serial numbered. Also, printed sheets indicating the nominal thickness, density and wire netting details (i.e. material and size) shall be placed below the wire netting.

Following details shall be legibly written on the packages. The details shall also be typed on a sheet of paper & kept in a sealed Polythene cover, inside the packages


- a) Project Name
- b) Purchase Order No.
- c) Sl. No. of package
- d) Size of mattress (Thickness x Length x Width)
- e) Density
- f) Wire netting material and size
- g) Weight of the package

### 10.2 INSULATION MATERIAL (ALUMINIUM COIL)

Heavy Gauge Aluminium Coil Packaging are done by Eye-to-Sky packaging or by Eye to eye packaging as per the proven practice being followed by manufacturer of Aluminium sheets.

#### 10.2.1 Type of construction for Eye to Sky packaging

- a. Strapping of coil with polyester strap around circumference at one place.
- b. Putting paper I. D. Edge protector.
- c. Wrapping the coil with VCI stretch film after putting silica gel bags (4 nos.) Inside the coil.
- d. Wrapping the coil with HDPE film.
- e. Covering the coil including its build up & bore with masonite / particle board.
- f. Putting metallic I. D on coil.
- g. Putting O.D edge protector (paper) on coil.

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- h. Putting circumferential polyester strap (3 nos.) & eye polyester strap ( 4 nos.).
- i. After placing the coil on coil tilter ply wood (10mm thick) of suitable size along with wooden pallet is to be put at the bottom side of the coil.
- j. Coil is to be tilted to eye-to-sky position.
- k. Final strapping with metallic strap to unit coil and skid at 2 places with top cover of plywood.
- l. Fixing the coil with wooden blocks at 4 corners.
- m. Labeling 2 nos.(one metallic & one adhesivetype) For specification, net wt. & gross wt.

#### 10.2.2 Type of construction for Eye to Eye packaging


- a. Strapping of coil with polyester strap around circumference at one place.
  - b. Putting paper I. D. Edge protector.
  - c. Wrapping the coil with VCI stretch film after putting silica gel bags (4 nos.) Inside the coil.
  - d. Wrapping the coil with HDPE film.
  - e. Covering the coil including its build up & bore with masonite / particle board.
  - f. Putting metallic I. D on coil.
  - g. Putting O.D edge protector (paper) on coil.
  - h. Putting circumferential polyester strap (3 nos.) & eye polyester strap ( 4 nos.).
  - i. Placing of coil on wooden skid Coil is to be tilted to eye-to-sky position.
  - j. Final strapping of coil and skid at 2 places with steel strap. Fixing the coil with wooden blocks at 4 corners.
- Labeling 2 nos.(one metallic & one adhesive type) For specification net wt. & gross wt.

#### 10.3 Packing Procedure for Online Tube Cleaning System and accessories


This procedure is applicable for the shipment of Onload Tube Cleaning System and accessories by sea.

##### 10.3.1 Packing details:

- The Packing case shall be made of treated rubber wood. The design of the case shall be as per Annexure IIIA & IIIB.
- The Equipments shall be placed on the wooden base of the Packing case and fastened if required to arrest the movement of the same.
- Equipment shall be covered by Polythene sheet and inside wall surfaces of the wooden cases also shall be covered by polythene sheet.
- All Nozzles shall be closed with plywood dummies.
- All electrical components assembled or loose shall be covered with polythene sheets along with silica gel pack.
- Silica gel desiccants shall be kept inside each case in sufficient quantities in order to absorb the moisture.

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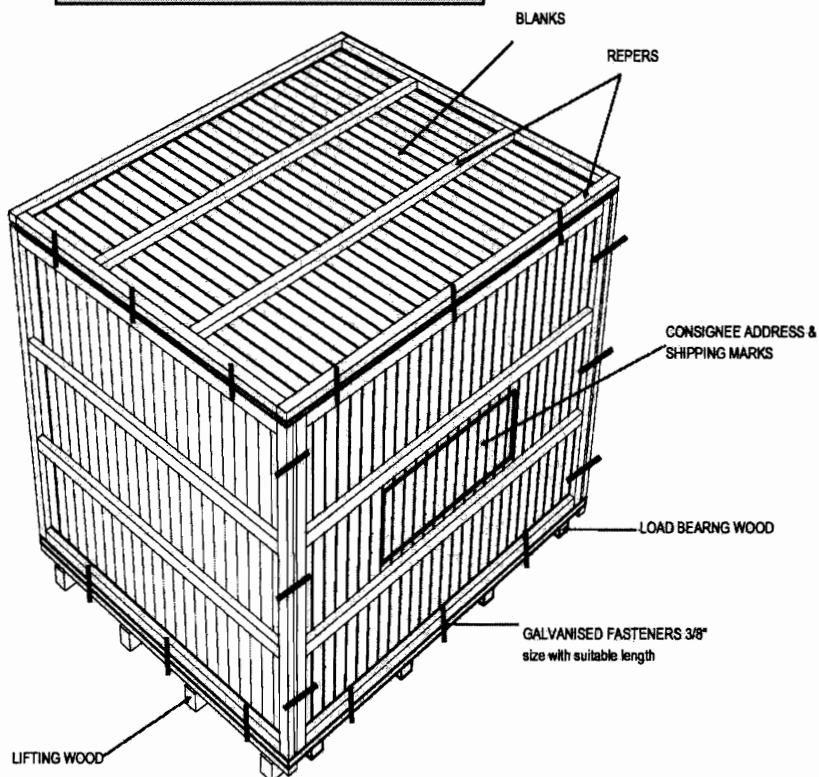
- Thermocol packing shall be made for glass items like Ball vessel sight glass, Vpiece sight glass & pressure gauge.
- Silica gel desiccants shall be kept inside of each case to absorb the moisture.
- A Packing list covered in a polythene envelope shall be fixed inside and outside of each packing case.
- Shipping marks and consignee address shall be painted on the outer surface of the case.
- All handling instruction required for the case like top, sling, rain, handle with care etc, shall be marked on the case as per the symbol attached.
- Machined surface will be applied with Anti rust oil and covered by polyurethane sheet to protect from external oxidation.
- All valves will be closed with dummies to protect the internals and placed in the wooden case which will covered by polyurethane sheet.

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**MODEL: FASTNERS TYPE (BASE, SIDE & TOP ATTACHED WITH BOLT, NUT & WASHER)**

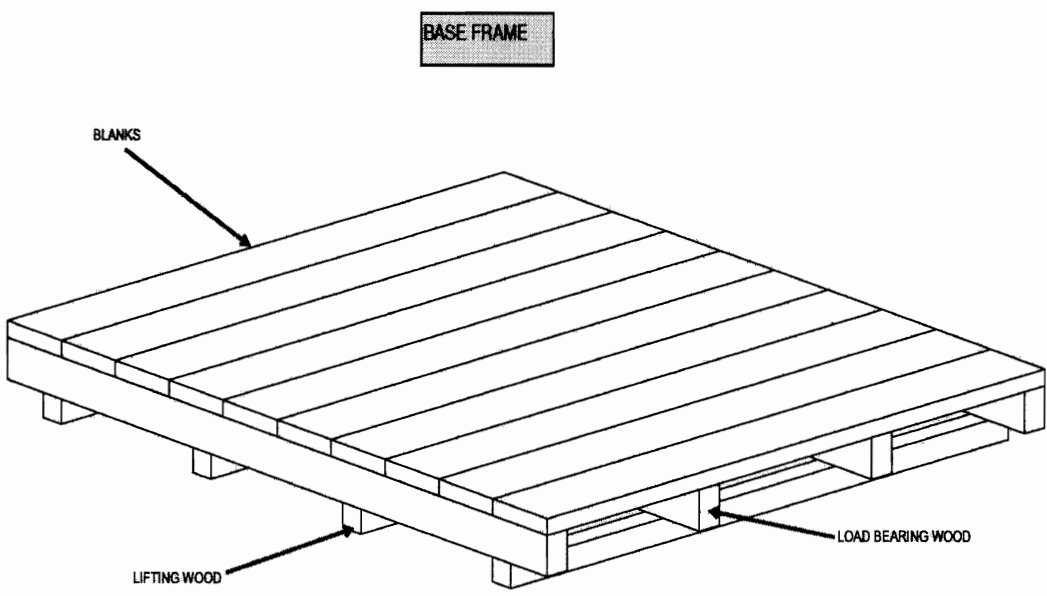
This Type of case to be used for following items:

1. BALL SEPERATOR
2. BALL COLECTOR SKID




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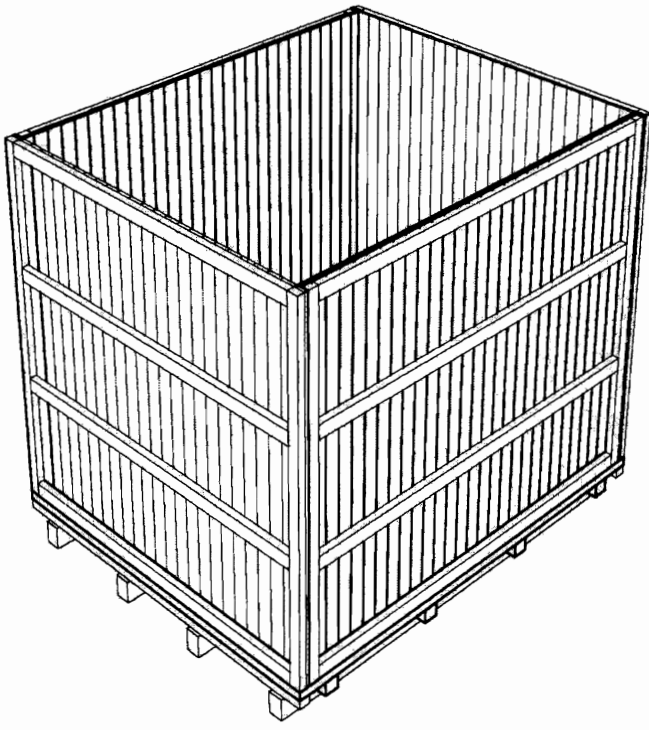
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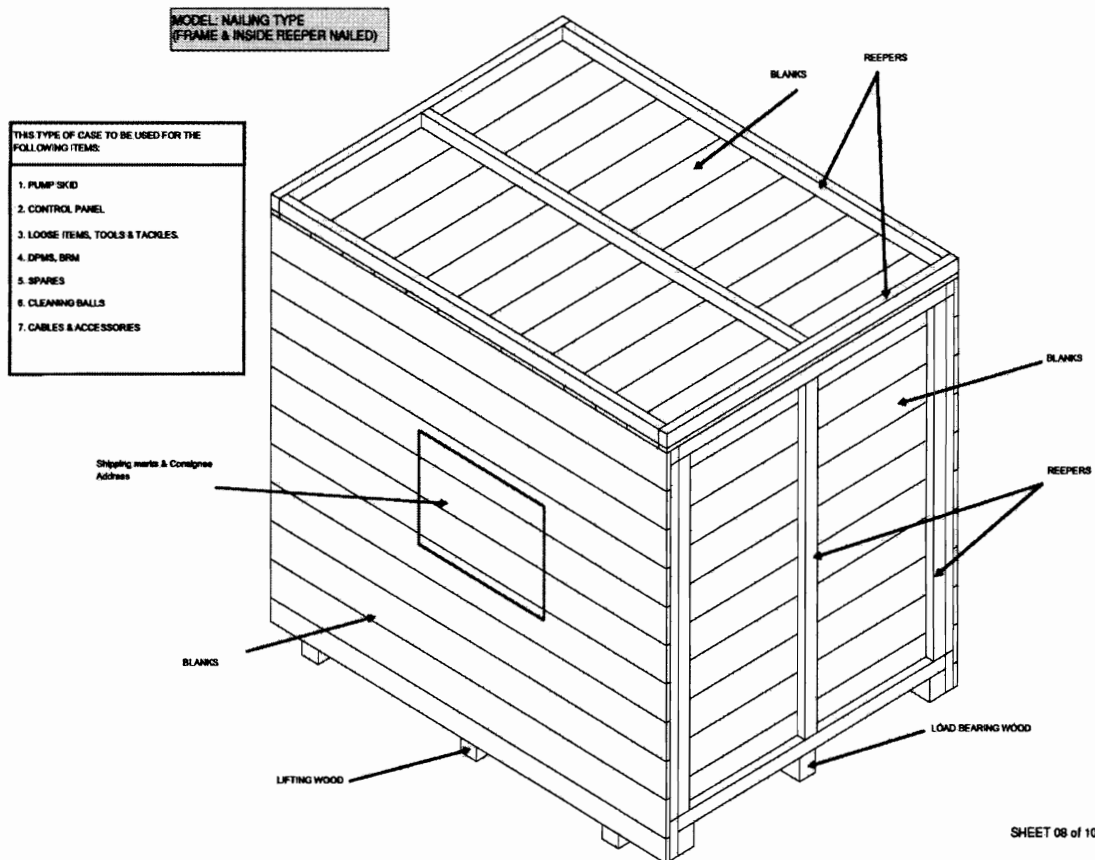
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MODEL: FASTNERS TYPE - WITHOUT TOP




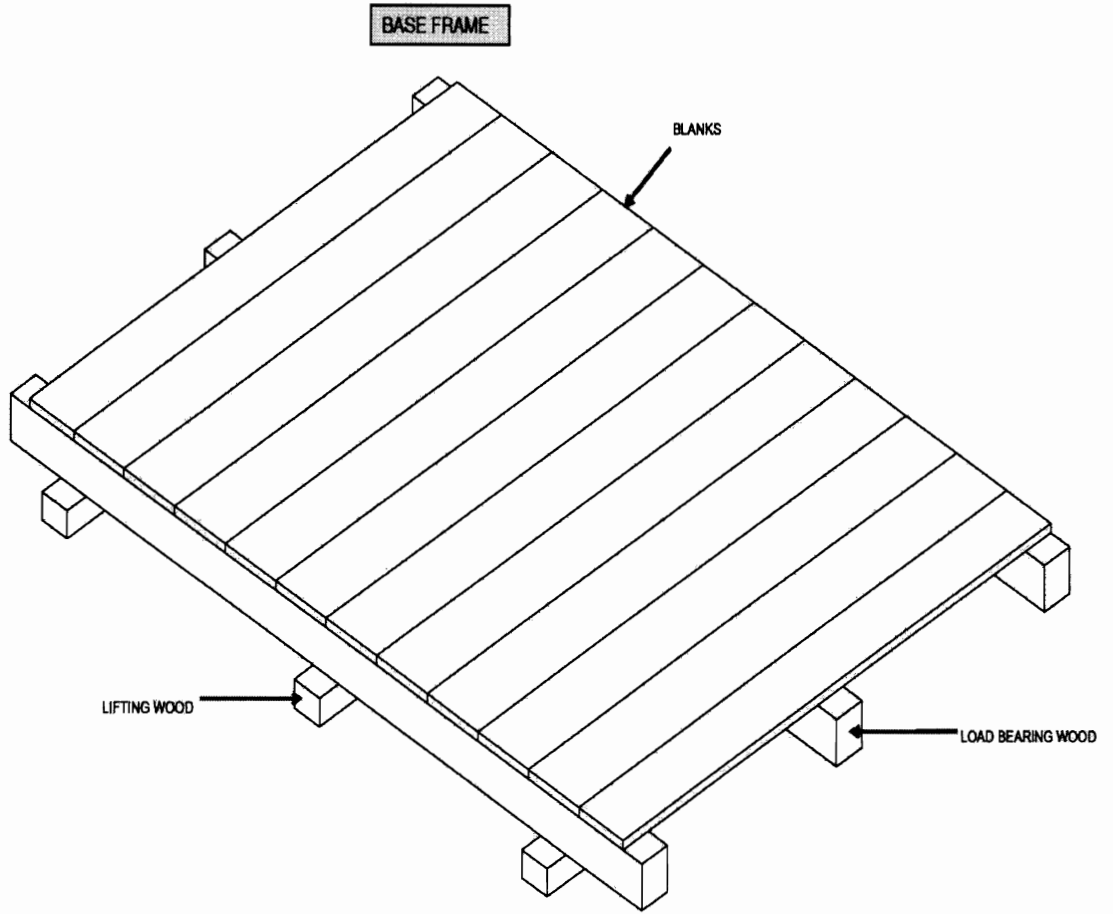
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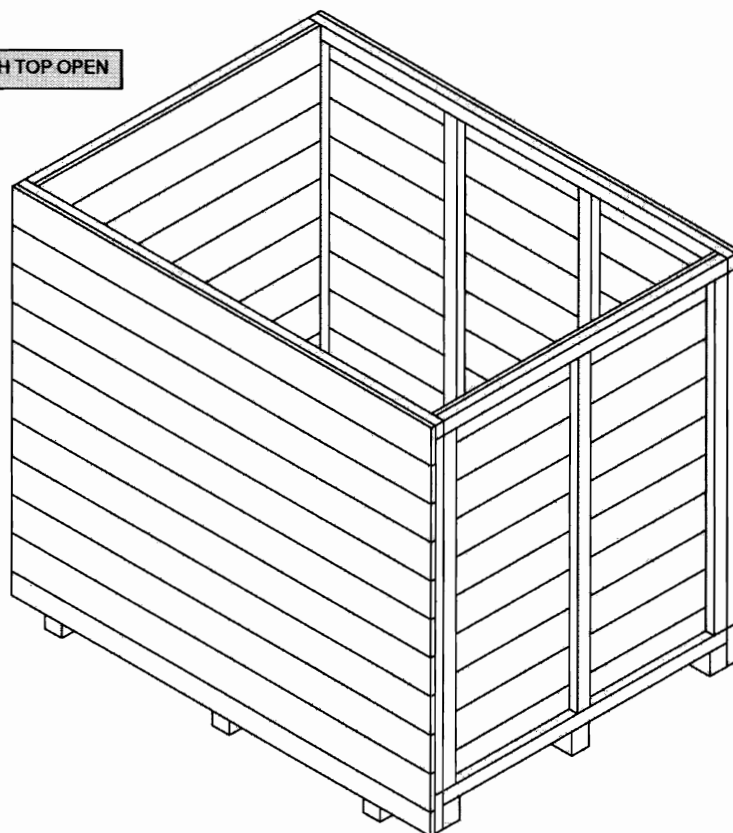
	<b>TITLE</b>	SPECIFICATION NO. PE-TS-888-100-A001	
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NAILING TYPE MODEL WITH TOP OPEN



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#### 10.4 PACKING OF LOOSE ITEMS

Loose mechanical, electrical and C&I items e.g. valves, fittings, pressure/temperature gauges/switches, circuit breakers, relays etc shall be individually wrapped using polyethylene sheets/U foam/ thermocol sheets/air bubble sheets depending upon the items and then packed in wooden boxes. The left out spaces and top of the boxes shall be filled with rubberized coir to get proper cushioning effect, Special attention shall be paid to relays, instruments etc for arresting the movements of their operating mechanism during transportation.

The construction of wooden packing cases shall be as per clause 9.3.1 retaining its all features concerning strength of the box. The construction of wooden packing case for electrical and C&I items shall be as per fig-16.

Inner surface of 6 sides of the box shall be lined with bitumen coated hessian polyethylene kraft paper. Rubberized coir of min. 25mm thickness and 100 mm width shall be nailed to inner surfaces of bottom and 4 sides of the boxes.


#### 11.0 PACKING OF ELECTRICAL ITEMS

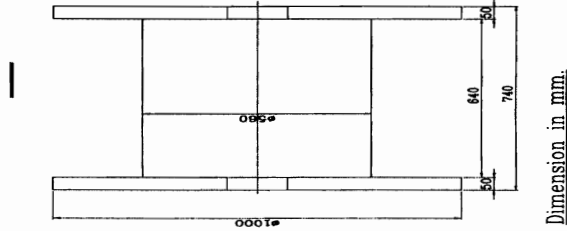
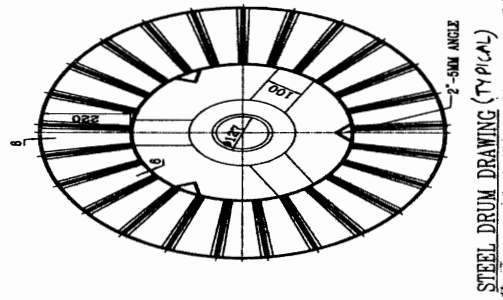
##### 11.1 CABLES


11.1.1 **Type of Equipment**  
All type of cables..

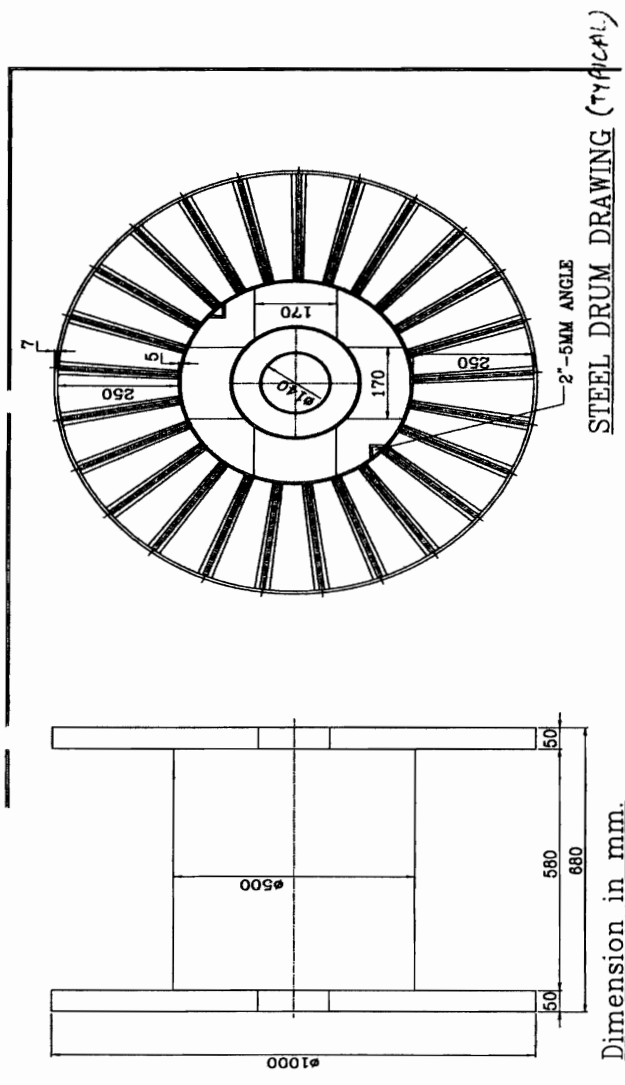
##### 11.1.2 **Type of Construction**

New or practically new cable drums made of steel and painted with epoxy resin paint are to be used. Cable ends are carefully protected before packing. Over the cables polyethylene sheet shall be wrapped and then sealed properly. Cable drum can be put in wooden crates for ease in transportation and handling. (Wooden cable drum is also acceptable, however vendor to furnish constructional details for approval).

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## 11.2 PACKING OF CABLE TRAYS & ACCESSORIES AND CABLE TRAY SUPPORT MATERIAL

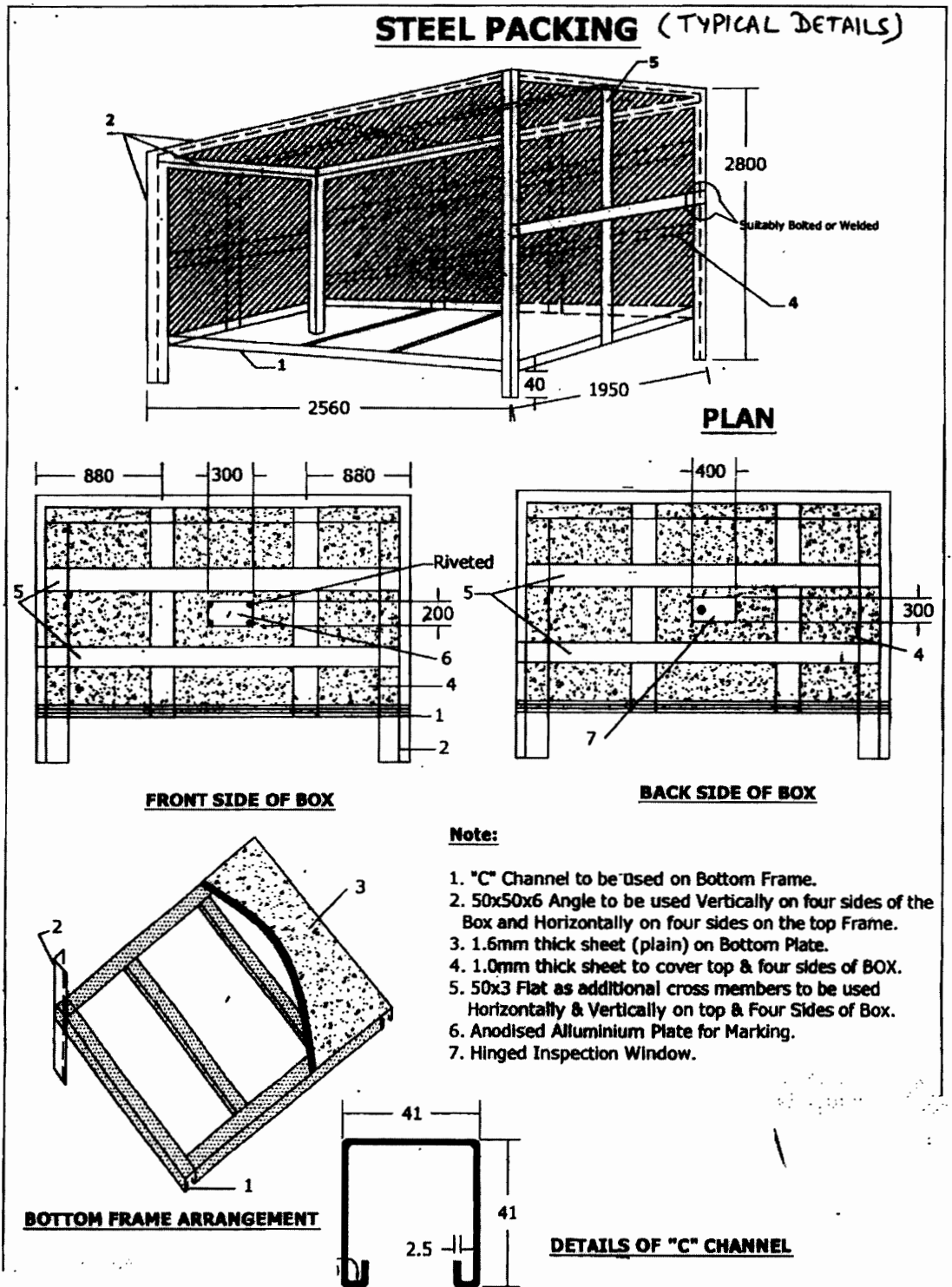
11.2.1 Cable trays can be packed in wooden boxes as per fig 1 to 11 or in steel boxes. Details of steel box construction is as indicated below.


- 1) All Dimensions are in "mm" unless otherwise stated.
- 2) Packing Box shall be fabricated using 50x50x6mm MS Angle, 50x3mm Flat, 2.5 mm thick C Channel, 1mm & 1.6mm Thick sheet.
- 3) Finish of Packing Box Shall be Galvanized.
- 4) Angle & Channel Section forming part of the Main frame shall be welded thoroughly with each other to give a rigid structure.
- 5) Sheet Section and Flat section shall be bolted/ Riveted/ Welded suitably to the Main frame stated in '4' above.

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- 6) Welding Portion on galvanized surfaces shall be painted with Zinc Rich Paint.
- 7) Dispatch details such as consignor/consignee address, contract and case details, 'country of origin, port of delivery, stacking instructions shall be written on one of the side of boxes. An anodized aluminium plate as per details and specifications given in page 3 of 5 shall be provided on the boxes
- 8) One copy of packing slip wrapped in polythylene bag covered with suitable aluminium .packing slip holder to be nailed on the external surface of the box. One more copy 9f the packing Slip wrapped in polythylene bag to be kept inside the box at the prominent place.
- 9) **INDICATION MARKS ON THE BOXES:** Markings shall be provided on the boxes indicating position of Boxes for handling, storage and nature of consignment. For guidelines referred page 4 of 5. The ink issued for this purpose as well as for marking dispatch instruction shall be indelible/non-washable marking ink.
- 10) Each item as mentioned in BOQ shall be packed & supplied as a set comprising of required numbers of associated fasteners & hardware etc

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### 11.3 PACKING FOR STATION LIGHTING SYSTEM

Aspects of packing specific to equipments / items of station lighting system are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

#### 11.3.1 For LIGHTING TRANSFORMER, DISTRIBUTION BOARDS, LIGHTING PANELS,

- a) Construction of packing case for LIGHTING DISTRIBUTION BOARDS, LIGHTING PANELS, TRANSFORMER . shall be EITHER as per FIGURE 1,2,3,5,6,7,8,9,10,11 OR FIGURE 14,15,16.
- b) Each Panel/Transformer shall be individually covered with double polythene sheet of thickness 175 microns minimum.
- c) All the 6 inner surfaces of packing shall be nailed with bitumen coated hessian polythene craft paper. Wherever 2 pieces of craft paper are used, the joint shall have minimum overlap of 20mm.

For the top frame it shall be project on all sides by 100mm and shall be nailed on sides .

- d) The gap between the panels and packing case shall be filled with rubberized coir of thickness 50mm minimum and width 100mm. The distance between two consecutive supports of rubberized coir shall be less than 500mm.
- e) Silica get packed in cotton bags shall be placed at different positions inside the packing.
- f) Packing case shall be finally covered with GI sheet of thickness 0.4mm minimum.

#### 11.3.2 For LUMINARIES, RECEPTACLES. EMERGENCY LIGHT, 240/24V TRANSFORMER, CEILING FAN, SWITCH BOARDS, FLEXIBLE CONDUIT, WIRES, EARTH WIRE. JUNCTION BOXES, ERECTION COMMISSIONING SPARES, RECOMMENDED SPARES , ERECTION MATERIAL AND CONSUMBALES

- a) Construction of packing case for THE ABOVE MATERIAL shall be as per FIGURE 1to11.
- b) Items placed inside the case shall be covered with double polythene sheet of thickness 175 microns minimum.
- c) All the 6 inner surfaces of packing shall be nailed with bitumen coated hessian craft paper. wherever 2 pieces of craft paper are used, the joint shall have minimum overlap of 20mm. For the top frame it shall be project on all sides by 100mm and shall be nailed on sides.
- d) Silica get packed in cotton bags shall be placed at different positions inside the packing.

#### 11.3.3 For CONDUIT PIPE


As per international practice pipes are shipped in open bundles with metal strapping. Packing as per attached figure A shall be provided which is described as following:

- a) Each bundle shall be wrapped with 2 layers of 175 microns thick polythene sheet.
- b) Then bundle will be wrapped with bitumen coated hessian craft paper.
- c) Bundle shall be strapped with steel straps.
- d) An anodized aluminium packing description plate as per Figure No. 13 shall be provided.

#### 11.3.4 For POLES


Poles will be wrapped with 2 layers of minimum 175 microns thick polythene sheet and then with bitumen coated hessian craft paper, packed as per Figure – C i.e. bundling.

#### 11.3.5 For STRUCTURAL STEEL

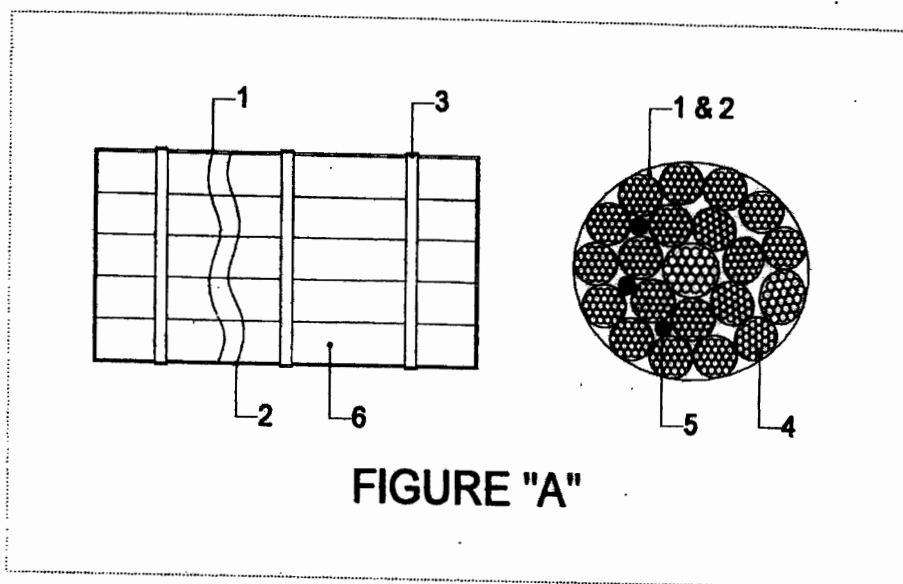
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Structural steel will be different sizes and shapes. Hence it will be packed as per Figure No. B and described as following :

- a) Each bundle shall be wrapped with 2 layers of 175 microns thick polythene sheet.
- b) Then bundle will be wrapped with bitumen coated hessian craft paper.
- c) Bundle shall be strapped with steel straps.
- d) An anodized aluminium packing description plate as per Figure No. 13 shall be provided.


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### **PACKING PROCEDURE FOR CONDUIT PIPE**



**FIGURE "A"**

- 1) LAYER OF BITUMEN COATED HESSIAN KRAFT PAPER.
- 2) LAYER OF POLYTHENE SHEET.
- 3) METAL STRAPPING.
- 4) CONDUIT PIPES.
- 5) SILICA GEL POUCHES.
- 6) BUNDLES OF CONDUIT PIPES.

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### PACKING PROCEDURE FOR STRUCTURAL STEEL

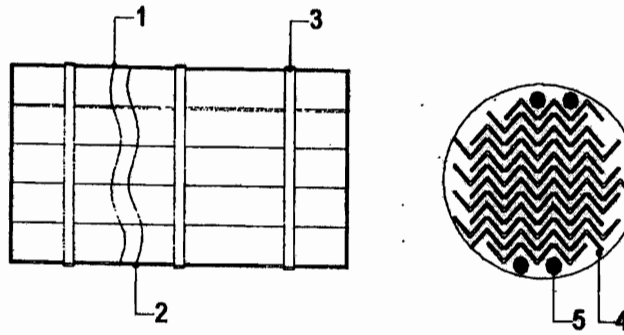

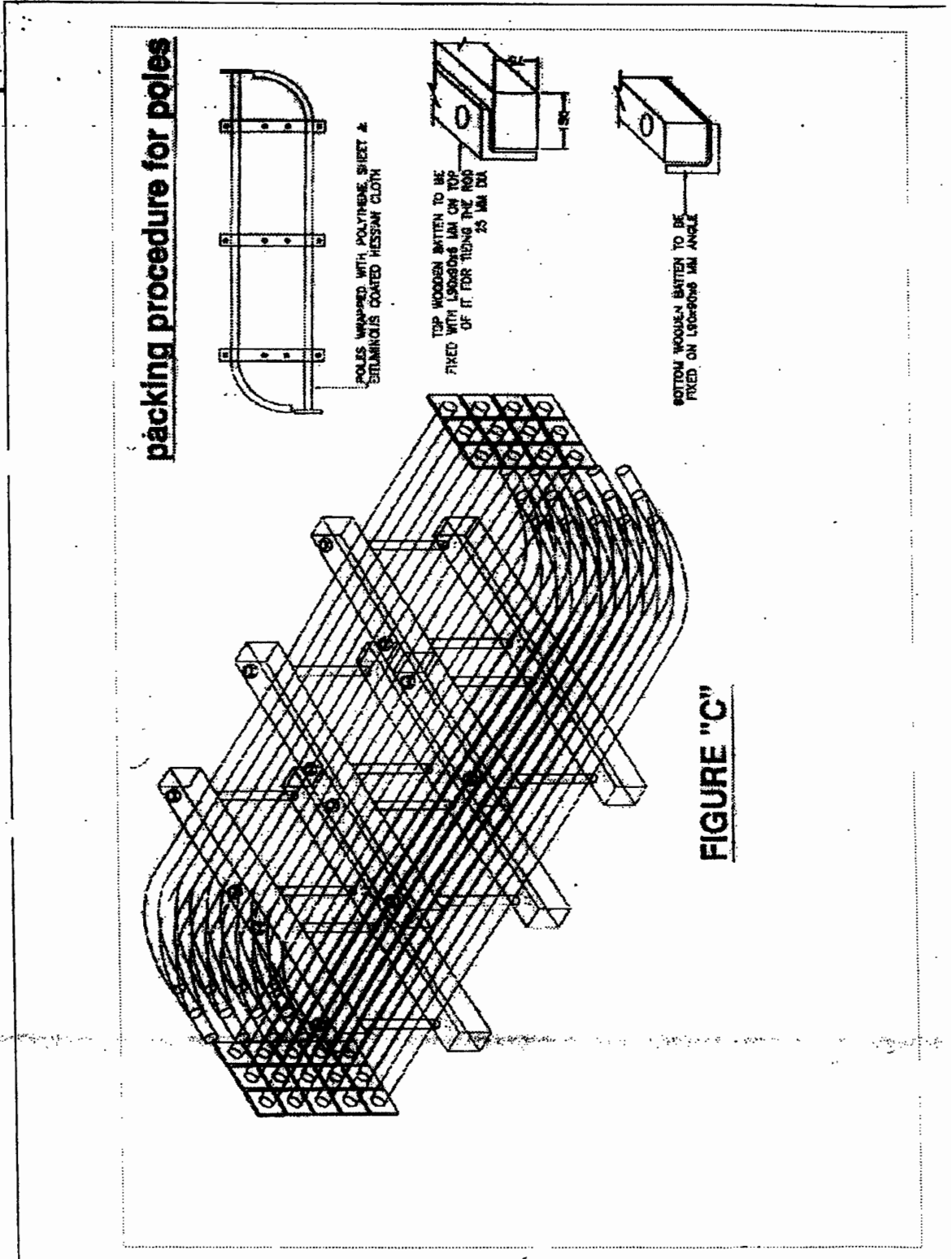



FIGURE "B"

- 1) LAYER OF BITUMEN COATED HESSIAN KRAFT PAPER.
- 2) LAYER OF POLYTHENE SHEET.
- 3) METAL STRAPPING.
- 4) STRUCTURAL STEEL.
- 5) SILICA GEL POUCHES.

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#### 11.4 PACKING FOR DC BATTERY

The packing procedure for seaworthy packing of DC Battery is defined below, which is capable of withstanding impacts, compression, vibration, toppling, sea water spray, prevention against rust, temperature and extreme atmospheric conditions. Aspects of packing specific to equipments / items of DC Battery are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

The packing procedure consists of various stages namely primary packing, cushioning, securing, desiccant, outside packing box, Runners/ sliders/ transverse bars of plywood, etc., provided for each movement.


- a) The packing boxes shall be made up of plywood boxes (thickness 9mm min.) with blocks at the bottom of the box for provision for handling the boxes using the forklift. The packing boxes sizes are generally standardized to half-euro size (capable of handling equipment's weight).
- b) Rubberized coir of 25mm thickness shall be provided as cushioning material at the bottom and thermocole of 20mm shall be provided inside on all four sides. Other than this polyethylene film wrap or cover also will be provided. Left out spaces to be filled with rubberized coir/ thermocol to get cushioning effect.
- c) Silica gel in dust free air permeable cotton/paper bag shall be placed in the packing boxes for storage period of 1 year as per IS 304 (1979)
- d) While packing the cells, transit caps (polypropylene) of red and blue shall be used for big size cells for ensuring that cells does not get damaged during the transport due to vibrations etc.
- e) The battery accessories shall be packed with suitable precautions as follows:
  - i) Copper connectors shall be packed after making bunches with lead wire seals to avoid misplacement.
  - ii) Hardware items shall be packed in polyethylene bags (Thickness  $\geq 0.175$ mm) with item slip
  - iii) Battery rack shall be packed in dismantled condition, wrapped with polyethylene sheet
  - iv) For Ni-Cd type battery, electrolyte in solid form for dry cells shall be packed in cans with KOH, LiOH being packed separately.
  - f) Galvanized Steel straps are provided for binding the packing box sides.
  - g) The handling instructions shall be marked in indelible/ non-washable ink, indicating the upright position.

#### 11.5 PACKING OF SERVICE TRANSFORMERS(OIL FILLED) & ACCESSORIES

This instruction is applicable for packing of transformers (oil filled), its accessories and components so as to ensure safe delivery to end user. Aspects of packing specific to equipments / items of transformers(oil filled) are given here. All other instructions / aspects as per the main specification of export packing which are not covered here shall also be applicable.

##### 11.5.01 PACKING DETAILS :

- a) Items shall be packed in case / crates as per the shipping list.
- b) All fragile items and small items shall be packed in cases and to be marked as "Fragile, handle with care Fragile items".
- c) Fragile accessories are to be first packed in their original boxes (VENDOR's packing). Very

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- d small / delicate items such as glass thermometer, door keys shall be packed in separate box.  
In case original box is found damaged, suitable alternate box or packing method using felt or foam sheet and polythene wrap to be used.
- e These boxes are then placed in identified wooden boxes. Inside of such boxes are lined with a layer of polythene sheet, packing wool / grass and another layer of polythene sheet before placing the boxes. All boxes are then wrapped with this polythene sheet before closing the box. Fragile items shall not be placed loose, one above the other inside the case.
- f All wiring cables, connection flats of non-ferrous materials, CTs, valves bellows shall also be packed.
- g Items like CTs, Oil communicating bushings, insulators, wired equipments and housings such as RTCC Panel, M. Box, Drive Mechanism, thermometers, gauges shall be wrapped in polythene from all around.
- h Buchholz relay and OSR relay openings will be blanked using covers, before putting them in the box
- i Items shall be carefully lowered and arranged inside the crate / case and each item shall be locked from all sides in such a way to avoid its movement in any way. Wooden stoppers and separators shall be provided for this and nailed to the crate / case wood.
- j Wooden planks and batons in contact with fragile items shall be provided with kit foam at the locations of contact.
- k Oil communication bushings shall be packed in separate case on V or U shape wooden felted supports, as in case of condenser bushings.
- l While placing and arranging the items inside the crates / cases, these shall be verified for correctness and then the packing note shall be signed. The cover top of the crate / case shall then be closed.
- m The main equipment like transformer tank shall be packed suitably to prevent any damage during transit / storage. Support structures like frame, header supports etc. shall be crated. Conservator headers shall also be crated. Radiators pipe work and other instruments & components shall be packed in cases. All the cases shall be lined with polythene from inside.

#### 11.6 ALTERNATIVE PACKING CASES FOR CONTROL PANELS AND SWITCH GEARS

For Control and switch gear panels, construction of wooden packing cases may be provided as per fig 14 & 15 and as detailed below.

Thickness of planks for all sides, binding and jointing battens shall be at least 25 mm. Width of the plank shall be at least 125mm and that of binding and jointing planks shall be at least 100mm.


Top frame shall be suitable so that it does not collapse due to sandwiching between slings while lifting. Longitudinal and traverse bars for the bottom wooden pallet to be suitably selected.

Diagonal bracings shall be as per cl 9.3.1.3 and all other requirements shall be as per clauses 9.3.1.4 to 9.3.1.6.

#### 12.0 Containerization

As required by BHEL, the VENDOR shall stuff the GOODS into 20 or 40 foot containers (dry, open top, flat racks, etc.).

The maximum inside dimensions of containers are to be considered:

	<b>TITLE</b>	<b>SPECIFICATION NO. PE-TS-888-100-A001</b>	
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		SECTION D	
		REV. NO. 0	DATE 10/08/2010
		SHEET 51	OF 52

- 40 foot containers: 11.80 m x 2.20 m x 2.05 m
- 20 foot containers: 5.80 m x 2.20 m x 2.05m
- 

The present definition of containerization is valid for sea containers only. Vendor to check the size of containers before start of packing of equipment.

#### 12.1 Protection of Cases/Crates

Since shipping containers are in general not water tight, packing in contact with the floor of the container shall be raised in order to prevent it from being damaged by the accumulation of water.

#### 12.2 Mechanical Constraints

The mechanical constraints for "general use" closed containers are of a different nature (height of "stacking" being limited inside the containers), the packing for the GOODS may be of a lighter structure. However, it is necessary that the packing be appropriate so as to protect the GOODS on site during the storage period, as required after discharging of the GOOD'S from the containers.

**Note:**

*It is the responsibility of the VENDOR to ensure that the cases/crates are stowed, secured and fastened inside the container. The VENDOR will take all necessary precautions to conform to the maximum weight allowed and the centre of gravity of the container. The securing and fastening of the cases/ crates can be carried out by nailing timbers on the bottom or on the vertical sides of the container.*

#### 13.0 Other Services to be provided by Vendor

In addition to the packing and shipping documents, VENDOR must also carry out the following services, which shall be included in his quotation:

Carriage of VENDOR's sub-contracted equipment and material, which must be re-grouped in VENDOR's or PACKER's workshops, whilst waiting for packaging.

BHEL reserves the right to postpone the shipping of the GOODS. In this event, any storage and insurance costs during the first ninety (90) days shall be borne by the VENDOR.

Loading, including lifting, securing, lashing, and stowing, of all cases, crates, or packages onto means of transportation such as, but not limited to, trailers, containers, etc.

#### 14.0 Responsibilities and Guarantees


VENDOR is responsible for the choice of category for packing according to the transport facilities used, and on the basis of the present document. In case of doubt or disagreement regarding the choice, VENDOR must inform BHEL prior to packing and await BHEL's approval. All phases of packaging, marking, loading, etc. will be subject to BHEL inspection.

BHEL reserves the right to reject the packing when the packing does not conform to these instructions and/or when the packing does not ensure perfect protection of the GOODS. VENDOR is responsible for the weights and dimensions declared, and the marking of the packages.

The documents must be in strict conformity with the packing contents.

The packing specified in these "Packing, Marking and Shipping Instructions" is guaranteed for a twelve (12) months storage period after delivery on site.

VENDOR is responsible for providing storage recommendation adapted to the GOODS. According to this guarantee, VENDOR is held responsible in the event of goods becoming

	<b>TITLE</b>	<b>SPECIFICATION NO. PE-TS-888-100-A001</b>	
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useless, damaged or broken, as a result of poor packing and/or stowing, or due to corrosion, subsequent to insufficient or inadequate protection. All direct or indirect costs resulting thereof, will be back-charged to VENDOR.

1367851/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-427-558-E003

VOLUME II

SECTION II

REVISION 00

23.02.2023

**SECTION-II**

**STANDARD TECHNICAL REQUIREMENTS**



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-427-558-E003

VOLUME II

SECTION II

REVISION 0

23.02.2023

## 1.0 INTENT OF SPECIFICATION

The intent of specification is not to specify all details of design & construction of material. The material shall, however, conform in all aspects to high standard of design, engineering and workmanship and be capable of performing in continuous operation up to & after bidder's guarantee period in manner acceptable to purchaser who will interpret the drawings & specification and shall have power to reject any work or material which in his judgement is not in full accordance with this specification.

## 2.0 CODES AND STANDARDS

- 2.1 The material shall comply with all currently applicable safety codes and statutory regulations of India as well as of the locality where the material is to be installed.
- 2.2 The material, construction, manufacture, inspection and testing of PVC wires shall conform to the latest revision of relevant standards as per Data Sheet-A.
- 2.3 In case of conflict between the applicable reference standard and this specification, stringent requirement shall govern.

## 3.0 TECHNICAL REQUIREMENTS

- 3.1 Lighting wires shall be single core, 1100 V grade, light duty PVC insulated, stranded copper wire for fixed wiring installation.
- 3.2 Wire shall be made with the Colour Codes specified below :
- a) 3 phase AC Connections
- Phase 1 (R)                      Red
  - Phase 2 (Y)                      Yellow
  - Phase 3 (B)                      Blue
  - Neutral                              Black
- b) DC Connections
- Positive                              White
  - Negative                              Grey
- c) Earth Connection                      Green

The Colour wise quantity of PVC wires shall be as specified in 'BOQ cum Price schedule'.

- 3.3 Cross-sectional area of PVC wires shall be as specified in 'BOQ cum Price schedule'.
- 3.4 Technical particulars of PVC wires shall be as specified in Data Sheet – A.

## 4.0 QUALITY ASSURANCE, TESTING & INSPECTION

- 4.1 Bidder shall confirm compliance with the BHEL's Standard Quality Plan (QP.no. PE-QP-999-558-E003) as attached with the specification without any deviations. At contract stage, the



**TECHNICAL SPECIFICATION  
FOR  
PVC INSULATED WIRES**

SPECIFICATION NO. PE-TS-427-558-E003

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REVISION 0

23.02.2023

successful bidder shall submit the Quality Plan for BHEL/ ultimate customer's approval. In case bidder has reference Quality Plan agreed with ultimate customer, same can be submitted for specific project after award of contract for BHEL/ ultimate customer's approval. There shall be no commercial implication to BHEL on account of Quality plan approval.

- 4.2 All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per approved quality plan.
- 4.3 The supplier shall perform all tests necessary to ensure that the material and workmanship conform to the relevant standards and comply with the requirements of the specification. Charges for all these tests for all the equipments & components shall be deemed to be included in the bid price.  
In case ordered quantities are manufactured and offered for inspection in more than one lot, BHEL reserves the right to witness testing on all lots without any commercial implications.

#### 5.0 PACKING

- 5.1 The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.
- 5.2 The wire shall be clean and dry prior to packaging.
- 5.3 The wire shall be supplied in packed coils. The tapes used for packing shall not bleed, leave residue, or damage the item when removed.
- 5.4 The inside coil diameters shall not be smaller than the minimum safe allowable bending diameter for wires.
- 5.5 The coil shall be placed in a corrugated paperboard/ fibreboard container/ mono carton.
- 5.6 The mono cartons shall be wrapped or bagged or tied in place in master cartons. The master carton shall be taped and then wrapped with cushioning material.
- 5.7 The dimensions of cartons shall be as per manufacturer's recommendations.

#### 6.0 MARKING:

- 6.1 The wire shall carry the following information either stencilled on the reel or contained in a label attached to it:
- 6.2 Reference of IS 694;
- 6.3 Manufacturer's name, brand name or trade-mark;
- 6.4 Type of wire (FR or FRLS, if applicable, to be used) and voltage grade;
- 6.5 Number of cores & Nominal cross-sectional area of conductor;
- 6.6 Colour of wire
- 6.7 Length of wire on the reel or coil;
- 6.8 Number of lengths on the reel or coil (if more than one);

## 2X660 MW BIFPCL MAITREE KHULNA STPP

### PRICE VARIATION FORMULA FOR PVC WIRES

ANNEXURE-IV

1. Price shall be variable as per price variation formulae given below.

The price variation shall be limited to +20% of the total ex-works price actually supplied (wire size wise) and -ve price variation shall be unlimited. Rates for working out price variation shall be as per rates published by IEEMA for the factors given below as sl. No. 3

2. Prices shall be variable as per following PVC formulae:

$$P = P_o + CuF(Cu-Cu_o) + CCFCu (PVCC-PVCC_o)$$

Where,

P is the as on date price and P<sub>o</sub> is the base month price

Cu and PVCC are the copper and insulation prices respectively of the current month.

Cu<sub>o</sub> and PVCC<sub>o</sub> are the copper and insulation prices for the base month.

CuF and CCFCu are the multiplication factors for copper and insulation respectively.

CuF and CCFCu shall be as per table below at sl. No. 3

3. Variation factor value for CuF and CCFCu as applicable shall be as follows:

Cable Size	2.5 sq.mm.	4 sq.mm.
IEEMA factor for Insulation (CCFCu) as per IS 694 (Insulation thickness ratios considered) (MT/Km)	0.0158	0.0217
IEEMA factor for CONDUCTOR (CuF) (MT/Km)	0.023	0.036

4. Base date for prices:

Initial price (As per IEEMA) for Cu<sub>o</sub> and PVCC<sub>o</sub>:

Base date shall be- 1<sup>st</sup> working day of the previous month to the date of issue of tender enquiry

Final price(as per IEEMA) for Cu and PVCC:

1<sup>st</sup> working day of month, one month prior to the date on which wire is notified as being ready for inspection i.e. TPIA inspection call raise date on web portal.

5. PVC shall be payable within contractual delivery period (including nay extension thereto)

**ANNEXURE-A : Delivery Schedule of PVC WIRES for 2X660 MW MAITREE BIFPCL KHULNA STPP**

BHEL Drawing No	Drawing Title	Primary/ Secondary	Drg/docs Sch for Vendors	Supply Portion
PE-V0-421-558-E801	DATA SHEET OF PVC WIRES	Primary	R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL.	Supply: Within Three (03) months from date of CAT-1 approval of Primary drawing/documents or BHEL manufacturing clearance whichever is later, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/resubmission of Primary drawing/documents, then same shall be reduced from the given delivery period.
PE-V0-421-558-E908	QUALITY PLAN OF PVC WIRES	Primary		For Additional Quantity (if provided separately under QTY variation clause of contract): Within 3 months from Lot clearance by BHEL.

**Notes :**

- a. The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- b. The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- c. Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.
- d. Vendor to start manufacturing activities only after obtaining specific manufacturing clearance from BHEL Purchase group.
- e. In case BHEL manufacturing clearance date is later than the date of CAT-1 approval of Primary drawing/documents, then the contractual delivery period will be calculated by setting off the time gap between CAT-1 approval date of Primary drawing/documents and the manufacturing clearance date, from any delay by vendor in submission/re-submission of Primary drawing/documents.
- f. Delivery shall be completed as per the terms mentioned above and LD shall be applicable in case of delay beyond the above mentioned delivery terms.

**ANNEXURE II**

**2X660 MW BIFPCL MAITREE KHULNA STPP**

**PVC WIRES**

**GeM Bid No.....**

**Letter head of Company**

Ref.....

Date.....

To,  
Bharat Heavy Electricals Limited  
PEM, PPEI Building, Plot No 25,  
Sector -16A, Noida (U.P)-201301

**Subject :- Certification regarding local content**

Dear Sir,

We hereby certify that items offered by us of **PVC WIRES for 2X660 MW BIFPCL MAITREE KHULNA STPP** meets the requirement of minimum local content in line with GeM Bid No. .... and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018, 29.05.2019, 04.06.2020 & 16.09.2020. The Percentage (%) of Local content is .....%.

We further confirm that details of location at which the local value addition is made will be our registered works at .....(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory  
of company

**ANNEXURE III**

**2X660 MW BIFPCL MAITREE KHULNA STPP**

**PVC WIRES**

**GeM Bid No.**

**Letter head of Company**

Ref.....

Date.....

To,  
Bharat Heavy Electricals Limited  
PEM, PPEI Building, Plot No 25,  
Sector -16A, Noida (U.P)-201301

**Subject: - Certification regarding Land Border**

Dear Sir,

I have read the clause regarding restrictions of procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s ..... (Organization name) is not from such a country and is eligible to be considered.

**Note :- Bidder is requested to furnish the above undertaking on company letterhead from the highest competent authority at your end (i.e Owner, partner, CMD, Director, company secretariat etc.).**

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory  
of company

## Annexure-B (Risk Purchase clause)

### **DEFAULT/ BREACH OF CONTRACT, INSOLVENCY AND RISK PURCHASE**

In case of delays (beyond the maximum late delivery period as per LD clause) in supplies, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Seller/Contractor's default or breach of Order/Contract or to suspend business dealings with the Seller/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Seller. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/ equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Seller.

The Seller shall be liable to the Buyer for any excess costs incurred thereof and the Seller shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Seller shall on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder.

The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Seller/Contractor fails to deliver the goods or materials or any installment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/services vis-à-vis delivery/execution timeline as stipulated in the contract, backlog attributable to the Seller including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;
- iii. withdrawal from or repudiation/abandonment of the supply/services by the Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the order/Contract either in whole or in part or otherwise fails to perform the Order/Contract.
- iv. Non supply by the Seller within scheduled completion/delivery period as per contract or as extended from time to time for reasons attributable to the Seller;
- v. Termination of Contract on account of any other reason(s) attributable to the Seller.
- vi. Assignment, transfer, sub-letting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. If the Seller be an individual or a Sole Proprietorship, in the event of death or insanity of the Seller.
- viii. If the Seller/Contractor being an individual or if a partnership firm thereof, shall at any time be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix. If the Seller/Contractor being a Company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager
- x. Non- Compliance to any contractual condition or any other default attributable to the Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount & LD, recovery options to BHEL are given in detail in Annexure-V hereto.

## ANNEXURE-V

### (RISK AND COST CLAUSE)

1. BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor *after due notice of a period of 14 days' by BHEL* in any of the following cases:
  - i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-a-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;
  - ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;
  - iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;
  - iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;
  - v) Termination of Contract on account of any other reason (s) attributable to Seller.
  - vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
  - vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;
  - viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
  - ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;
  - x) Non-compliance to any contractual condition or any other default attributable to Seller.

#### 1.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (\*) as per rates of new contract

B= Value of Balance scope of Work (\*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

#### 1.2 \* Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

### **1.3 LD against delay in executed work in case of Termination of Contract:**

LD against delay in executed work shall be calculated in line with LD clause no. 16 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of LD against delay in executed work in case of termination of contract" is given below.

- i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed work till the time of termination of contract = X
- iii. Let the Total Executable Value of work for which inputs/fronfs were made available to contractor and were planned for execution till termination of contract = Y
- iv. Delay in executed work attributable to contractor i.e. T2 =  $[1-(X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

### **2. Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor**

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.
- b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

*In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.*

FED.CO.Trade(EXD)/3543/05.11.001/2017-18

October 18, 2017

The General Manager  
State Bank of India  
Corporate Account Group Branch  
11<sup>th</sup> & 12<sup>th</sup> Floor, Jawahar Vyapar Bhawan  
1, Tolstoy Marg  
New Delhi-110001

Dear Sir

**Maitree Super Thermal Power Project in Bangladesh-M/s Bharat Heavy Electricals Ltd (BHEL)**

Please refer to your letter No. CAGND/IB/2017-18/139 dated August 11, 2017.

2. We advise that, as a special case, the captioned company has 'no objection' of RBI from FEMA angle for the proposed payment in foreign currencies to its sub-contractors from India in respect of the Maitree Super Thermal Power Project in Bangladesh only to the extent of the work handled by these sub-contractors on behalf of BHEL. This no objection is, however, subject to the following conditions:

- i. BHEL uses forex inflows (payment from overseas party for the said export) to pay to the domestic sub-contractors.
- ii. Only one of the party (i.e. either BHEL or domestic sub-contractor) claims export incentives, if any.
- iii. Only one of the parties (i.e. BHEL or domestic sub-contractor) claim the transactions towards export fulfillment, if any.
- iv. The transactions will not be treated as 'deemed export'
- v. Payment of domestic taxes, etc by the BHEL/sub-contractors on such payments are ensured.

3. This communication is issued from the foreign exchange angle under the provisions of FEMA and should not be construed to convey the approval by tax authorities or any other statutory authority or Government under any other laws/regulations. Nothing in the approval should be construed as approval from the credit angle and of the financials or any other aspect of the company. If further approval or permission is required from any other regulatory authority or Government under the relevant laws/regulations, the applicant should take the approval of the concerned agency before effecting the concerned transaction. Further, it should not be construed as regularizing or validating any irregularities, contravention or other lapses, if any, under the provisions of any other laws/regulations.

Yours faithfully,

  
Satish Joshi  
Manager

बैंक द्वारा ई-मेल, डाक, एसएमएस या फोन कॉल के जरिए किसी को भी व्यक्तिगत जानकारी जैसे बैंक के खाते का ब्यौरा, पासवर्ड आदि नहीं मांगी जाती है। यह धन रखने या देने का प्रस्ताव भी नहीं करता है। ऐसे प्रस्तावों का किसी भी तरीके में जवाब मत दीजिए

Caution: RBI never sends mails, SMSs or makes calls asking for personal information like banks account details, passwords, etc. It never keeps or offers funds to anyone. Please do not respond in any manner to such offers.

विदेशी मुद्रा विभाग, केंद्रीय कार्यालय, 5<sup>वीं</sup> मंजिल, अमर भवन, शहीद भगत सिंह मार्ग, फोर्ट मुंबई - 400 001 भारत

के.वा. फोन: (022) 2260 1000 फेक्स: (022) 2266 5330 अमर भवन फोन: (022) 2260 3000 फेक्स: (022) 2269 4935 ई-मेल: helpfed@rbi.org.in


Foreign Exchange Department, Central Office, 5<sup>th</sup> Floor, Amar Building, Shahid Bhagat Singh Road, Fort, Mumbai - 400 001

CDB: Tel: (022) 2260 1000 Fax: (022) 2266 5330 Amar Building Tel: (022) 2260 3000 Fax: (022) 2269 4935 E-mail: helpfed@rbi.org.in



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**


These Conditions shall be read in conjunction with General Condition of Contract (GCC) enclosed along with the tender enquiry. In case of any conflict or inconsistency, the requirement of SCC shall prevail over the GCC and its corrigendum, if any.

1.0	Project Name	<b>2 X 660 MW MAITREE STPP - BANGLADESH</b>
2.0	Ultimate Customer	Managing Director, Bangladesh-India Friendship Power Company (Pvt.) Limited, Level-17, Borak Unique Height, 117, Kazi Nazrul Islam Avenue, Eskaton Garden, Dhaka-1217, Bangladesh (Contact details – 8823941805)  NOTIFIED TO: DGM(C&M), Bangladesh-India Friendship Power Company (Pvt.) Limited, Level-17, Borak Unique Height, 117, Kazi Nazrul Islam Avenue, Eskaton Garden, Dhaka-1217, Bangladesh
3.0	Delivery Address (Ship To) 	a) For Indian Suppliers - Chennai Port 'or' CHA Godown, Chennai Port b) For Foreign Suppliers - MONGLA PORT, Bangladesh c) For Bangladeshi Suppliers - Maitree site, Rampal, Bangladesh (Refer S.No. 4)
4.0	Location of Plant	2 X 660 MW MAITREE STPP PROJECT SITE, PO – KALEKKHARBER, UNION – RAJNAGAR, UPAJILA - RAMPAL, DISTRICT – BAGERHAT-9343, BANGLADESH  Nearest Port: The nearest port is Mongla Port, Bangladesh.  Nearest Airport: The nearest airport is Hazrat Shahjalal International Airport, Dhaka.
5.0	Entry Point in Bangladesh	1) MONGLA PORT, BANGLADESH 2) DHAKA's INTERNATIONAL AIRPORT, BANGLADESH
6.0	Consignee Address (Bill To)	BHEL, POWER SECTOR - PROJECT ENGINEERING MANAGEMENT, POWER PROJECT ENGINEERING INSTITUTE, PLOT NO.25, SECTOR-16A, NOIDA-201301 STATE - UTTAR PRADESH

*Devi*  
07/05/19





**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

	Notes:	<ol style="list-style-type: none"><li>1. Consignee address (Bill To) in Invoice &amp; LR should be strictly as per Sl. No. 06. Place of supply along with name of state to be clearly indicated by vendor in invoice.</li><li>2. Delivery address (Ship To) in Invoice and LR should be as per Sl. No. 03.</li><li>3. Invoice should clearly specify "Billing from" and "Shipping from" addresses.</li><li>4. It is Vendor's responsibility to ensure availability of trucks well in advance for dispatch of material to meet contractual delivery requirement.</li></ol>
7.0	Buyer and Paying Authority	<ol style="list-style-type: none"><li>1) Packages for which PO is placed by BHEL-PEM - Buyer and Paying Authority shall be <b>BHEL-PEM</b>.</li><li>2) Packages for which LOA is issued by BHEL-PEM &amp; PO is placed by BHEL-PSER - Buyer and Paying Authority shall be <b>BHEL-PSER</b>.</li></ol>
8.0	Mode of Dispatch	By Road/Rail/Sea/Air on Door Delivery and freight Pre-Paid Basis.
9.0	Road Permit / E-waybill 	Shall be arranged by vendor (for Indian vendors)
10.0	Countries on banned list	The bidder shall get himself acquainted with the relevant Bangladesh laws as well as the import policy of the Government of People's Republic of Bangladesh remaining in force regarding import of banned item, if any, during the execution of the contract. In case of import of any banned items and/or contraband item, the consequential liability shall rest with the contractor. Similarly, the contractor shall be responsible for any non-conformance of Bangladesh Laws either by its own employees or any of the employees of its sub-contractors during the execution of the contract.
11.0	Certification for the sourcing of material.	As per Contractual requirement, goods and services of minimum 75% of the total EPC contract value are to be sourced by BHEL from India only, therefore, all bidders must be mandatorily required to mention value of content sourced from India in their offer to BHEL-PEM and must be required to submit documentary proof (while claiming payment) certifying the value of content sourced from India.

*Review*  
*07/05/19*



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

12.0	 Transit Insurance	<p><b>Indian Supplier:</b> Inland Insurance up to delivery Address (i.e. CHA Godown Chennai port 'or' Chennai port.)</p> <p>a) The inland insurance covering the vendor material from their works to the Chennai port shall be in BHEL scope, however, vendor shall intimate the insurance company (as mentioned at S.No. 13 below) before dispatch.</p> <p>b) Vendor shall not quote for any inland insurance for 2 X 660 MW BIFPCL MAITREE KHULNA STPP.</p> <p>Vendor shall inform the following details of dispatches to the Underwriter (refer details below at S.no. 13) under intimation to BHEL-PEM and BHEL ROD Chennai:</p> <ol style="list-style-type: none"> <li>(1) Policy No.</li> <li>(2) Consignee Name.</li> <li>(3) Consignment Details (items with their weights and value (in INR)).</li> <li>(4) Project Name and P.O. No.</li> <li>(5) LR No. and date, Dispatch origin and destination details, Inv. No.</li> </ol> <p><b>Foreign vendor:</b> For foreign supplies which are direct from third country to Bangladesh port, Insurance from the Vendor's works in the foreign country to the Bangladesh Port shall be covered under Marine Insurance Policy by BHEL. These supplies are on C&amp;F basis.</p>
13.0	<p>Policy No.</p>  Name of the insurance company details:	<p>#GDI/PBD/09/2018/MCE/P/0001 (C-1)</p> <p>GREEN DELTA INSURANCE COMPANY LTD. GREEN DELTA AIMS TOWER, 51-52, MOHAKHALI C/A, DHAKA 1212 CONTACT PERSON: SYED FORHAD ABBAS HUSSAIN PHONE NO.: +88-01911-345995 FAX: +88-02-985-1124 EMAIL: forhad@green-delta.com; info@green-delta.com</p>
14.0	GST Registration No.	BHEL-PEM: 09AAACB4146P2ZC

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07/05/19



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

15.0	Dispatch Documents required (to be furnished by Vendor for payment)	<p>Vendor to furnish the scanned copy of dispatch documents immediately on the date of dispatch for billing at BHEL end.</p> <p><b>For materials originating from non-Indian Territory</b></p> <p>(a). Three (3) original and Three (3) copies of clean bill of lading or One (1) clean original Airway Bill &amp; Three (3) copies, in case of air freight.</p> <p>(b). One (1) original and Three (3) copies of signed Invoices</p> <p>(c). One (1) original and Three (3) copies of Packing List (clearly showing number of packages, gross weight and net weight).</p> <p>(d). Three (3) copies of certificate of country of origin.</p> <p>(e). Copy of Customer/BHEL MDCC.</p> <p>(f). Three (3) copies of inspection certificate, if any, issued by the customer/his authorised representative.</p> <p>(g). Three (3) copies of certificate from the vendor to the effect that drawings and catalogues for customs clearance purpose have been kept with the packages for shipment.</p> <p>(h). Three (3) copies of certificate from the vendor to the effect that the contents in each case are not less than that entered in the invoices and guaranteed as new and as per the relevant technical specifications.</p> <p>(i) Shipping Specification – One (1) copy.</p> <p>(j). Quality Certificate – One (1) copy.</p> <p>(k). Approved Test Certificates, if any. - Three (3) copies.</p> <p>(l). Guarantee Certificate – One (1) Original + One (1) copy.</p> <p>(m). Inspection Reports – One (1) Original + One (1) copy.</p> <p>(n). PVC Calculation and copy of all applicable indices, if PVC applicable. – Two (2) copies.</p> <p><b>For Claiming Dispatch payments (for materials originating from Indian territory), Freight, MRC &amp; Services Payments - refer GCC.</b></p>
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*Handwritten signature and date:*  
07/05/19



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

16.0	Material Receipt Certificate (MRC)	<p>For Supply Packages, Material Receipt Certificate shall be arranged by BHEL-PEM.</p> <p><b><u>Payment linked to MRC</u></b> – In case MRC is not received within 120 days from the date of dispatch, then, receipted LR duly endorsed by BHEL-ROD Chennai/ BHEL CHA at Chennai Port (for indigenous bidders) and Bill of lading (for foreign bidders) shall be treated as MRC for vendor payment purpose.</p>
17.0	Taxes & Duties	<p><b>A) GOODS AND SERVICE TAX (GST)</b> Transaction between a manufacturer and merchant exporter is in the nature of supply and is not exempted under the GST laws. Accordingly, the <b>Indian bidder</b> should quote the relevant CGST/SGST/IGST in their bid. However, CGST/SGST/IGST will not be taken into consideration for the purpose of evaluation of the bid.</p> <p><b>B)</b> Being export project, the <b>Indian bidders</b> are required to consider all the applicable export benefits, if any, as per the Foreign Trade Policy 2015-20 and Custom Act. BHEL PEM will provide all the necessary support in this regard. The bidder is required to indicate the support required and the break-up of CIF content at the enquiry stage.</p> <p><b>C)</b> Custom duty shall be payable by BHEL/BIFPCL-BANGLADESH at the port of destination (BANGLADESH) for the clearance of material supplied. However vendors to note that in case material gets rejected due to reasons attributable to the vendor, then the vendor shall bear the customs duty &amp; other incidentals at the port of destination for further replenishment supplies to be made.</p> <p><b>D)</b> After the completion of supply of the ordered quantity, for any further supplies arising due to reasons attributable to the vendor, Customs duty and other incidentals at BANGLADESH port shall be paid by the vendor.</p> <p><b>E)</b> For <b>foreign vendors</b>, if any extra charges are incurred by BHEL during custom clearance at Bangladesh port due to non-compliance/insufficiency by foreign vendor, the same shall be to vendor account.</p>

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07/05/19





**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
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	Taxes & Duties	F) In case of Order on foreign Vendor, the dispatches shall be on C&F basis and Taxes & Duties in the country of dispatch (origin) shall be borne by Foreign Bidder & to be accounted in the prices quoted to BHEL/PEM/NOIDA.									
18.0	<p style="text-align: center;">△ 1</p> <p><b>Loading criteria</b> (This clause is applicable only if bids are received from different countries against any tender)</p>	<p>FOR Chennai Port Price/ C&amp;F (Mongla port) price shall be loaded by following factors to arrive at Total FOR Site price for evaluation purpose.</p> <p>Loading for transportation &amp; Custom Clearance cost to reach material at Maitree project Site at Rampal right from receiving of Cargo at following Port: -</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Delivery address</th> <th>General Cargo (Rate PER MT in Rs)</th> <th>ODC Cargo (Rate PER MT in Rs)</th> </tr> </thead> <tbody> <tr> <td>From Chennai Port, India</td> <td style="text-align: center;">3812</td> <td style="text-align: center;">5026</td> </tr> <tr> <td>From Mongla Port, Bangladesh</td> <td style="text-align: center;">1201</td> <td style="text-align: center;">1998</td> </tr> </tbody> </table> <p><b>NOTES :-</b></p> <ol style="list-style-type: none"> <li>Bidders to quote weight/dimension of material in their quotation to BHEL-PEM.</li> <li>ODC shall be considered for 100MT or 13MX3MX3M Dimension, whichever is Higher.</li> </ol> <p>Also, Loading for any deviation to NIT documents shall be done as per provisions of GCC and its corrigendum, if any.</p>	Delivery address	General Cargo (Rate PER MT in Rs)	ODC Cargo (Rate PER MT in Rs)	From Chennai Port, India	3812	5026	From Mongla Port, Bangladesh	1201	1998
Delivery address	General Cargo (Rate PER MT in Rs)	ODC Cargo (Rate PER MT in Rs)									
From Chennai Port, India	3812	5026									
From Mongla Port, Bangladesh	1201	1998									
19.0	Guarantee Period	Guarantee period shall be as per clause no.12.0 of GCC rev no.06 or as specified in NIT, whichever is later.									
20.0	Unloading, Storage and Movement of Material within Site	<p>-By BHEL site office for Supply packages. (The Vendor shall furnish LR wise Gross Wt. and net weight of the consignment in attached format annex-A for the purpose of handling the consignment by BHEL site loading/unloading contractor).</p> <p>-By Vendor for Turnkey i.e. Supply and Erection &amp; Commissioning Packages.</p>									

*Revised*  
07/05/19




**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019**  
**FOR**  
**2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

21.0	Inspection Agency (Domestic & Imported supply supplies)	Shall be informed later
22.0	 LD Calculation	<p><b><u>Indigenous vendor</u></b></p> <p>LD to be worked out/levied upto the date of handing over of the goods to BHEL--ROD / CHA at delivery point. Hence, original LR stamped with the date indicating the handing over date of consignments to BHEL--ROD / CHA to be submitted by the supplier to PEM as a proof of goods handed over to BHEL--ROD / CHA.</p> <p>All other LD terms shall be as per Clause no.16.0 of GCC REV 06 along with its GST corrigenda.</p> <p><b><u>Foreign vendor</u></b></p> <p>LD to be worked out/levied based on the date of Bill of Lading as delivery completion.</p> <p>All other LD terms shall be as per Clause no.16.0 of GCC REV 06 along with its GST corrigenda.</p>
23.0	 Clearing House Agents (CHA)	<p>Name of CHA: ABC INDIA LTD (ABCIL) ABCIL Contact Person: Mr. S. Mohapatra (ABCIL) Mobile – 9123679367, Mr. Shukla – 9381094952</p> <p><b><u>Port Address:</u></b> Chennai Port Trust Mr. Harshal Trivedi, Engineer/Docks Bharat Heavy Electricals Ltd Near Marshalling Yard, Chennai Port Trust, Chennai 600 001 Mobile no – 08680850932, 044 25362247/25360446</p> <p><b><u>BHEL-ROD –CHENNAI</u></b> contact details - Mr. Santosh Kumar Jena, Dy. Mgr will coordinate from ROD-Chennai. Mob – 09489202898, 044-24374317, E-Mail - santoshj@bhel.in</p> <p>NOTE: Indian Vendor shall confirm from BHEL about the delivery address (as mentioned above), before the dispatch of material.</p>
24.0	Packing Instructions	Refer Annexure –C for packing instructions.

*Revised*  
07/05/19



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
FOR  
2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

25.0	Excise Attestation at Works	<p>Sealing of containers – Procedure for sealing of containers shall be as per clause no B of circular no 26/2017-Customs dated 1st July, 2017 and other related circular thereof issued from time to time by Govt of India.</p> <p>For this purpose, PEM's supplier should send the packing lists to IO-Projects at least 2 weeks in advance to enable prepare Shipping Invoices for furnishing to the PEM's supplier for requisite attestations and sending to ROD Chennai through fastest means for a smoother and faster customs clearance under intimation to PEM, NOIDA.</p>
26.0	 Packing List and Routing of Packing Lists	<p>Copy of suggestive format is attached as <b>Annexure- A</b>. This format is to be strictly followed by the supplier/ bidder (applicable for those bidders to whom order shall be given by PEM).</p> <p>Packing list is an extremely important document, which forms a part of Export Documentations in connection with the processing of customs formalities. Packing List has to be generated by units/Unit vendors and sent to IO at Lodi Complex, New Delhi, and ROD, Chennai (both at the same time), two weeks in advance, for processing and obtaining shipping bills' clearances. All PEM's suppliers to note that Chennai port would be the major port of shipment from India. Vendor will also provide soft copy (in excel format) of packing list to PEM, Noida.</p>
27.0	Advance intimation about dispatches BHEL-ROD Chennai, BHEL IO Project, New Delhi & BHEL-PEM NOIDA:	<p>An advance e-mail/fax intimation of dispatch of materials / Equipment shall be given by the supplier to PEM NOIDA, BHEL IO Lodi Complex, New Delhi and BHEL-ROD Chennai (The contact person &amp; Tel. no. &amp; address of ROD Chennai etc. shall be furnished later.</p> <p>All PEM's suppliers will give at least 15 days advance intimation to PEM NOIDA, ROD, Chennai &amp; IO-Projects along with package details/ Packing List before actual dispatches to arrange for the storage/shipping arrangements by ROD Chennai and customs invoicing by IO-Projects. Information must be sent to consolidate the details and arrange for shipments in time.</p>

*Signature*  
07/05/19



**SPECIAL CONDITIONS OF CONTRACT (REV 01) dated 07/05/2019  
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2 X 660 MW MAITREE SUPER THERMAL POWER PLANT - BANGLADESH**

28.0	Commissioning spares	The commissioning spares shall be properly packed separately in separate box as per approved sea worthy packing and each spare shall be properly tagged giving details (to match the description given in the packing slip) to facilitate their proper identification. Three copies of packing list is to be kept inside the box and one copy in a special packet at the outer side of the Box.
29.0	Mandatory Spares	Packing as per approved seaworthy packing instructions.  Three copies of packing list along with Manufacturing drawing no. Reference, Catalogue reference etc. is to be kept inside the box and one copy in a special packet at the outer side of the Box.
30.0	Submission of Final Drawing / Documents along with O&M Manual, Type Test Certificates (if any)	As per GCC/ Technical specification/ Kickoff meeting.
31.0	Monthly Progress Report	Vendor to provide monthly progress report each month after placement of PO, till supply of material. Monthly progress report of vendor shall include raw material status, BOI status, manufacturing, engineering progress including status of major drawings/docs, inspection & latest dispatch plan. Vendor may use their format to provide required information, however format (if any) issued by Purchaser after placement of PO shall be obligatory to vendor.

	Prepared by	Checked By	Reviewed by	Approved by
Signature				
Name	JITENDER SAINI	HASEEN AHMED	ASIF IQBAL QURAIISHI	B L BEDI
Designation	SR.ENGR /PG-1	MGR/PG-1	DGM/PG-1	DH/PG-I & II

[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

Government of India  
Ministry of Finance  
Department of Revenue

Notification No. 40/2017-Central Tax (Rate)

New Delhi, the 23<sup>rd</sup> October, 2017

G.S.R.....(E).- In exercise of the powers conferred by sub-section (1) of section 11 of the Central Goods and Services Tax Act, 2017 (12 of 2017) (hereafter in this notification referred to as "the said Act"), the Central Government, on being satisfied that it is necessary in the public interest so to do, on the recommendations of the Council, hereby exempts the intra-State supply of taxable goods (hereafter in this notification referred to as "the said goods") by a registered supplier to a registered recipient for export, from so much of the central tax leviable thereon under section 9 of the said Act, as is in excess of the amount calculated at the rate of 0.05 per cent., subject to fulfilment of the following conditions, namely: -

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier –
  - (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or

- (b) directly to a registered warehouse from where the said goods shall be move to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.

2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.

[F. No. 354/117/2017-TRU (Pt. III)]

(Ruchi Bisht)

Under Secretary to the Government of India

[TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART II, SECTION 3, SUB-SECTION (i)]

Government of India  
Ministry of Finance  
Department of Revenue

Notification No. 41/2017--Integrated Tax (Rate)

New Delhi, the 23<sup>rd</sup> October, 2017

G.S.R.....(E).- In exercise of the powers conferred by sub-section (1) of section 6 of the Integrated Goods and Services Tax Act, 2017 (13 of 2017), (hereafter in this notification referred to as "the said Act"), the Central Government, on being satisfied that it is necessary in the public interest so to do, on the recommendations of the Council, hereby exempts the inter-State supply of taxable goods (hereafter in this notification referred to as "the said goods") by a registered supplier to a registered recipient for export, from so much of the integrated tax leviable thereon under section 5 of the Integrated Good and Services Tax Act, 2017 (13 of 2017), as is in excess of the amount calculated at the rate of 0.1 per cent., subject to fulfilment of the following conditions, namely: -

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier –

- (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or
  - (b) directly to a registered warehouse from where the said goods shall be move to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.

2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.

[F. No. 354/117/2017-TRU (Pt. III)]

(Ruchi Bisht)  
Under Secretary to the Government of India

**Uttar Pradesh Shasan**

**Sansthatgat Vitta, Kar Evam Nibandhan Anubhag-2**

In pursuance of the provisions of clause (3) of Article 348 of the Constitution, the Governor is pleased to order the publication of the following English translation of notification no.-KA.NI.-2- 1663 /XI-9(15)/17-U.P.GST Rules-2017-Order-(73)-2017 dated November 16, 2017:

**NOTIFICATION**

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No.-KA.NI.-2-1663/XI-9(15)/17-U.P.GST Rules-2017-Order-(73)-2017  
Lucknow : Dated: November 16, 2017

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In exercise of the powers conferred by sub-section (1) of section 11 of the Uttar Pradesh Goods and Services Tax Act, 2017 (U.P. Act no. 1 of 2017) (hereafter in this notification referred to as "the said Act"), the Governor, on being satisfied that it is necessary in the public interest so to do and on the recommendations of the Council, is pleased to exempt the intra-State supply of taxable goods (hereinafter in this notification referred to as "the said goods") by a registered suppliers to a registered recipient for export, from so much of the state tax leviable thereon under section 9 of the said Act, as is in excess of the amount calculated at the rate of 0.05 percent, subject to fulfilment of the following conditions, namely :-

- (i) the registered supplier shall supply the goods to the registered recipient on a tax invoice;
- (ii) the registered recipient shall export the said goods within a period of ninety days from the date of issue of a tax invoice by the registered supplier;
- (iii) the registered recipient shall indicate the Goods and Services Tax Identification Number of the registered supplier and the tax invoice number issued by the registered supplier in respect of the said goods in the shipping bill or bill of export, as the case may be;
- (iv) the registered recipient shall be registered with an Export Promotion Council or a Commodity Board recognised by the Department of Commerce;
- (v) the registered recipient shall place an order on registered supplier for procuring goods at concessional rate and a copy of the same shall also be provided to the jurisdictional tax officer of the registered supplier;
- (vi) the registered recipient shall move the said goods from place of registered supplier,-
  - (a) directly to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported; or

- (b) directly to a registered warehouse from where the said goods shall be moved to the Port, Inland Container Depot, Airport or Land Customs Station from where the said goods are to be exported;
- (vii) if the registered recipient intends to aggregate supplies from multiple registered suppliers and then export, the goods from each registered supplier shall move to a registered warehouse and after aggregation, the registered recipient shall move goods to the Port, Inland Container Depot, Airport or Land Customs Station from where they shall be exported;
- (viii) in case of situation referred to in condition (vii), the registered recipient shall endorse receipt of goods on the tax invoice and also obtain acknowledgement of receipt of goods in the registered warehouse from the warehouse operator and the endorsed tax invoice and the acknowledgment of the warehouse operator shall be provided to the registered supplier as well as to the jurisdictional tax officer of such supplier; and
- (ix) when goods have been exported, the registered recipient shall provide copy of shipping bill or bill of export containing details of Goods and Services Tax Identification Number (GSTIN) and tax invoice of the registered supplier along with proof of export general manifest or export report having been filed to the registered supplier as well as jurisdictional tax officer of such supplier.
2. The registered supplier shall not be eligible for the above mentioned exemption if the registered recipient fails to export the said goods within a period of ninety days from the date of issue of tax invoice.
3. This notification shall be deemed to have come into force on October 23, 2017.

By Order,



(Rajendra Kumar Tiwari)  
AparMukhyaSachiv