

**PLEASE UPLOAD THIS ENTIRE DOCUMENT IN GEM PORTAL WITH DULY FILLED ,SIGNED AND STAMPED
ALONG WITH YOUR OFFER AND RESPECTIVE ATTACHMENTS WHEREEVER NECESSARY**

1	GEM ID NO	BID NO: GEM/2021/B/1376974 Dt.23.07.2021
2	ITEM	Cable Gland & Adaptors
3	PROJECT	Bhusawal (Package-1) Panki, DVC-Majia & Chandrapura (Package-2)

1. VENDOR DETAILS

Sl no-	DESCRIPTION	RESPONSE
1.	VENDOR / FIRM NAME	
2.	BHEL VENDOR CODE	
3.	QUOTATION REFERENCE & DATE	
4.	CONTACT PERSON NAME	
5.	CONTACT PERSON MOBILE NO	
6.	CONTACT PERSON MAIL ID	
7.	FIRM MAIL ID	
8.	WORKS ADDRESS & TELE NO	
9.	OFFICE ADDRESS & TELE NO	
10.	PAN NO	
11.	GST NO	
12.	MSE VENDOR / NON MSE VENDOR	

2.Commercial conditions

Sl no	Terms	Conditions	Vendor confirmation	Remarks
1	Delivery term	Vendor shall quote unit price on FOR / Consignee basis inclusive of Packing & Forwarding, Freight & GST. Insurance will be on BHEL scope.	Accepted / Not accepted	
2	Delivery days	For this GeM tender, the indicated delivery days is from document approval/manufacturing clearance. Delivery date shall inclusive of all the activities like manufacturing, inspection, Packing & Forwarding and dispatch.	Accepted / Not accepted	
3	Payment term	As per present GEM T&C	Accepted / Not accepted	
4	LD clause	As per present GEM T&C	Accepted / Not accepted	
5	Guarantee/ Warranty period	As per specification	Accepted / Not accepted	
6	GEM validity	As per GEM T&C	Accepted / Not accepted	
7	HSN CODE			

8	GST	Pl Mention in %	%	
9	Attachments 1	Have you submitted the Udyam registration certificate (applicable only for MSE vendors)	Yes / No	
10	Attachments 2	Have you submitted the point wise supporting documents required against PQR which is attached below. Please mention the corresponding page no also for each PQR point	Yes / No	
11	Attachments 3	Have you Filled, signed , sealed &submitted “NIL Deviation Format ” attached below.	Yes / No	
12	Attachments 4	Have you signed , sealed &submitted the all pages of “Technical Specification, Drawing, datasheet & Quality Plan” with respect to this tender along with your quoted offer.	Yes / No	
13	Attachments 5	Have you Filled, signed , sealed &submitted “Self declaration format for MII clause” as per BHEL format in your company letter head attached below. (IN %)	Yes / No	
Vendor consents that the terms & conditions accepted, in GEM alone, shall be binding between BHEL and Vendor; and no other terms mentioned elsewhere in the un-priced offer / Quotation will be considered / accepted by BHEL.				

3.PRE-QUALIFICATION REQUIREMENT (PQR)

		CABLE GLAND AND ADAPTERS	CONTROLS & INSTRUMENTATION (FB)		CI:PE:PQR:026 Rev. No: 00 Dt. : 22-06-2021
Sl. No.	Description	Bid Requirements	Acceptance	Respective Document (pdf format)	Mention corresponding page no in the attached pdf document
1	Type of Vendor	Manufacturer.	Accepted / Not accepted	Attached / Not attached	page no From to
2	Country of Origin	Preferably India.	Accepted / Not accepted	Attached / Not attached	page no From to
3	Offloading / Outsourcing allowed	All machineries and facilities that are required for the complete manufacture of Cable Glands & Adapters shall be available in-house. Vendor to Self-Declare.	Accepted / Not accepted	Attached / Not attached	page no From to
4	Experience years	Min. 5 years of Experience in field of Cable Glands & Adapters Manufacturing.	Accepted / Not accepted	Attached / Not attached	page no From to
5	Credentials in Power plant/ Heavy Industries	Vendor should have supplied similar design & varieties of Cable Glands & Adapters to 500 MW or higher power plant / industrial installations in India or abroad with satisfactory performance for minimum 3 years supported with credentials/Purchase Order references.	Accepted / Not accepted	Attached / Not attached	page no From to

4. SUB-DELIVERY ENQUIRY DEVIATION FORMAT



MATERIALS MANAGEMENT / BOI SUB-DELIVERY ENQUIRY DEVIATION FORMAT

Page : of

Schedule of deviation to Sub-delivery Enquiry No. : GeM Bid no: GEM/2021/B/1376974 Dt.23.07.2021

Description : CABLE GLAND AND ADAPTERS

Documents : TCI:128, Rev. 07

Drawing Nos. : 4-95-091-05821-rev01
 4-96-186-04526-rev01

Quality Plan : QA:CI:STD:QP:46, Rev. 03

Packing Procedure : QA:CI:STD:PR:04, Rev. 03

Document reference	BHEL called for	Firm's alternative offer

Certified that other than the above deviations, we are accepting all the other specifications and requirements in full to your Enquiry.

Station :

Date :

Signature of firm's representative

Firm seal

Note : 1. Deviations should be taken only in the extreme case
 2. If necessary, use additional sheets with page control number

5. / On Bidder's office letter pad /

Self-Declaration

Enquiry No. & Date	GEM/2021/B/1376974 Dt.23.07.2021
-----------------------	----------------------------------

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt.04.06.2020 issued by DPIIT,

I / We hereby declare that I / We are a “Local Supplier” meeting the requirement of minimum local content (.....%) defined in the above government notification for the goods against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

Door No.	
Street / Address 1	
Street / Address 2	
District	
State	
Country	
PIN Code	

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

For Company Name:

Seal:

Signature:

Date:

Place:

(Please fill all the yellow color field)



TCI:128, REV. 07
Sheet 01 of 05

BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI - 14

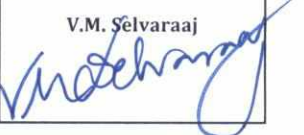
CONTROLS & INSTRUMENTATION/FB

SHEET 01 OF 05

Technical Specification for
CABLE GLAND
(Weather Proof)

Specification Number - TCI:128, Rev. 07

Revision History

Rev. No.	Date	Description	Prepared	Reviewed	Approved
			P. Sundaram	V.M. Selvaraaj	D. Mahendrababu
00 - 06	12-02-2014	Old Revisions & Revisit	-Sd-	-Sd-	-Sd-
07	10-02-2020	Annexure A,B & C Updated Added Sealing Rubber Ring material	K. Sudharsan 	Aswini Kumar Panda 	V.M. Selvaraaj 

SPECIFICATION REQUIREMENT

1. Site Conditions: - Atmosphere	Dusty, Salty, corrosive & Heavily polluted.
2. Applicable Standard	E1 of BS-6121.
3. Application	For termination of Instrumentation, Control & Power cables (Armoured and unarmoured varieties) at panel/field junction boxes/field instruments.
4. Type	Double Compression, Weather proof.
5. Material	All Metallic Parts : Brass with Nickel-plated. Inner and Outer Seal : Nitrile Rubber
6. Lock Nut	1 Number of Lock nut and 1 number of suitable washers to be supplied with each cable gland.
7. Accessories	1 number of Earth Lug to be supplied with each cable gland.
8. Construction	Cable gland for Armoured Cable : Style-1 as shown in Annexure-C. Cable gland for Un-armoured Cable : Style-2 or Style-3 as shown in Annexure-C.
9. Model Number	Model Number to be punched/engraved on the gland body (or) Non-peel off sticker to be provided on the gland body.
10. Inspection & Testing	As per Quality Plan No. QA:CI:STD:QP:46, Rev. 03.
11. Packing	As per packing procedure QA:CI:STD:PR:04, Rev. 03.
12. Guarantee	A Guarantee certificate for 18 months from the date of shipment (or) 12 months from the date of commissioning whichever is earlier shall be furnished.
13. Documents	• Vendor shall furnish fill in "No Deviation" in the Sub-Delivery Enquiry Deviation format indicating the Technical Specification and QP references. • Duly filled in Annexure-A/B, as applicable. • Filled in No Deviation format and filled in Annexure-A/B as applicable are mandatory for evaluation of the vendor's offer.

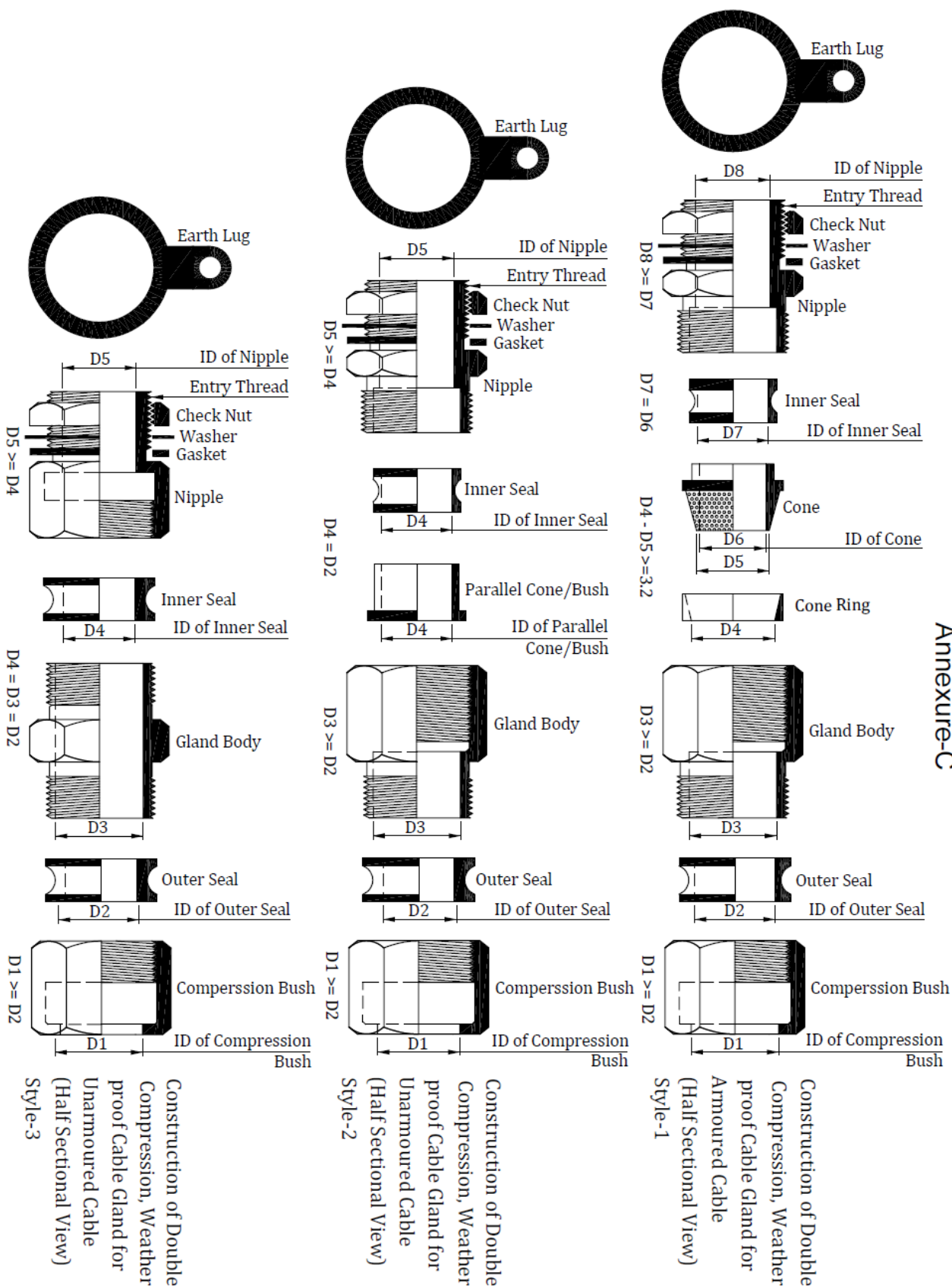
Annexure-A (Dimensions of Cable Gland for Armoured cables)

Sl. No.	Suitable cable OD (mm)	Vendor's Model No.	ID of Compression Bush (mm) D1 >= D2	ID of Outer Seal (mm) D2	ID of Cone (mm) D6	Cone (D5) & Cone Ring (D4) D4 - D5 >= 3.2	ID of Inner Seal (mm) D7 = D6	ID of Nipple (mm) D8	Entry Thread (BSC)	Length of Nipple (mm)	Compression bush Across corner diameter (mm)	Weight (Approx) In Grams
1	11-14					Sizing shall accommodate both wire (1.4/1.6mm) & strip armour (4 x 0.8mm)						
2	14-17											
3	17-20											
4	20-23											
5	23-26											
6	26-29											
7	29-32											
8	32-35											

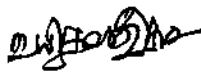
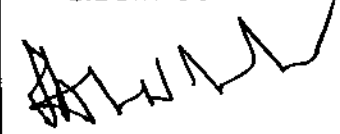
Annexure B – (Dimensions of Cable Gland for Un-Armoured cables)

[illegible]

Annexure-C



BHARAT HEAVY ELECTRICALS LIMITED / TIRUCHIRAPPALLI
CONTROLS AND INSTRUMENTATION/QA/FBSTANDARD QUALITY PLAN
FOR
CABLE GLAND AND CABLE GLAND ADOPTER

REV	DATE	PREPARED	REVIEWED	APPROVED	REVISION HISTORY
00	03.06.93	--- Sd ---	--- Sd ---	--- Sd ---	Initial release.
01	16.06.97	--- Sd ---	--- Sd ---	--- Sd ---	Format revised
02	21.03.02	--- Sd ---	--- Sd ---	--- Sd ---	Department name changed, CTQ requirements added & General revision.
03	08.01.04	RM.VAIRAVAN 	N.SRIDHAR 	S.SOMASUNDARAM 	Revised to include the comments /Feedback of internal discussion.

SL. NO	COMPONENT & OPERATION	CHARACTERISTICS	TYPE OF CHECK	QUANTUM OF CHECK	REF.DOC. & ACCEPTANCE STANDARD	FORMAT OF RECORD	AGENCY	REMARKS
A.	<u>RAW MATERIALS & BOUGHT ITEMS INSPECTION</u>							
1.	Gland Adaptor	a) Material	CHEM	One Sample Per Lot	Specification, Manufacturer's Standard & BS 6121	LGB	MQCD	
		b) Dimension	MEAS	- do -	- do -	- do -	- do -	
2.	Casting	a) Material	CHEM	- do -	Specification, Manufacturer's Standard	- do -	- do -	
		b) Dimension	MEAS	- do -	- do -	- do -	- do -	
		c) Finish	VISU	- do -	- do -	- do -	- do -	
B.	<u>INPROCESS INSPECTION</u>							
1.	Machining (turning, drilling, threading & cleaning)	a) Dimension	MEAS	100 %	Drawing Specification & Manufacturer's Standard	- do -	- do -	
		b) Finish	VISU	- do -	- do -	- do -	- do -	
		c) Thread checking	MEAS	- do -	- do -	- do -	- do -	

SL. NO	COMPONENT & OPERATION	CHARACTERISTICS	TYPE OF CHECK	QUANTUM OF CHECK	REF.DOC. & ACCEPTANCE STANDARD	FORMAT OF RECORD	AGENCY	REMARKS
2.	Plating	a) Finish	VISU	100%	Specification, manufacturer's standard & BS 6121	LGB	MQCD	
		b) Coating thickness (shall be inimum 10 microns)	MEAS	One Sample Per Lot	- do -	- do -	- do -	
<u>C. FINISHED PRODUCT INSPECTION</u>								
1.	Routine Tests ⇒	a) Physical & dimensional checks including finish	PHYS / VISU	100%	Specification & BS 6121	- do -	- do -	CHP
		b) Checking of threading	MEAS	- do -	- do -	- do -	- do -	CHP
	⇒	c) Make, Size and type number checking (Non peelable sticker is also acceptable)	VISU	- do -	- do -	- do -	- do -	CHP
2.	Type Tests	a) Proof torque test	MECH	One of design	Specification BS 6121 &	TC	MQCD / Lab.	CHP- For Verifications of TC's -(Type test is not applicable for ½ inch & M12 size gland).
		b) Load test (For unarmoured glands only)	MECH	- do -	- do -	- do -	- do -	CHP- For Verifications of TC's
		c) Armoured clamp Tensile test	MECH	- do -	- do -	- do -	- do -	CHP For Verifications of TC's

SL. NO	COMPONENT & OPERATION	CHARACTERISTICS	TYPE OF CHECK	QUANTUM OF CHECK	REF.DOC. & ACCEPTANCE STANDARD	FORMAT OF RECORD	AGENCY	REMARKS
2.	Type Tests ⇒	d) Electrical continuity test e) Seal test For flame proof glands only (In addition to routine / type tests under sl. no C 01 & C 02 the following is applicable) Flame proofness test.	ELEC MECH ENVI	One of design - do - - do -	Specification BS 6121 & BS 6121/IS 13947(Part 1) IS 2148	TC - do - - do -	MQCD / Lab. - do - Lab.	CHP- For Verifications of TC's CHP- For Verifications of TC's CHP- For Verifications of TC's

D. NOTES:

1. LEGEND :
 MECH - MECHANICAL; MEAS - MEASUREMENT
 PHYS - PHYSICAL VISU - VISUAL;
 TC - TEST CERTIFICATE; ELEC - ELECTRICAL
 ENVI - ENVIRONMENTAL CHEM - CHEMICAL
 MQCD - MANUFACTURER'S QUALITY CONTROL DEPARTMENT;
 LAB - GOVT. APPROVED / NABL ACCREDITED.
CHP - CUSTOMER HOLD POINT - INSPECTION BY BHEL
 ⇒ - CRITICAL TO QUALITY POINTS;
2. All testing facilities shall be arranged by the vendor at their works. Tests for which facilities are not available & those tests marked test lab in agency column above are to be carried out at recognized national test houses like ETDC/CIL/NPL/ERTL/ NABL ACCREDITED LABORATORIES etc at vendor's cost.
3. All measuring and testing instruments shall be periodically calibrated from recognized test houses and certificates made available during inspection
4. Test certificates for routine & type tests are to be furnished by the vendor. Type test certificate shall not be earlier than 5 years from the date of Purchase enquiry. If any changes are made in the design, material and process, the type tests shall be repeated, irrespective of the validity of existing type test certificate.
5. Vendor to give tentative inspection programme in advance and confirm exact date two weeks in advance for arrangement BHEL's inspection.

6. Packing shall be as per the 'PACKING PROCEDURE' indicated in the Specification. Any loose supply items for the purpose of 'Safe transit' shall be clearly indicated in the packing slip.

E. REFERENCE STANDARDS: (For Indicated Standards Refer the Latest Version)

- BS 6121** : Specification for cable glands.
IS 2148 : Specification for Flameproof enclosures for electrical apparatus.
IS 4905 : Methods for Random Sampling

F. SAMPLING PLAN FOR INSPECTION (CHP)

- a) As Per IS 4905 or 10% of offered quantity as per the discretion of the inspector.
- b) If non-conformance is observed on one number in any character, then inspection shall be carried out on all 100%.

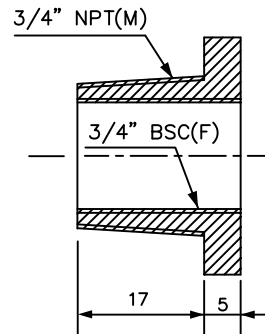
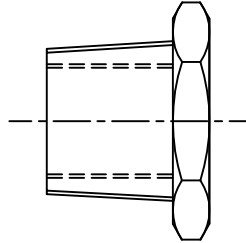
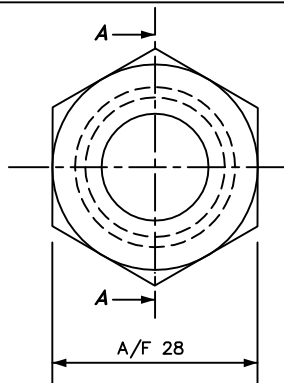
REV	DATE	ALTERED :
01	311210	CHD./APPD. :

Revised to indicate Material Code for all the items.

FOR UNTOLERANCED DIMENSIONS OF MANUFACTURING REFER RELEVANT QCP/QP.

NOTE :-

1. MATERIAL : BRASS
2. FINISH : NICKEL PLATED
3. VENDOR TO PUNCH THE THREAD SIZES ON THE BODY OF ADAPTER



SECTION-AA

FIGURE-1

VARIANT	MALE THREAD (MT)	FEMALE THREAD (FT)	ACROSS FLATS (A/F)	MATERIAL CODE
STYLE-1	3/4" NPT(M)	3/4" BSC(F)	28	962600795500

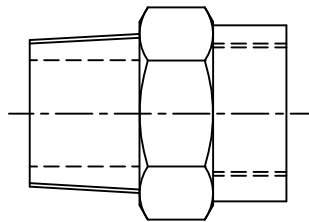
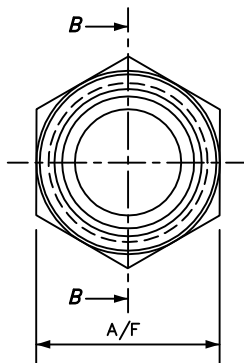


FIGURE-2

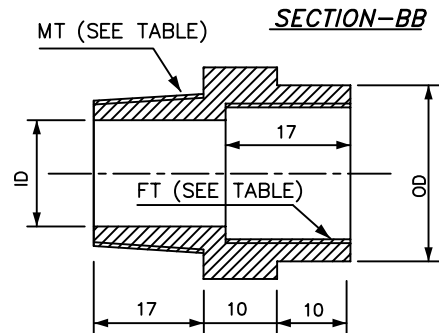


FIGURE-2

VARIANT	MALE THREAD (MT)	FEMALE THREAD (FT)	ACROSS FLATS (A/F)	ID	OD	MATERIAL CODE
STYLE-2	1/2" NPT(M)	3/4" BSC(F)	25	14.5	24	962600795600
STYLE-3	3/4" NPT(M)	1" BSC(F)	30	19	29	962600795800

S T A N D A R D



Bharat Heavy Electricals Ltd
UNIT: HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI - 620014

DRN	NAME	SIGNATURE	DATE	NO. OF VAR
CHD	S. Chandraleka	-Sd-	17-06-2008	1
APPD	V.M. Selvaraj	-Sd-	17-06-2008	1

DEPT. : C & I	ALL DIMENSIONS ARE IN MM	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	ITEM NO	No OF ITEMS
CODE : 392		NTS				
TITLE : CABLE GLAND ADAPTER				CARD CODE U 01	DRAWING NO : 4-95-091-05821 REV 01	

THE INFMN ON THIS DOCUMENT IS THE PROPERTY OF BHEL.
CAUTION: IT MUST NOT BE USED DIRECTLY OR INDIRECTLY
IN ANY WAY DETRIMENTAL TO THE INTEREST OF BHEL

REV	DATE	ALTERED :
01	311210	CHD./APPD. :
Revised to indicate Material Code for all the items.		

FOR UNTOLERANCED DIMENSIONS OF MANUFACTURING REFER RELEVANT QCP/QP.

NOTE :-
1. MATERIAL : BRASS
2. FINISH : NICKEL PLATED
3. VENDOR TO PUNCH THE THREAD SIZES
ON THE BODY OF ADAPTER

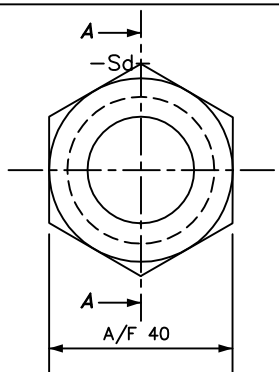
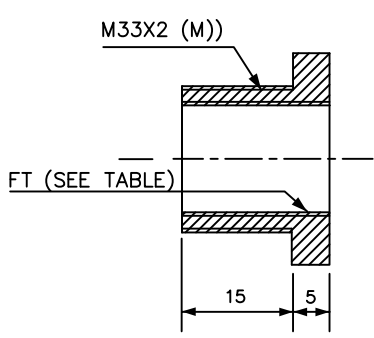
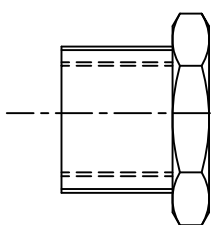


FIGURE-1



SECTION-AA

FIGURE-1		
VARIANT	FEMALE THREAD (FT)	MATERIAL CODE
STYLE-4	3/4" BSC(F)	962600795300
STYLE-5	1" BSC(F)	962600795200

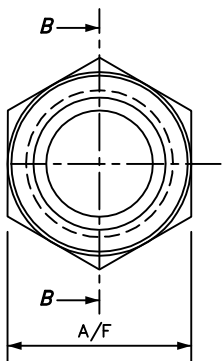
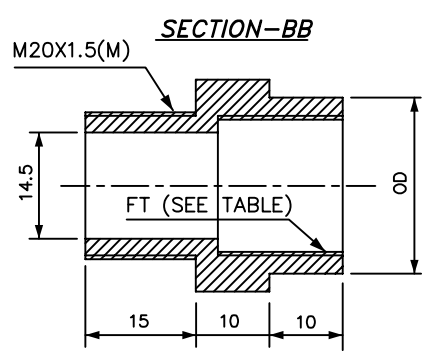
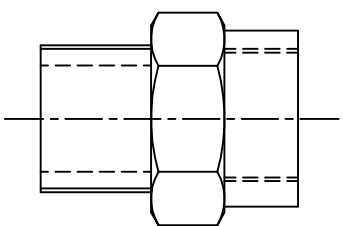


FIGURE-2



SECTION-BB

FIGURE-2				
VARIANT	FEMALE THREAD (FT)	ACROSS FLATS (A/F)	OD	MATERIAL CODE
STYLE-6	3/4" BSC(F)	25	24	962600795700
STYLE-7	1" BSC(F)	30	29	962600795400

S T A N D A R D



Bharat Heavy Electricals Ltd
UNIT: HIGH PRESSURE BOILER PLANT
TIRUCHIRAPALLI - 620014

DRN	S. Kalaiselvi	SIGNATURE -Sd-	DATE 17-06-2008	NO. OF VAR
CHD	R. Dileep	-Sd-	17-06-2008	1
APPD	R. Dileep	-Sd-	17-06-2008	1

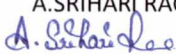
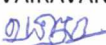
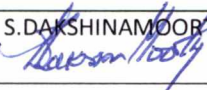
DEPT. : C & I		ALL DIMENSIONS ARE IN MM	SCALE NTS	WEIGHT (Kg)	REF TO ASSY / OLD DWG	ITEM NO	No OF ITEMS
CODE : 392							

TITLE : CABLE GLAND ADAPTER	CARD CODE U 01	DRAWING NO : 4-96-186-04526	REV 01
--------------------------------	-------------------	--------------------------------	-----------

**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI**

**CONTROLS AND INSTRUMENTATION / FB
QUALITY ASSURANCE**

**STANDARD PACKING PROCEDURE
FOR
ALL INSTRUMENTS AND MISCELLENEOUS ITEMS
(ELECTRICAL, ELECTRONIC AND PNEUMATIC)**

Rev	Date	Prepared	Checked	Approved	Revision History
00	01.01.96	Sd/-	Sd/-	Sd/-	Initial History
01	28.03.02	Sd/-	Sd/-	Sd/-	Department name changed
02	26.02.07	Sd/-	Sd/-	Sd/-	Revised after discussion with Shipping Dept.
03	17.12.16	A.SRIHARI RAO 	RM.VAIRAVAN 	S.DAKSHINAMOORTHY 	Revised to suit all type of instruments.

1. Scope

This procedure gives minimum guidelines to be complied with for packing of Electrical, Electronic and pneumatic Instruments. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for period more than one year.

2. Material for packing

The individual instrument shall be packed in carton box (specifically made for particular instrument) and grouped together inside a box made of wood or plywood as per National / International standard.

3. Packing

- Items shall be inspected for cleanliness immediately before packaging. Dirt, oil, residue, metal chips or other forms of contamination shall be removed.
- Adequate protection shall be provided against mechanical damage and atmospheric corrosion in transit and, for equipment suitable for outside storage, for prolonged storage at the site prior to installation.
- Water proof barrier material – high density polythene shall be used as a resistant to grease and water; it shall protect items from airborne and windblown soils.
- Desiccants like silica gel to be used inside the carton box. Silica gel shall conform to IS 3401. The gel is to be packed in sachets placed at different positions inside the components for absorbing moisture. The quantity of silica gel shall be adequate for storage period of one year.
- All tapped openings in equipment shall be plugged with plastic plugs to protect internal / external threads.
- Use a sturdy cardboard shipping carton, large enough for at least 3 inch foam padding around the instrument.
- Do not use loose plastic foam pieces, which can shift during transport.
- Secure the box flaps with packaging tape or box staples.

3.1) Marking & Labelling:

- Components and their containers shall be identified by marking. Shipping marks shall be on all sides of package. The shipping marks shall be at least 3 inches high where space permits. Markings are to be in black paint or ink depending on shade of the package surface.
- Cautionary symbols to be stenciled in red waterproof paint or ink.

QA:CI:STD:PR:04 / Rev 03

- The gap between job and the box shall be filled with suitable material like jute, coir, thermo coal, etc.
- For export packing additional care shall be taken as per contract requirements if applicable. Otherwise, suitable box made of seasoned wood and / or plywood sheets of required thickness shall be used with suitable sea worthy packing protection.

4. Marking

- After completing the packing, Stencil marking, as per dispatch instructions and symbol marking as per Annexure – I shall be made. Please ensure the box is stenciled with “FRAGILE ITEM”, “HANDLE WITH CARE”.

5. Packing Slip

- A copy of the packing slip, kept in a polythene cover shall be kept inside the box. Another copy of the packing slip, kept in a polythene cover shall be kept outside the box and firmly fixed to the case.

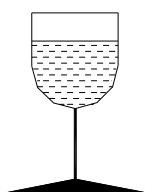
6. Caution

- Do not pack any other Mechanical items with this case.

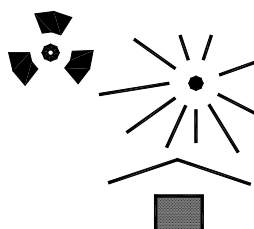
7. General

- These packing procedures are the minimum requirements in addition to the standard instructions mentioned in the Purchase Order and Specification.
- Deviation to meet the packing procedure requirements / non-clarity in packing approach in any quotation will be liable for rejection of offer.

ANNEXURE – 1



FRAGILE, HANDLE WITH CARE



PROTECT FROM HEAT AND RADIOACTIVE SOURCES



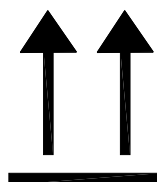
USE NO HOOKS

NOTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



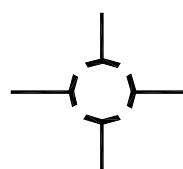
KEEP DRY

NOTE: Not all cases have waterproof internal liners: plywood used in the construction may not have a waterproof glue line.



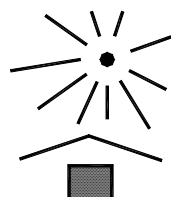
THIS WAY UP

NOTE: Certain designs of small cases make it difficult to distinguish top from bottom.

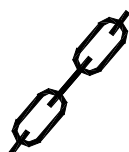


CENTRE OF GRAVITY

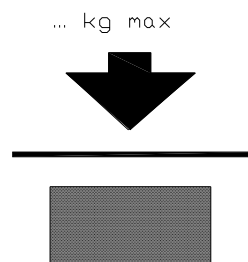
NOTE: This should be stencilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



KEEP AWAY FROM HEAT



INTERNATIONAL "SLING HERE" SYMBOL



STACKING LIMITATION

NOTE: The maximum load in kilograms should be marked above the arrow.