

TECHNICAL SPECIFICATION
FOR
ABOVE GROUND EARTHING
&
LIGHTNING PROTECTION MATERIALS

SPECIFICATION NO.: *PE - RC - 999 - 509 - E003*

REVISION: 02



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



**TECHNICAL SPECIFICATION FOR
ABOVE GROUND EARTHING &
LIGHTNING PROTECTION MATERIALS**

SPECIFICATION NO. PE-RC-999-509-E003
VOLUME NO.: II-B
SECTION: I
REV NO.: 02 DATE: 23.04.2019
SHEET : 1 OF 1

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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 are no deviations with respect to specification other than those furnished in the 'schedule of deviations'
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 the specification shall prevail).
6. Price variation formulae provided on Sheet 20 of 20 of this specification.

BIDDER'S STAMP & SIGNATURE



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SCOPE OF ENQUIRY

1.0 PURPOSE

This specification is intended for finalization of rate contract between BHEL PEM and Bidder. Standard technical detail as indicated in the specification shall be agreed upon between BHEL PEM and Bidder.

2.0 SCOPE

This specification covers the Design, Manufacture, Inspection and Testing at Manufacturer's works, proper packing and delivery to site of **ABOVE GROUND EARTHING & LIGHTNING PROTECTION MATERIALS**.

3.0 The bids shall be evaluated as per NIT.

4.0 The bidder shall be responsible for and governed by all requirements stipulated hereinafter.

5.0 Bidder shall confirm total compliance to the specification without any deviations from technical/quality assurance requirements stipulated.

6.0 The documents shall be in English Language and MKS system of units.

7.0 The quality plan enclosed forms the minimum requirement but not limited to be adhered by the bidder.

8.0 GENERAL TECHNICAL INSTRUCTIONS

- i) BHEL's / Customer representatives shall be given access to the shop in which the Above Ground Earthing & Lightning Protection materials are being manufactured or tested and all test records shall be made available to them.
- ii) The material covered under this specification shall not be dispatched unless the same have been finally inspected, accepted and Material Dispatch Clearance Certificate (MDCC) is issued by BHEL / Customer.
- iii) The bidder to quote for items as per price schedule attached. **The quantity as mentioned in the BOQ is only for evaluation purpose.** However actual ordered quantity may vary, variation in quantity shall be as per NIT.
- iv) These rates shall be applicable for a period of **2 years** from the date of issue of rate contract for the equipment.



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- v) During rate contract in force; any other BHEL unit may also make use of rate contract if their specification is identical to specification of rate contract.
- vi) After issuance of purchase order for specific project, the successful bidder shall submit the QP for BHEL/ end customer's approval. In case bidder has reference QP agreed with end customer, same can be submitted for specific project after issuance of purchase order for BHEL/ end customer's approval. There shall be no commercial implication to BHEL on account of QP approval. Inspection shall be carried out in line with QP approved for specific project.
- vii) Inspection will be conducted by BHEL and/or their authorized representatives as per the inspection schedule agreed for specific project. The inspection schedule will be submitted by the bidder for specific project for BHEL's approval. The cost of all tests and inspections will be deemed to have been included in the rate contract.
- viii) Refer Section-II for detailed technical specification, Code & Standards, Tests & Inspection, Drawings & Documents, and Packing.



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STANDARD TECHNICAL REQUIREMENTS

1.0 INTENT OF SPECIFICATION

- 1.1 This specification covers the design, manufacture, inspection & testing, packing at manufacturer's works and delivery to site of **Above Ground Earthing & Lightning Protection materials**.
- 1.2 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 design, material, construction, manufacture, inspection, testing and performance of **Above Ground Earthing & Lightning Protection materials** shall conform to the latest revision of relevant standards and codes of practices as per Annexure-A.
- 2.3 **In case of conflict between the applicable reference standard and this specification, this specification shall govern.**

3.0 SCOPE OF ENQUIRY

- 3.1 Bidder shall quote for **Above Ground Earthing & Lightning Protection materials** in accordance with various sections of this specification. The system shall be complete in all aspects, for satisfactory operation, in accordance with this specification & technical particular. Project information shall be given separately for the specific project.

4.0 TECHNICAL REQUIREMENTS

- 4.1 Technical particulars of Above Ground Earthing & Lightning Protection materials are specified in Technical Datasheet.
- 4.2 Straight lengths of hot dip galvanised MS materials as per project specific requirement shall be supplied in standard lengths as below:
- | | | | |
|----|------------------------------|---|----------------------|
| a) | MS Flats of all sizes | : | 4-7 metres |
| b) | SWG wires of different sizes | : | 100 metres (minimum) |



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- 4.3 All finished galvanized MS material shall be free from sharp edges, corners, burs & unevenness.
- 4.4 Test link without box & Test link with box shall be as per enclosed drawing no. PE-DG-999-509-E003.
- 4.5 Flexible braided Copper Conductor of 600 mm length (cross section equivalent to 300 sq.mm) with tinned copper clamp connected by U-bolt for fence gate earthing shall be as per enclosed drawing no. PE-DG-999-509-E003.
- 4.6 Shielding Mast shall be as per enclosed drawing no. PE-DG-999-509-E003.
- 4.7 Necessary fixing hardware shall be provided along with each accessory as specified in drawings enclosed.

5.0 QUALITY ASSURANCE, TESTING & INSPECTION

- 5.1 BHEL's Standard QP (PE-QP-999-509-E001) enclosed forms the minimum requirement but not limited to be adhered by the bidder. After issuance of purchase order for specific project, the successful bidder shall submit the QP for BHEL/ end customer's approval. In case bidder has reference QP agreed with end customer, same can be submitted for specific project after issuance of purchase order for BHEL/ end customer's approval. There shall be no commercial implication to BHEL on account of QP approval. Inspection shall be carried out in line with QP approved for specific project.
- 5.2 All materials shall be procured, manufactured, inspected and tested by vendor/ sub-vendor as per quality plan approved for specific project.
- 5.3 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 equipment & components shall be deemed to be included in the bid price.

6.0 PACKING

- 6.1 The material shall be packed to ensure protection against damage during transit, storage for prolonged periods and handling.

7.0 DRAWINGS & DOCUMENTS TO BE SUBMITTED

- 7.1 Bidders shall furnish following documents as the part of their technical offer for 'Rate Contract': -
- Complete signed & stamped copy of this specification.
 - "No Technical Deviation" certificate w.r.t. this specification.
 - Unpriced 'Price Schedule' after mentioning "Quoted" against the items quoted.

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7.2 After rate contract, after issuance of purchase order against specific project requirement following information shall be furnished by BHEL: -

- a) Project Information
- b) Title Sheet
- c) Updated list of BHEL-PEM approved Galvanizers (Refer Annexure-2 to Quality Plan)

7.3 Following documents/drawings shall be submitted after placement of order for specific project for BHEL & customer's approval: -

Sl. No.	Drawings/Document Description	Drawings / Document Number	Submission Schedule
1.	Quality Plan for Above ground earthing & Lightning protection material.	PE-V0-XXX-507-E903	Within one week of issuance of purchase order for specific project

7.4 Document indicated at clause no. 7.3 above, shall be submitted through document management system (DMS).



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ANNEXURE - A

APPLICABLE STANDARDS & CODES

For Hot rolled carbon sheets & strips.	IS: 2062
For Mild Steel Wire	IS: 280
For Surface pre treatment	IS: 2629
For Hot dip galvanising of steel	IS: 2629
For Hot dipped galvanised coating on round steel wires	IS: 4826
For Testing of zinc coating	IS: 2633
For Determining of mass of zinc coating	IS: 6745
For Rolling & cutting tolerances of hot rolled steel products	IS: 1852
For Hot dip zinc coating on structural steel & other allied products	IS: 4759
For Tubes, Tubulars and other Wrought Steel Fittings	IS: 1239



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TECHNICAL DATASHEET

1.0 GALVANIZED MS MATERIALS FOR ABOVE GROUND EARTHING AND LIGHTNING PROTECTION SYSTEMS

- a) Material: Hot Rolled Mild Steel
b) Type: Hot-dip galvanized

3.0 SURFACE TREATMENT

Galvanising:

- a) Pre-treatment As per IS 2629 prior to galvanization
b) Type Hot dip galvanization.
c) Applicable Standard IS 2629
d) Minimum thickness:

i) MS flats 5mm thick & over	75 microns (minimum)
ii) MS flats under 5mm thickness	60 microns (minimum)
iii) Pipes/ conduits with thickness 5 mm & over.	75 microns (minimum)
iv) Pipes/ conduits with thickness under 5mm	60 microns (minimum)
v) GI Wire	20 Microns (Medium coated)

e) Min. weight:

i) MS flats 5mm thick & over	610 gms. / sq. mtr.
ii) MS flats under 5mm thickness	460 gms. / sq. mtr.
iii) Pipes/ conduits with thickness 5 mm & over.	610 gms. / sq. mtr.
iv) Pipes/ conduits with thickness under 5mm.	460 gms. / sq. mtr.
v) GI Wire	150 gms. / sq. mtr.



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f) Thickness of Pipes:

SL No.	Material	Size	Thickness (in mm.)
1	Cast Iron (CI)	100 ID	13.0
2	Mild Steel (MS)	25 NB, Heavy duty	4.0
3	Mild Steel (MS)	40 NB, Heavy duty	4.0
4	Mild Steel (MS)	50 NB, Heavy duty	4.5
5	Mild Steel (MS)	65 NB, Heavy duty	4.5
6	Mild Steel (MS)	100 NB, Heavy duty	5.4

CUSTOMER :		PROJECT TITLE :		SPECIFICATION NO. :						
BIDDER/ VENDOR		STANDARD QP NO. : PE-QP-999-509-E001 REV. 01		SPECIFICATION TITLE:						
SYSTEM		ITEM : EARTHING & LIGHTNING PROTECTION MATERIALS		DOC. NO. :						
CAT.		REFERENCE DOCUMENT		AGENCY						
TYPE/ METHOD OF CHECK		EXTENT OF CHECK		P W V						
3		6		10						
4		5		9						
5		7		8						
8		9		11						
1	2	3	4	5	6	7	8	9	10	11
2.3	GALVANISING	1. TEMPERATURE OF BATH	MA	TEMPERATURE INDICATOR	CONTINUOUS	IS - 2629	IS - 2629	QC RECORD	3/2	-
		2. DROSS	MA	VISUAL	PERIODIC	IS - 2629	IS - 2629	QC RECORD	3/2	-
		3. RATE OF IMMERSION	MA	VISUAL/ MEASUREMENT	100%	IS - 2629/ MFRS PRACTICE	IS - 2629/ MFRS PRACTICE	QC RECORD	3/2	2
		4. SURFACE QUALITY	MA	VISUAL	100%	IS - 2629	FREE FROM BURRS, ROUGHNESS, SLAG, FLUX, STAIN ETC.	QC RECORD	3/2	-
3.0	FINISHED ITEMS									
3.1	MS FLATS	1. CHEMICAL	MA	CHEMICAL	1 No./LOT/SIZE	IS-2062	IS-2062	LAB TC	2	-
		2. DIMENSIONS	MA	MEASUREMENT	IS 2500 (PART 1) LEVEL S-4	APP. DATA SHEET/ APP. DRAWING	APP. DATA SHEET/ APP. DRAWING	INSP. REPORT	2	1
		3. SURFACE FINISH	MA	VISUAL	IS 2500 (PART 1) LEVEL S-4	FREE FROM BURRS, SLAG, ROUGHNESS, FLUX, STAIN, ETC.	FREE FROM BURRS, SLAG, ROUGHNESS, FLUX, STAIN, ETC.	INSP. REPORT	2	1
		4. MASS OF ZINC COATING	MA	CHEM. TEST	Refer Remarks	IS-6745 / APP. DATA SHEET	APP. DATA SHEET	INSP. REPORT	2	1
		5. UNIFORMITY OF ZINC COATING	MA	CHEM. TEST	Refer Remarks	IS-2633	IS-2633	INSP. REPORT	2	1
		6. THICKNESS OF ZINC COATING	MA	ELCOMETER	Refer Remarks	APP. DATA SHEET	APP. DATA SHEET	INSP. REPORT	2	1
		7. ADHESION	MA	MECH. TEST	Refer Remarks	IS-2629	IS-2629	INSP. REPORT	2	1
Note: Items like Pipes/ Flexible Copper Braid/ GI wire/ GS Rod/ Shielding Mast/ Test link will be cleared based on COC (certificate of Compliance)										
BHEL										
PARTICULARS										
NAME										
SIGNATURE										
DATE										
BIDDER/VENDOR										
BIDDER'S/VENDORS COMPANY SEAL										
LEGEND : 1 - BHEL/CUSTOMER 2 - VENDOR 3 - SUB- VENDOR P - PERFORM W - WITNESS V - VERIFICATION										

ANNEXURE – 1

INSTRUCTIONS FOR FILLING QUALITY PLAN

The Quality Plan shall include all the Quality Control Measures and Checks adopted by the Vendor to ensure that the material/component/assembly/services supplied by him meet/will meet the requirements as per specifications and good practices. They shall include all stages of operation such as materials, processes, manufacture, assembly, packing and despatch. The following guide lines may be noted:

- Column 1- Serial Number
- Column 2- Component/Operation- The component and/or operation being checked shall be given here.
- Column 3- Characteristics check- The characteristics being checked shall be given here, e.g., chemical composition, mechanical properties, leak tightness, surface defects etc..
- Column 4- Category - 'CR' stands for critical characteristic - affecting safety of equipment and personnel
'MA' stands for major Characteristic - affecting safety of equipment and personnel
'MI' stands for minor characteristic - affecting appearance etc.
- Column 5- Type/Method of check e.g. chemical analysis tensile testing, hydraulic test, visual examination radiography etc.
- Column 6- Extent of check, such as, 100, 10, 1 percent etc.
- Column 7- Reference Documents - Documents, such as technical specification, drawings, standard specifications (IS, BS ETC.) procedure, etc. according to which check is done.
- Column 8- Acceptance Norms - Standards etc. according to which acceptability or otherwise of the characteristics being checked is decided.
- Column 9- Format of Record - Formats, log sheets, reports, etc. in which the observations are recorded. Standard log sheets, reports, formats etc. of the Vendors shall be numbered and such reference numbers shall be included here.
- Column 10- Agency - The agency which performs the test/instruction shall be written in sub-column 'W'
The agency which verifies test certificates/inspection records and carries out audit check of the components/operation shall be written in sub-column 'V'
- The agencies are codified as 1,2 & 3
- '1' stands for (BHEL)
- '1' * means the operation shall be cleared by BHEL before the start of the next operation.
- '2' Stands for Vendor
- '3' stands for sub-Vendor of the Vendor and so on.
- Example :
- Entry '3' in column 'P' means test./inspection to be performed by sub-Vendor's QC
- Entry '2' in column 'W' means test./inspection to be witnessed by Vendor's QC
- Entry '1' in column 'V' means verification shall be done by BHEL and next stage to be started only after the hold point is cleared by BHEL
- Column 11- Remarks - Any special remarks shall be given here.

NOTES :

1. In absence of correlation with the test certificate(s) (e.g. material identification) samples shall be drawn by BHEL and all tests as per relevant specifications shall be carried out in their presence or in recognized Government Laboratory.
2. When materials and components are initially identified and stamped by BHEL QS engineer, the identification marks shall be preserved till despatch. Wherever this is not possible, the identification mark shall be transferred to the components in the presence of BHEL QS Engineer unless otherwise agreed.
3. For castings and forgings integral test specimens shall be provided, When this is not possible for casting, they shall be poured in the presence of BHEL QS Engineer unless otherwise, if witnessing of test by BHEL is called for.
4. When welders qualified by reputed inspection agencies or statutory bodies are not available, qualification tests shall be conducted in the presence of BHEL QS Engineer.
5. This Quality Plan is liable to be modified as per the requirements of approved drawings and changes in technical specifications/drawings. If there are contradictions in respect of column 7 & 8 between this Quality Plan and the approved drawings specifications, the latter shall prevail.
6. Wherever inspection by BHELs Purchaser/Third Party/Statutory authorities are mandatory, this shall be complied with.
7. Inspection reports, log sheets, test reports/certificate. etc. shall be furnished to BHEL at the appropriate stages or at the time of final inspection, as required.
8. This Quality Plan is also applicable to spares, if any, under scope of supply of Vendor.
9. The quality plan shall be submitted in minimum 4 copies with a soft copy of the same or in line with contract requirements.

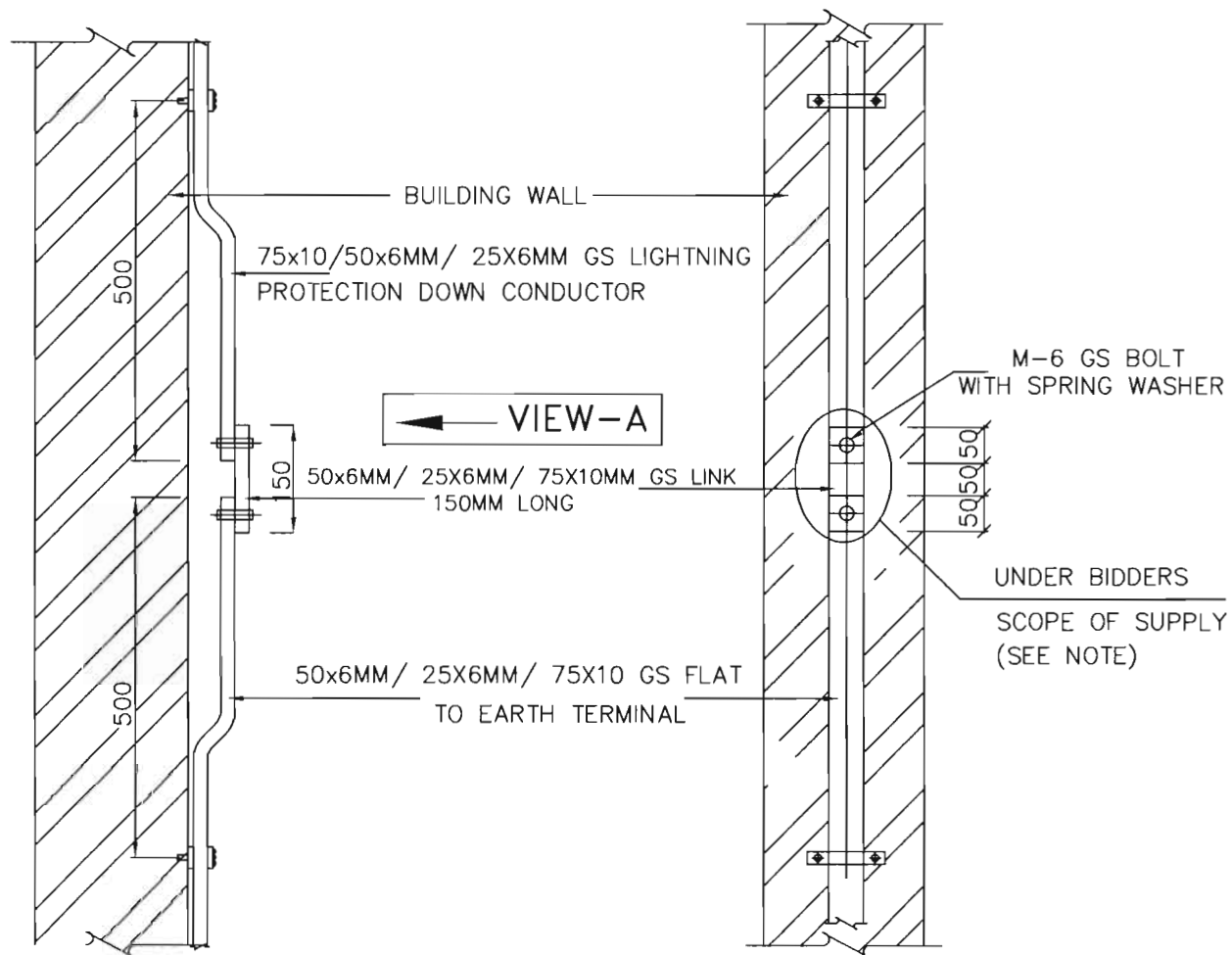
ANNEXURE-2 to Quality Plan

(LIST OF BHEL- PEM APPROVED GALVANIZERS)

SL. NO.	ITEM	VENDOR NAME	ADDRESS
1	Galvanising	Jenco Industrial Corporation	Chincholi Bunder Khkar Road Near Link Road Devruwadi Malad (W) Mumbai 400064
2	Galvanising	National Galvanizing Company	66, Barrackpore Kamarhatt Trunck Road Calcutta-700058
3	Galvanising	Sigma Galvanising Pvt. Ltd.	Plot No.C-169, TTC, MIDC Ind Area Navin Mumbai-400705
4	Galvanising	B.P. Projects PVT LTD	167A, Vivekananda Road Kolkata-700006
5	Galvanising	Standard Galvanisers	Makardah Road, Kabar Para, Bankra, Howarah -711403
6	Galvanising	Steel Products	National Highway No. 6, Chamrail, Kona, Howrah-711114
7	Galvanising	Unitech Fabricators & Engineers Pvt. Ltd.	Village- Ajab Nagar, P.O. -Molla Simlla, P.S. - Singur, Dist - Hoogly, Pin-712223
8	Galvanising	Shivam Engineers & Fabricators	A0-282-284, Industrial Area, South Side of G.T. Road, Ghaziabad, U.P.
9	Galvanising	B.G. Shirke Construction Technology Pvt. Ltd	72-76, Mundhawa, Pune - 401 036
10	Galvanising	Galbro Ispat Galvanizers Pvt. Ltd.	GUT 11 AND 12, OPP. Kudus Steel,Rolling Mill, Wada, Thane , Mumbai
11	Galvanising	Eros Metals	G-97, MIDC, Bhutibori , Nagpur
12	Galvanising	Industrial Perforation (India) Pvt. Ltd.	Ganganagr, Katakhal, Kolkata-700132
13	Galvanising	Indmark Formtech Pvt. Ltd.	Phase - 3, E - 11 / 1, M. I. D. C., Chakan, Pune - 410 501, Maharashtra, India.
14	Galvanising	Namdhari Industrial Traders Pvt. Ltd.	Village Latton Dana, Chandigarh Road, Ludhiana
15	Galvanising	Neha Galvaniser	Jalan Industrial Estate, Gate No-1, 1st Right Choise Lane, Near N.G-6, Jangalpur, PO Domjur Howrah - 700071, West Bengal, India
16	Galvanising	Patny Systems (P) Ltd.	Unit-IV, Sy No. -228/9, Plot No. 6, IP Kuchavaram, Toopran(M) Dist. - Medak, Telegana - 502336
17	Galvanising	Parmar Metal Company	Survey No.207,Veraval (Shapar) Dist. Rajkot, India.
18	Galvanising	Passive Infra Projects Pvt. Ltd	8th KM Stone, Sampla Kharkhoda Road, Hassangarh, Rohtak, Haryana
19	Galvanising	Rukmani Electrical & Fabricators Pvt. Ltd.	Urla Industrial Area, Urla Sarora Road, Raipur- 493 221 (Chhattisgarh) Shankharidaha Baniyarah, Jalan Industrial Complex, Gate no.3, Lane no. 4, Domjur, Howrah , W.B. - 71141
20	Galvanising	DMP Projects Pvt.Ltd.	Dulagarh Industrial Park , PS-Sankrail , Howrah -711302
21	Galvanising	Vinfab Engineers India Private Limited	Gut no. 224/1 &2 Bhiwandi Wada State Highway, Village khupri, Dist. Thane, Maharashtra -421303
22	Galvanising	Saral Projects & Processors	B-1, Industrial Area, Site-II, Amawan Road Rae Bareli
23	Galvanising	Jamna Metal Company	D - 1513, DSIDC, Narela Industrial Area Delhi - 110040, India
24	Galvanising	Brahampuri Steels Limited	172 (F) Industrial Area, Jhotwara, Jaipur-302013
25	Galvanising	Indiana Gratings PVT. LTD	F-5, MIDC Jejuri, Pune-412 303

NOTES:

1. ANY CHANGE IN THE ABOVE LIST SHALL BE INFORMED AT THE TIME OF SPECIFIC PROJECT REQUIREMENT AND NO COMMERCIAL IMPLICATION SHALL BE ALLOWED ON THIS ACCOUNT.
2. IT SHALL BE THE RESPONSIBILITY OF THE VENDOR TO GET THE MATERIAL GALVANIZED FROM THE ABOVE LIST WITHOUT ANY COMMERCIAL IMPLICATION TO BHEL



TEST LINK DETAILS

VIEW-A

NOTE: BIDDER'S SCOPE INCLUDES THE 150 MM LONG 50X6MM/ 25X6MM/ 75X10MM GS LINK ALONG WITH HARDWARES (2 NOS. M-6 GS NUTS & BOLTS & 4 NOS. SPRING WASHERS)



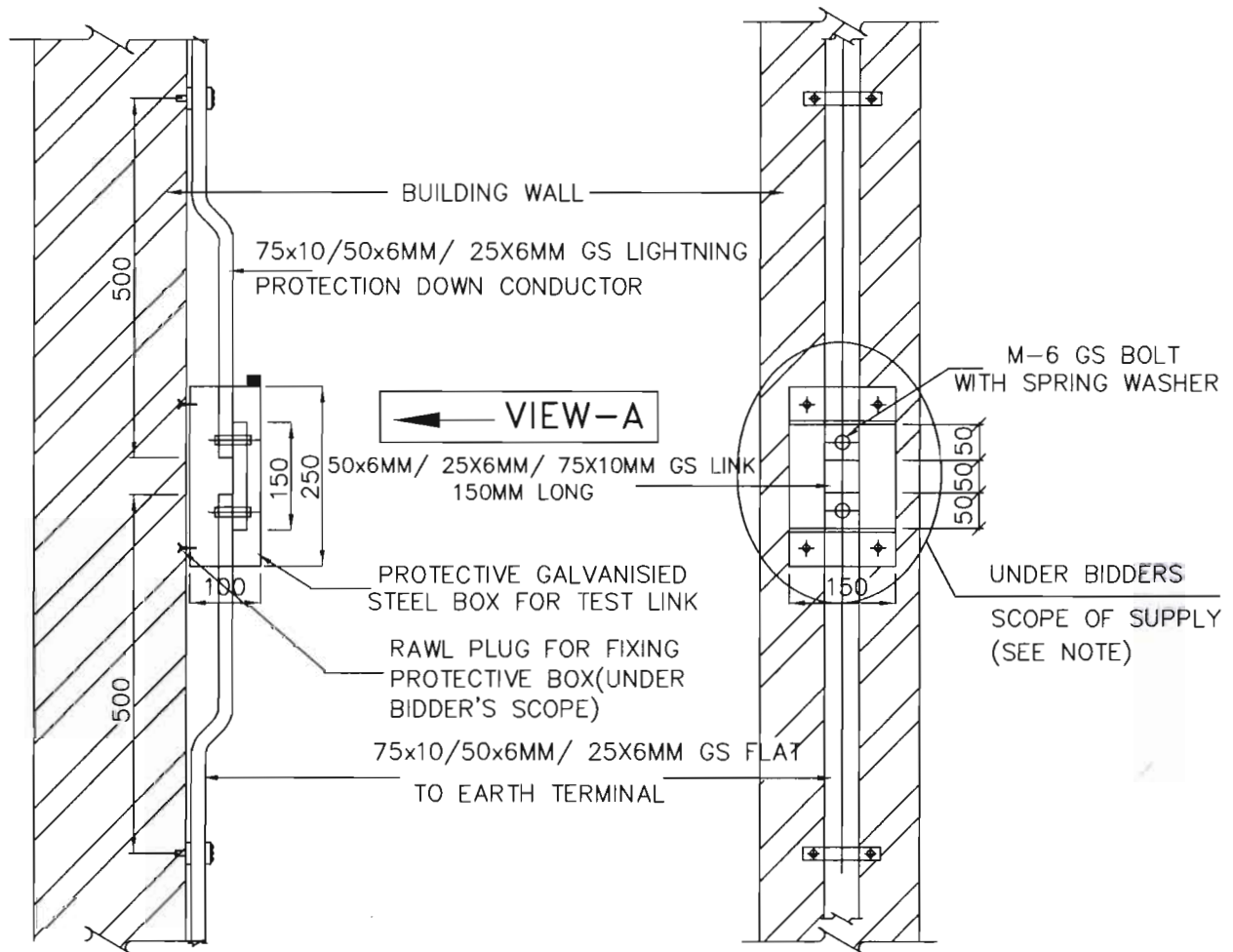
TITLE

TYPICAL DETAILS OF TEST LINK

PE-DG-999-509-E003

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REV 02



TEST LINK WITH BOX DETAILS VIEW-A

NOTE: BIDDER'S SCOPE INCLUDES THE 150 MM LONG 50X6MM/ 25X6MM GS LINK ALONG WITH HARDWARES (2 NOS. OF M-6 GS NUTS & BOLTS & 4 NOS. SPRING WASHERS) & 250X150X100 MM GALVANISED MS COVERING BOX (1.6 MM THICK) WITH 4 NOS. M12 SCREWS & RAWL PLUGS FOR FIXING OF THE SAME.



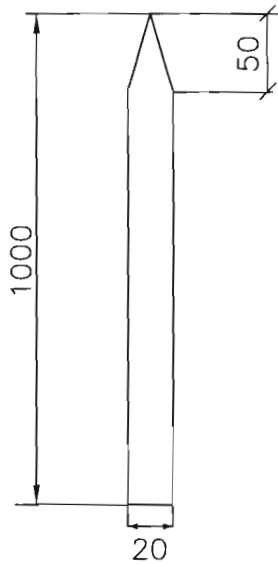
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**TYPICAL DETAILS OF TEST LINK
WITH PROTECTIVE BOX**

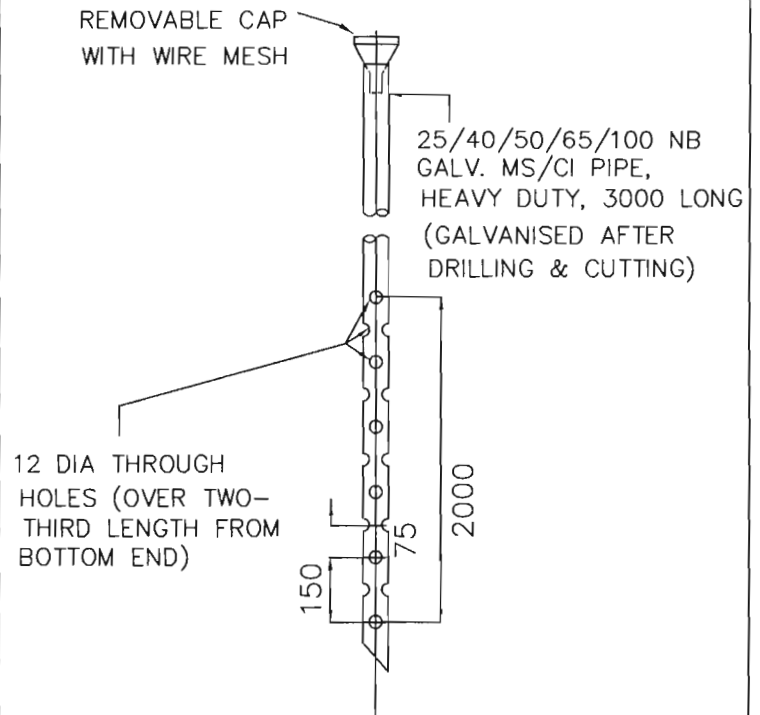
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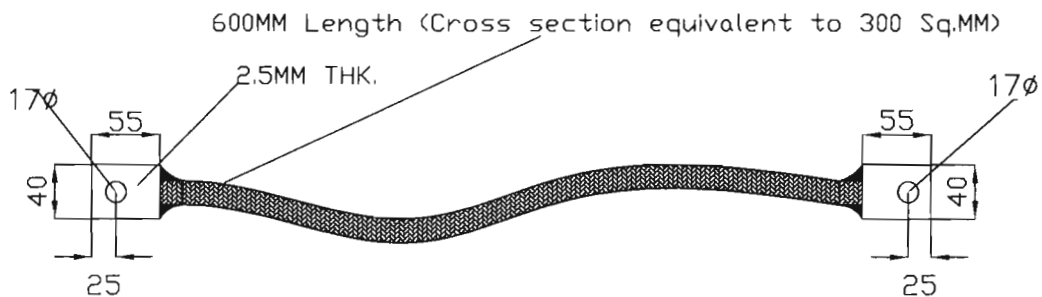
REV 02



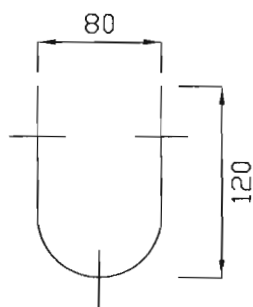
20MM DIA GS ROD
FOR LIGHTNING PROTECTION



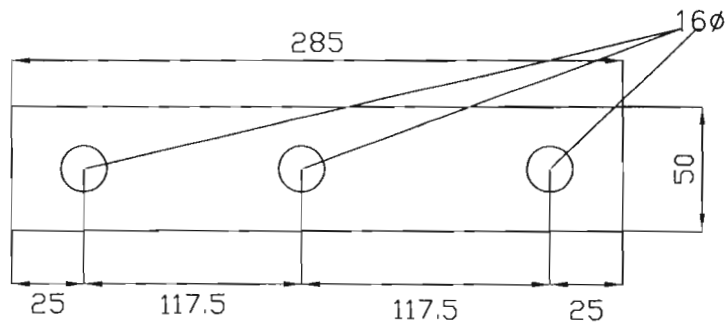
PERFORATED PIPE



FLEXIBLE BRAIDED COPPER CONDUCTOR



PLAN



TINNED COPPER 'U' CLAMP (2.5 MM THICK)



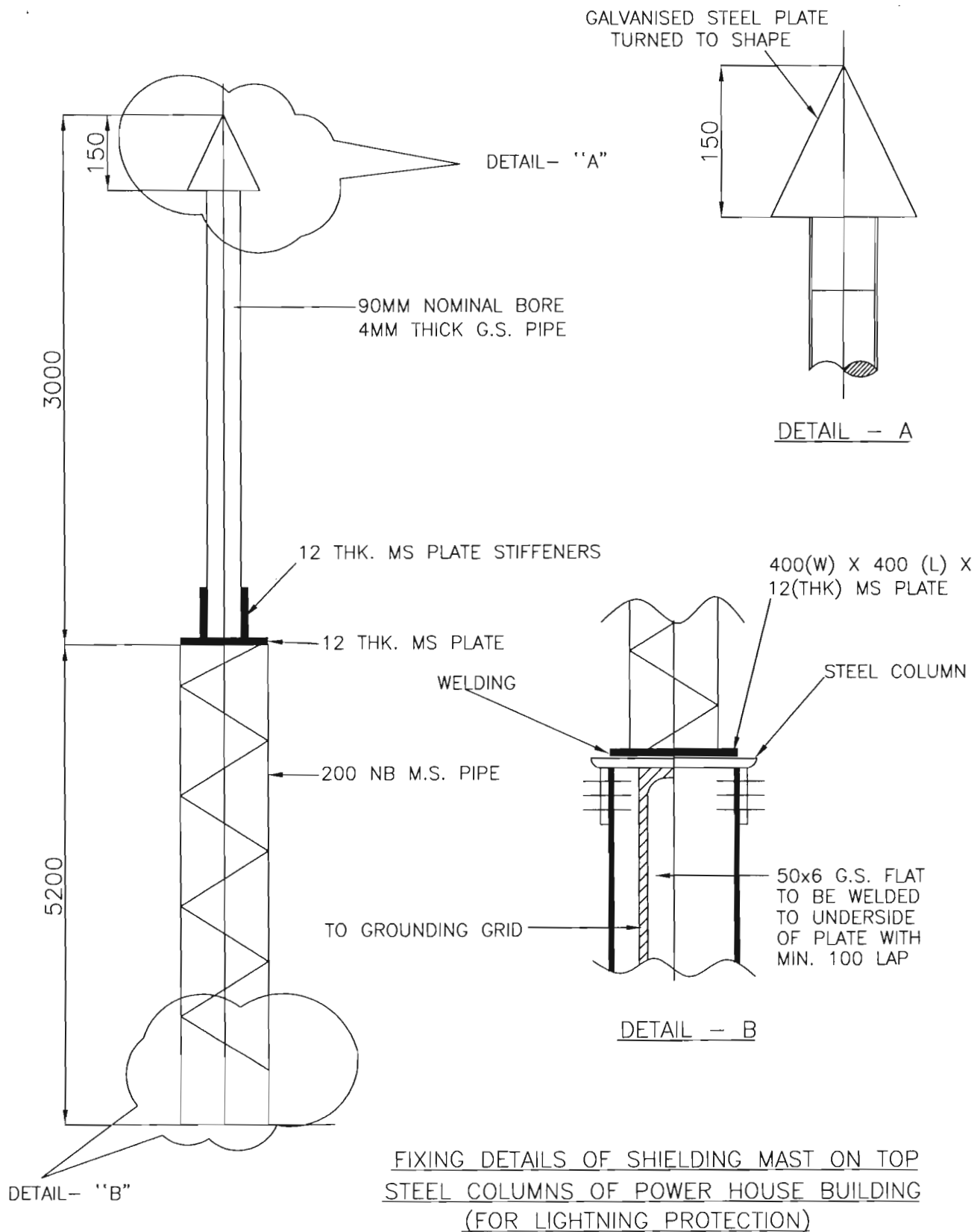
TITLE

TYPICAL DETAILS OF FLEXIBLE
BRAIDED COPPER, 20 MM DIA.
GS ROD & PERFORATED PIPE

PE-DG-999-509-E003

SH 3 OF 4

REV 02



NOTES:

1. THE ABOVE SHIELDING MAST SHALL BE PROVIDED ON TOP OF "A" ROW STEEL COLUMNS OF POWER HOUSE BUILDING
2. ALL DIMENSIONS ARE IN MM.



TITLE

TYPICAL DETAILS OF
SHIELDING MAST

PE-DG-999-509-E003

SH 4 OF 4

REV 02

	<u>Price Variation Formulae</u>	ANNEXURE-B
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Prices shall be variable as per following PVC formulae:-

ABOVE GROUND EARTHING & LIGHTNING PROTECTION MATERIALS	
$P = P_o/100 (20 + 70 (Fe/Fe_o) + 10 (W/ W_o))$	Indices to be taken from IEEMA Circular (PVC/LA conductor-LME) for the applicable month.

Wherein,

P = Ex-works price payable as adjusted in accordance with the price variation clause.

P_o = Ex-works price quoted/confirmed.

FE_o = Price of High Tensile Galvanized Steel Wire in Rs./MT of appropriate size. This price is applicable prevailing as on 1st working day of the month one month prior to date of tender enquiry.

W_o = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2001 = 100). This index number is as applicable on the first working day of the month, one month prior to date of tender enquiry.

FE = Price of High Tensile Galvanized Steel Wire in Rs./MT of appropriate size. This price is applicable prevailing as on first working day of the month one month prior to the date of inspection.

W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2001 = 100). This index number is as applicable on the first working day of the month, one month prior to the date of inspection call.

NOTE: PVC shall be applicable for 'GS FLATS & GI WIRES' only.

Price of FE & FE_o shall be of 3.00 to 4.09 mm High Tensile Galvanized Steel Wire.