

NTPC

NTPC LIMITED
(ENGINEERING DIVISION)
ENGINEERING OFFICE COMPLEX
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TRANSMITTAL FOR DOCUMENTS/DRAWINGS

FROM : CTF(NCTPP TF)

REF. : CC:PE:6130:108:01PC:957

DATE : 09/07/07

TO: Sh. R. Sampath Kumar
m/s BHEL, Piping Centre, Chennai
CC:Mr. E. Subramanian, AGM (comml),
BHEL, PC ,Chennai,

SUB :NCTPP-II-MAIN PLANT PACKAGE

Please find enclosed following drawings/documents for necessary action at your end as indicated in purpose code.

SL No	NTPC Drg No	Vendor Drg No	Title	Re v	Categor y	Appl Date
1	6130-108-01PC-PVM-W-129	6906-QPC-11	PAINTING SCHEME FOR PIPING.	00	IV	09/07/07

NOTE: All previous revisions shall be destroyed/marked "Superseded"

: Please acknowledge the receipt of drawings

R.K. GUPTA
CTF-(NCTPP TF)

NTPC DRAWING NO:6130-108-01PC-PVM-W-129

Vendor Drawing No: 6906-QPC-11

Revision: 00

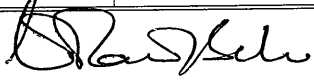

Drawing Title: PAINTING SCHEME FOR PIPING.

Category:IV

Comments : No comments.

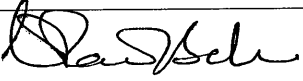

BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE CHENNAI--600017	PAINTING SCHEME FOR PIPING Projects : 1) Dadri NCTPP Stage-II Unit – I (1X490 MW) BHEL Customer No:- 0635, 6906, 6907 2) Dadri NCTPP Stage- II Unit - II (1X490 MW) BHEL Customer No:- 0637, 6920, 6921	QP No : 6906: QPC: 11 Rev. No : 00 Date : 16 / 06 / 2007 Page : 1 of 3 NT[C DOC. NO. - 6130-108-01PC-PVM-W-129
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No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT micron minimum
			Paint	No of coats	Paint	No of coats	Paint	No. of coats	Shade	
1	Insulated Piping, components (MS/HRH/CRH/ Aux Steam lines, ... IBD,CBD tanks & Pipe Clamps).	SSPC-SP3/ Power Tool Cleaning	Red oxide Zinc Phosphate Primer (Alkyd Base) to IS 12744 DFT=25microns Minimum per coat.	2	---	---	Synthetic enamel paint (long Oil alkyd) to IS 2932 DFT 25 microns minimum per coat	1	Smoke Grey Shade No 692 of IS 5	75
2	Uninsulated Piping, components (Spray Water / Condensate lines ..., Tanks & Vessels).	SSPC-SP3/ Power Tool Cleaning	Red oxide Zinc Phosphate Primer (Alkyd Base) to IS 12744 DFT=25microns minimum per coat	2	---	---	Synthetic Enamel Paint (Long Oil Alkyd) To IS 2932 DFT=35 microns Minimum per coat	2 coats at shop + 1 coat at site @@	Smoke Grey Shade No: 692 of IS 5 **	120 shop + 35 site

Prepared : G.Panneer Selvam.  Approved : P. Elangovan 	FOR NTPC USE
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No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT micron minimum
			Paint	No of coats	Paint	No of coats	Paint	No. of coats	Shade	
3a	All Structural Components for supporting CD bay	Abrasive Blast cleaning to SA2 ½ (Near white metal) Min 35 Micron	Inorganic Ethyl Zinc Silicate Primer. DFT=75 Micron minimum per coat	1	Epoxy Based Ti O ₂ Pigmented Intermediate Coat. DFT=75 Micron Minimum Per coat	1	\$ Epoxy finish Coat DFT=35 Microns minimum per Coat + \$ Aliphatic Acrylic PU Paint DFT=30 Microns minimum per coat	2 \$ 1 \$	Grey Shade 692 of IS 5 **	185 Shop + 65 Site
3b	Other Aux structure	-do-	-do- DFT 35 Micron minimum per coat	1	-do- DFT 35 Micron minimum per coat	1	\$ Epoxy finish coat DFT=25microns minimum per Coat + \$ Aliphatic acrylic PU paint DFT=30 microns minimum per coat	2 \$ 1 \$	-do- **	95 Shop + 55 Site

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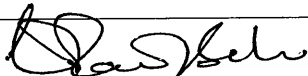

No.	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat		Finish coat			Total DFT micron minimum
			Paint	No of coats	Paint	No of coats	Paint	No. of coats	Shade	
4	Hangers & Supports- (CLH,VLH)	Blast cleaning to Sa2½ with surface profile 35-50 microns	Epoxy Zinc rich primer to IS 14589 Gr.II % VS=35.0, Minimum DFT=40 microns per coat	1	---	---	Aliphatic acrylic Polyurethane paint ,%VS=40.0 minimum DFT=30 microns per coat	1	Phirozi Blue Shade No.176 of IS 5	70
5	Valves (Bought out)	SSPC-SP3/ Power Tool Cleaning	Heat resistant Aluminum Paints to IS 13183 Gr.I	2	-	-	-	-	Aluminum	40

\$:- Out of 2 coats of Epoxy based finish paint, one coat of Epoxy finish paint shall be applied at shop / subcontracting works and second coat of Epoxy finish and one coat of aliphatic Polyurethane paint shall be applied at site after erection by brush and / or spray.

@@ :- Out of 3 coats of synthetic enamel, two coats shall be applied at shop, and one coat shall be applied at site.

Note1:- No Painting is required for Stainless Steel and galvanized items.

** :- The final colour shade to be applied at site after erection shall be as per NTPC colour coding scheme (Note for NTPC use)

Prepared : G.Panneer Selvam. 	FOR NTPC USE
Approved : P. Elangovan 	



**BHARAT HEAVY
ELECTRICALS LIMITED**
PIPING CENTRE, CHENNAI- 17
QUALITY ASSURANCE & CONTROL DEPT.

PAINTING SCHEME FOR LP PIPING

(CW / ACW / ECW / Plant water, Air Piping, etc...,)

DADRI NCTPP STAGE II (2 X 490MW) UNIT I & II

Customer Nos:-Unit I- 0635,6906,6907. Unit II- 0637,6920,6921

QPNo: 6906:QPC:12

REV.NO: 00

Dt : 22.10.2007

NTPC DOC NO.- 6130-108-01PC-PVM-W-130

Sl. NO	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat			Finish coat			REMARKS	
			Primer	No of coats	Paint	No of coats	Shade	Paint	No of coats	Shade		Total DFT Microns (Min.)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	(a) Internal Surface - CW Pipe (for pipe dia - 1000 mm and above)	Blast Cleaning SSPC SP-10 SA 2½ (Refer Note 1)	Epoxy based Zinc rich Primer (Refer Note 2)	1 (50 Microns Min. per coat)	----	----	----	Coal tar epoxy (Refer Note 2)	2 (75 Microns Min. per coat)	----	200 Microns (Refer Note 3)	
	(b) Holiday test (Refer Note 3)	Holiday testing by low voltage (75 Volts Min.) wet sponge Holiday detector or by High voltage (Voltage per micron of DFT is as recommended by Paint Manufacturer subjected to minimum of 5V / Micron). Holiday test Equipment to be calibrated before testing.										
2	External Surface of CW --Buried Piping / Encased in concrete (a) Temporary Protection to be done at works.	SSPC-SP3 / Power Tool Cleaning	Red Oxide Zinc Phosphate (Alkyd base to IS 12744)	1 (30 Microns per coat)	----	----	----	----	----	----	30 Microns	
	(b) Protection coating to be done by BHEL Erection Group at site.##	SSPC-SP3 / Power Tool Cleaning	Coal Tar Primer	2 (30 Microns per coat)				Coal tar tape conforming to IS 10221	2 Layers		3200 (3.2mm)	## by site.
3	External Surface (over ground piping) of CW,ACW.(For all diameters)	SSPC-SP3 / Power Tool Cleaning	Red Oxide - Zinc Phosphate (Alkyd base to IS: 12744)	2 (25 Microns per coat)	----	----	----	Synthetic enamel Long oil Alkyd to IS: 2932	3 ** (35 microns per coat) (2 at shop + 1 at site)	Smoke Grey (Shade No. 692 of IS: 5)	120 at shop + 35 at site	** 1 coat of DFT- 35 microns finish coat at site
4	External Surface of ECW, Plant water (For all diameters)	SSPC-SP3 / Power Tool Cleaning	Red Oxide - Zinc Phosphate (Alkyd base to IS: 12744)	2 (25 Microns per coat)	----	----	----	Synthetic enamel Long oil Alkyd to IS: 2932	3 ** (35 microns per coat) (2 at shop + 1 at site)	Smoke Grey (Shade No. 692 of IS: 5)	120 at shop + 35 at site	** 1 coat of DFT- 35 microns finish coat at site
5	Potable water, Instrument air & Service air piping	No painting for Galvanised pipes and components used . For buried portion of this piping ,Sino: 2(b) coaltar coating is applicable.										

Notes:

1. Blast cleaning to near white metal to obtain roughness as per epoxy paint data sheet.
2. Application of Epoxy based Zinc rich Primer, Coal Tar Epoxy shall be done as per manufacturer's data sheet / recommendation, meeting the thickness requirements as per this document.
3. Witness by BHEL / BHEL nominated inspection agency.
4. No painting for Galvanised and Stainless steel piping.

PREPARED and REVIEWED BY : R.JANARTHANAN, DM / QA

APPROVED BY: G.PANNEER SELVAM, SM / QA