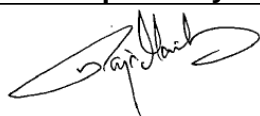


	Bharat Heavy Electricals Limited Boiler Auxiliaries Plant Ranipet – 632 406	BHEL DOC NO.	PS : KOTH :FGD: G301
		REVISION NO.	01
		DATE	14.10.2019

KOTHAGUDEM TPS STAGE VII UNIT- 12 (1X800MW)
FGD PACKAGE

PAINTING SCHEME for FGD SYSTEM, BOOSTER FAN, GATES& DAMPERS
CUST ORDER REF: ED/CE/TPC/SE-II/EME7/KTPS-VII (1X800MW)/F:FGD/D.
NO:22/18 DTD 29.05.2018

BHEL RANIPET Customer No(s).: G801

Prepared By	Reviewed & Approved By
	
Rajamanickam M Dy. Mgr/QA	K.C. Gandhi Parimalam DGM/QA

SI No	SURFACE LOCATION	PGMA	SURFACE PREPARATION	PRIMER		FINISH		TOTAL DFT IN (µm min.)
				PAINT	DFT (µm min.)	PAINT	DFT (µm min.)	

RECORD OF REVISION

REV NO	DATE	DETAILS OF REVISION
00	22.11.2018	Original Issue - First Submission
01	14.10.2019	Revised Issue- GGH PGMA's added

SI No	SURFACE LOCATION	PGMA	SURFACE PREPARATION	PRIMER		FINISH		TOTAL DFT IN (µm min.)
				PAINT	DFT (µm min.)	PAINT	DFT (µm min.)	

2. FGD SYSTEM

01	Module assembly – Temp > 95°C		52 010	Power Tool cleaning to St3 (SSPC-SP3)	Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	--	--	60
02	Heating Element with Baskets		52 010	Power Tool cleaning to St3 (SSPC-SP3)	Temporary Rust Preventive Oil application (Wet) as per PRQA 522 Note: Heating elements are assembled in module assy after dipping in the rust Preventive fluid				
03	Rotor Housing Assembly – Temp > 95°C	Insulated Side	52 030	Power Tool cleaning to St3 (SSPC-SP3)	HR Aluminium paint to IS 13183 Gr. II (Upto 400 deg C) (Two coats) DFT- 20µ/coat	40	--	--	40
		Flue gas Swept Surface			Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	--	--	60
04	Hot and Cold End Connecting Plate Assembly – Temp > 95°C	Insulated Side	52 041 52 042	Power Tool cleaning to St3 (SSPC-SP3)	HR Aluminium paint to IS 13183 Gr. II (Upto 400 deg C) (Two coats) DFT- 20µ/coat	40	--	--	40
		Flue gas Swept Surface			Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	--	--	60
05	Access door – Temp.> 95 ° C		52 220	Power Tool cleaning to St3 (SSPC-SP3)	HR Aluminium paint to IS 13183 Gr. II (Upto 400 deg C) (Two coats) DFT- 20µ/coat	40	--	--	40
06	Observation port with light		52 220	No painting , as the same is made of Glass					
	Other than glass part– temp > 95°C		52 220	Power Tool cleaning to St3 (SSPC-SP3)	HR Aluminium paint to IS 13183 Gr. II (Upto 400 deg C) (Two coats) DFT- 20µ/coat	40	--	--	40
07	Rotor Stoppage alarm		52 220	Made of Aluminium (No painting is required)					
	Other than aluminum -- Temp > 95°C			Power Tool cleaning to St3 (SSPC-SP3)	HR Aluminium paint to IS 13183 Gr. II (Upto 400 deg C) (Two coats) DFT- 20µ/coat	40	--	--	40
08	Air receiver– Temp < 95°C		52 101	Power Tool cleaning to St3 (SSPC-SP3)	Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	Synthetic Enamel to IS 2932 Light Grey shade 631 of IS 5 (Two coats)	40	100

SI No	SURFACE LOCATION	PGMA	SURFACE PREPARATION	PRIMER		FINISH		TOTAL DFT IN (µm min.)
				PAINT	DFT (µm min.)	PAINT	DFT (µm min.)	
09	Lifting beams, special Tools & tackles – Temp < 95°C	52 220 52 000	Power Tool cleaning to St3 (SSPC-SP3)	Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	Synthetic Enamel to IS 2932 Light Grey shade 631 of IS 5 (Two coats)	40	100
10	T C Pipe Assy. (Stainless Steel part)	52 220	No Painting					
	T C pipe Assy. (Non Stainless Steel part)– temp < 95°C	52 220	Power Tool cleaning to St3 (SSPC-SP3)	Red Oxide Zinc Phosphate Primer to IS: 12744 (Two coats)	60	Synthetic Enamel to IS 2932 Light Grey shade 631 of IS 5 (Two coats)	40	100
11	Commissioning spares	52 988	As per respective items as above					

SI No	SURFACE LOCATION	PGMA	SURFACE PREPARATION	PRIMER		FINISH		TOTAL DFT IN (μm min.)
				PAINT	DFT (μm min.)	PAINT	DFT (μm min.)	

4. PAINTING OF DAMAGED AREAS

Areas where paint has deteriorated badly by erosion and areas where the paint film has lost its adhesion property and where the steel has got rusted appreciably - these areas are to be repainted as per the following procedure:

SL NO	SURFACE LOCATION	SURFACE PREPARATION	PRIMER, INTERMEDIATE & FINISH
1	Paint damaged Components falling under Fans, SI no: 04, FGD SI nos. 13, 14, 15, 16, 18, 36, 37, 38, 40, 43, 46, 48, 50, 51, 52, 56, 61 & 67 of FGD.	Hand/ Power Tool cleaning to Bare metal to minimum 6 inches peripheral area adjoining to damaged area	Primer: Epoxy Zinc rich primer to IS 14589, DFT-70μ (If Metal surface exposed) followed by intermediate & finish coat as per respective scheme If primer is intact- Intermediate & finish as per respective scheme
2	Paint damaged components failing under other SI nos of Fans, FGD & Gates & Dampers	Power Tool Cleaning to Bare metal	Primer and Finish : As given in respective scheme

GENERAL NOTES

- No painting is required for Galvanized, non-ferrous & stainless steel items, except as indicated above.
- Machined items are to be applied with coat of temporary rust preventive oil
- PGMAs covered in sub-supplier (ie., Purchased) items viz., Agitator and other sub-delivery components etc., are not indicated in the above list. However, the Painting Schedule for all items supplied by all sub-suppliers and BOI under the scope of BHEL shall be same as for main equipment covered in this document.
- In sub-assy, wherever plates / sheets of thickness less than or equal to 5mm and rods are used - Power Tool or Hand Tool Cleaning to SSPC - SP 3 / SP 2 shall be followed.
- Ground shade/colour of finish paints and identification tag/band for equipments, fans, piping, pipe services, supporting structures and other components to be followed at site.
- All components covered under different PGMAs are to be painted. In case any component is left out, the same shall be deemed to be included under the relevant section.
- All threaded and other surfaces of foundation bolts and its materials, insulation pins, Anchor channels, Sleeves shall be coated with temporary rust preventive fluid and during execution of civil works; the dried film of coating shall be removed using organic solvents.

SI No	SURFACE LOCATION	PGMA	SURFACE PREPARATION	PRIMER		FINISH		TOTAL DFT IN (µm min.)
				PAINT	DFT (µm min.)	PAINT	DFT (µm min.)	

PAINTING SCHEME- DETAILS OF PROCUREMENT & APPLICATION PROCESSES

SL NO	TYPE OF PAINT	SPECIFICATION OF PAINT	NO OF PACK	VOLUME OF SOLIDS (% Min)	MODE OF APPLICATION	MIN. OVER COATING INTERVAL (hours)	SHADE
01	Epoxy Zinc phosphate primer	IS 13238	2	40	Spray	24	Grey
03	Epoxy High solid-Polyamide cured Epoxy based MIO pigmented intermediate coat	--	2	62	Airless Spray only	16	Brown
04	Epoxy based finish paint	IS 14209	2	40	Spray	16	Corresponding shade no
05	Aliphatic isocyanate acrylic polyurethane paint	IS 13213	2	40	Spray	16	Corresponding shade no
06	Heat resistant aluminium paint	IS 13183 Grade II	1	--	Brush/ Spray	24	--
07	Synthetic Enamel undercoat	IS 2932	1	40	Brush/ Spray	12	--
08	Long oil alkyd Synthetic enamel finish paint	IS 2932	1	35	Brush/ Spray	12	Corresponding shade no
09	Red oxide Zinc phosphate primer	IS 12744	1	--	Brush/ spray	12	--