TD 106-1 Rev No. 6 / Form No.	BHARAT HEAVY ELECTRICALS LIMITED PULVERISERS, HPEP HYDERABAD	Doc. No.: BA-PS-CSPGCL-00
	PAINTING SCHEME FOR PULVERISERS	Rev. No. 02
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NTPC DRG. / DOC NO.: 1125-001-102-PVM-H-046	Rev No. : 02
OWNER :	**CHHATTISGARH STATE POWER GENERATION COMPANY LTD**
CONSULTANT:	**NTPC LIMITED.** **(A Government of India Enterprise)**
PROJECT:	**2x660 MW SUPER CRITICAL THERMAL POWER PROJECT, HTPS, KORBA WEST (EPC PACKAGE)**
EPC CONTRACTOR:	**BHARAT HEAVY ELECTRICALS LTD.** **HYDERABAD**

TITLE: MILLS - PAINTING SCHEDULE

	NAME	DATE	
PREPARED BY	UDAY	21.08.2025	STATUS: *FOR APPROVAL*
CHECKED BY	MTT	21.08.2025	BHEL DRAWING No.: BA-PS-CSPGCL-00
APPROVED BY	AMAN	21.08.2025	REV NO: 02

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SECTION 1: SCOPE

This specification applies to the **CSPGCL 2X660MW EPC PACKAGE** contract. Included are all parts and assemblies manufactured by BHEL, its sister units and its sub-vendors/sub-contractors.

SECTION 2: ALL INTERIOR SURFACES OF THE MILL

Interior surfaces:

Please correct inline with Section 6. Painting Schedule.
B) Primer:
For Temp < 95°C: Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744 DFT 60 microns in two coats.
For Temp >95°C: Heat resistant Aluminum paint to IS-13183 Gr.-I DFT 40 microns in two coats.

Those surfaces inside the pulverizer exposed to the mill airflow and coal. Also included are those surfaces inside the pulverizer and not exposed to mill airflow and coal, such as the inside of the Planetary Gearbox, Journal Housing, and the inside of the Spring Housing. ***No finish paint is envisaged on these surfaces***.

A) **Surface preparation**: Commercial Blast SSPC-SP 3/ SP 4 (Swedish Std - SA3 / SA21/2)

B) **Primer**: ~~Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744 Minimum DFT 60 microns in two coats~~. Primer to be applied after surface preparation to **SP3/SP4** (SSI- SA3 / SA21/2).

Note: Primer along with Oil resistant paint application is envisaged inside Planetary Gear Box Housing.

SECTION 3: EXTERIOR SURFACES OF THE MILL WITH SURFACE TEMPERATURE GREATER THAN 95°C AND INSULATED

Exterior surfaces:

Those surfaces visible by someone outside the fully assembled pulveriser.

Components with Surfaces Greater Than 95° C:

Mill Side Housing Assembly (Externally Insulated) and Bowl & Bowl Hub Assembly

A) **Surface preparation**: Commercial Blast SSPC-SP 3/ SP 4 (Swedish Std SA3 / SA21/2).

B) **Primer**: Heat resistant Aluminium paint to IS-13183 Gr.-1 (2 coats of Total DFT 40 microns).

SECTION 4: EXTERIOR SURFACES OF THE MILL WITH SURFACE TEMPERATURES LESS THAN 95 °C

Exterior surfaces:

Those surfaces visible by someone outside the fully assembled pulverizer.

Components with Surfaces Less Than 95^0 C: 2

All mill components, except the Mill Side Housing Assembly and Bowl and Bowl Hub Assembly.

Surface Preparation: blast cleaned surface conforming to Sa 2 ½ finish of ISO 8501-1 with surface profile 40-60 Micron.

A) **Primer:** Ethyl Zinc Silicate Primer with total DFT 70 microns.
B) **Intermediate Coat**: High Build Epoxy MIO coating with total DFT 100 microns.
C) **Finish Coat (Shop)**: Two coats of Two Pack Aliphatic isocyanate cured Acrylic Finish Pain total DFT 70 microns.
D) **Finish Coat (after erection)**: One coats of Two Pack Aliphatic isocyanate cured Acrylic Finish Pain total DFT 35 microns.

SECTION 5: GENERAL NOTES:

A. Grease and Oil Removal: Special care shall be taken to remove grease and oil by means of suitable solvents.

B. SP3 Power tool cleaning.

C. SP4 Shot blasting (shot blasting shall be used as surface preparation method for hot worked pipes prior to application of primer).

D. Machined surfaces are not painted. 2

E. Bought-out items shall be as per CSPGCL Technical specification. This painting scheme shall be applicable for Mills components as mentioned.

F. Touch-up paintings, making good any damaged shop painting and completing any unfinished portion of the shop coat shall be carried out as per clause applicable painting scheme.

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SECTION 6: PAINT SCHEDULE

Sl. No.	Surface Location	Surface Preparation	Primer		Intermediate		Finish Coat			Total DFT
			Paint	No. of Coats	Paint	No. of Coats	Paint	No. of Coats	Shade	µm min
01	Interior Surfaces of Mill All Surfaces 95°C or less.	SP3/SP4	Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744. DFT= 30 µm Per coat	2	NA	-	-	-	-	60 µm min.
	Interior Surfaces of Mill All Surfaces temperature above 95°C	SP3/SP4	Heat resistant Aluminium Paint to IS-13183 Gr.-1. DFT= 20 µm Per coat	2	NA	-	-	-	-	40 µm min
02	Exterior Surfaces of Mill below 95 °C or less (All surfaces except the Mill Side Assembly and Bowl and bowl Hub assembly) Includes: Separator Body Assembly, Journal Opening Cover, Spring Assembly,	blast cleaned surface conforming to Sa 2 ½ finish of ISO 8501-1 with surface profile 40-60 Micron.	One coat of two component moisture curing Inorganic Ethyl Zinc Silicate Primer to IS 14946, (Solid by volume- 60% (min)) Metallic Zinc content- 80% (min) in dry film, DFT = 70µm per	1	One coat of two component Polyamide cured Epoxy with MIO Content (containing lamellar MIO min 30% on pigment) Intermediate coat (solid by volume- 80% (min) DFT =	1	Two coats of Two Pack Aliphatic isocyanate cured Acrylic Finish Paint to IS 13213 (solid by volume- 55% (min)	2	Grey white RAL 9002	2 240 µm DFT (SHOP)

Why IS 13213 is indicated.
As per specification requirement it should be "Two coat of Two pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum hours 1000 exposure, Gloss loss less than 30 and colour change less than 2.0 ΔE) and minimum 70micron DFT. This coat shall be applied shop after an interval of minimum 10 hours and within six (6) months (from the completion of Intermediate coat)."

	Separator Top, Dynamic Classifier Assembly, Discharge Valve Components, Outlet Pipes, Seal Air Piping, Planetary Gearbox, Pulveriser Top Platform, Lube Oil System)		coat (min)Zinc dust composition quality shall be Type-II as per ASTM D520-00		100µm per coat (min) This coat shall be applied in shop after an interval of minimum 24 hours (from the application of primer coat) by airless spray technique		DFT = 35 µm per coat (min). One coats of Two Pack Aliphatic isocyanate cured Acrylic Finish Paint to IS 13213 (solid by volume- 55% (min) DFT = 35 µm (min).			275 µm DFT (final coat after erection)
03	Exterior Surfaces of Mill above 95 °C (Mill Side Assembly & Bowl& Bowl Hub Assembly) Exterior Surface of the Mill Side Assembly is insulated	SP3/SP4	Heat resistant Aluminium Paint to IS-13183 Gr.-1. DFT= 20 µm Per coat	1	NA	-	Heat resistant Aluminium Paint to IS-13183 Gr.-1 DFT= 20 µm Per coat	1	Aluminium	40 µm DFT.