



**CED COATING**

**AT**

**SHREE PAINT & COATING INDUSTRIES**

# CED COATING DETAILS

- ▶ Electro-deposition (ED) is a process of painting an electrically conducting substrate in which a direct current is passed between the work-piece immersed in a water soluble paint and a second electrode.
- During Electro-deposition, charged paint particles deposit onto oppositely charged electrodes with help of applied Direct Current. Depending on the charge carried by paint particles, the deposition can take place either at Cathode or at Anode, giving rise to two types of ED processes :
- ***Cathodic Electro-deposition (CED)***
- Here positively charged paint deposits on negatively charged (Cathode) substrate.

## **Advantages of Cathodic Electrodeposition-**

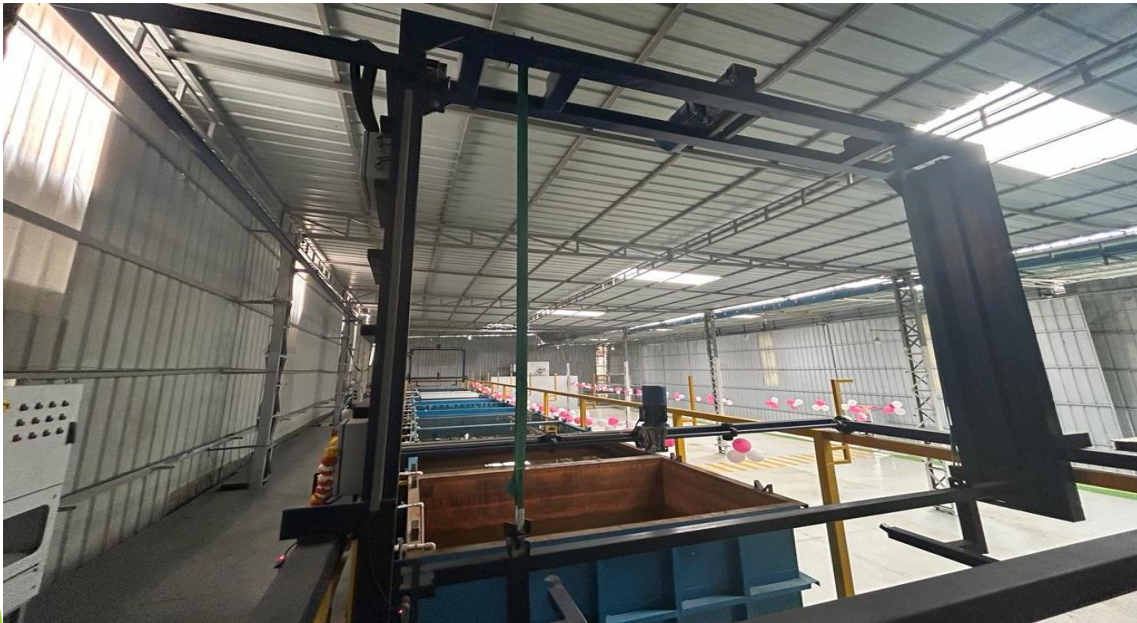
- Uniform coating of edges, corners, crevices, box sections, etc. not possible by any other method.
- High degree of corrosion resistance.
- Uniform results-less rejection.
- Less pollution.
- Superior corrosion Resistance-even at lower DFT
- Higher Throwing Power - More coating in box sections.
- Better wet adhesion
- Better mechanical properties

## **Dis-Advantages of Cathodic Electrodeposition-**

CED coating should not directly expose on sunlight , need over coat for better UV resistance



# PT-CED PLANT PHOTOS



# Electro-coat Presentation

## PT Chemical and Paint Details

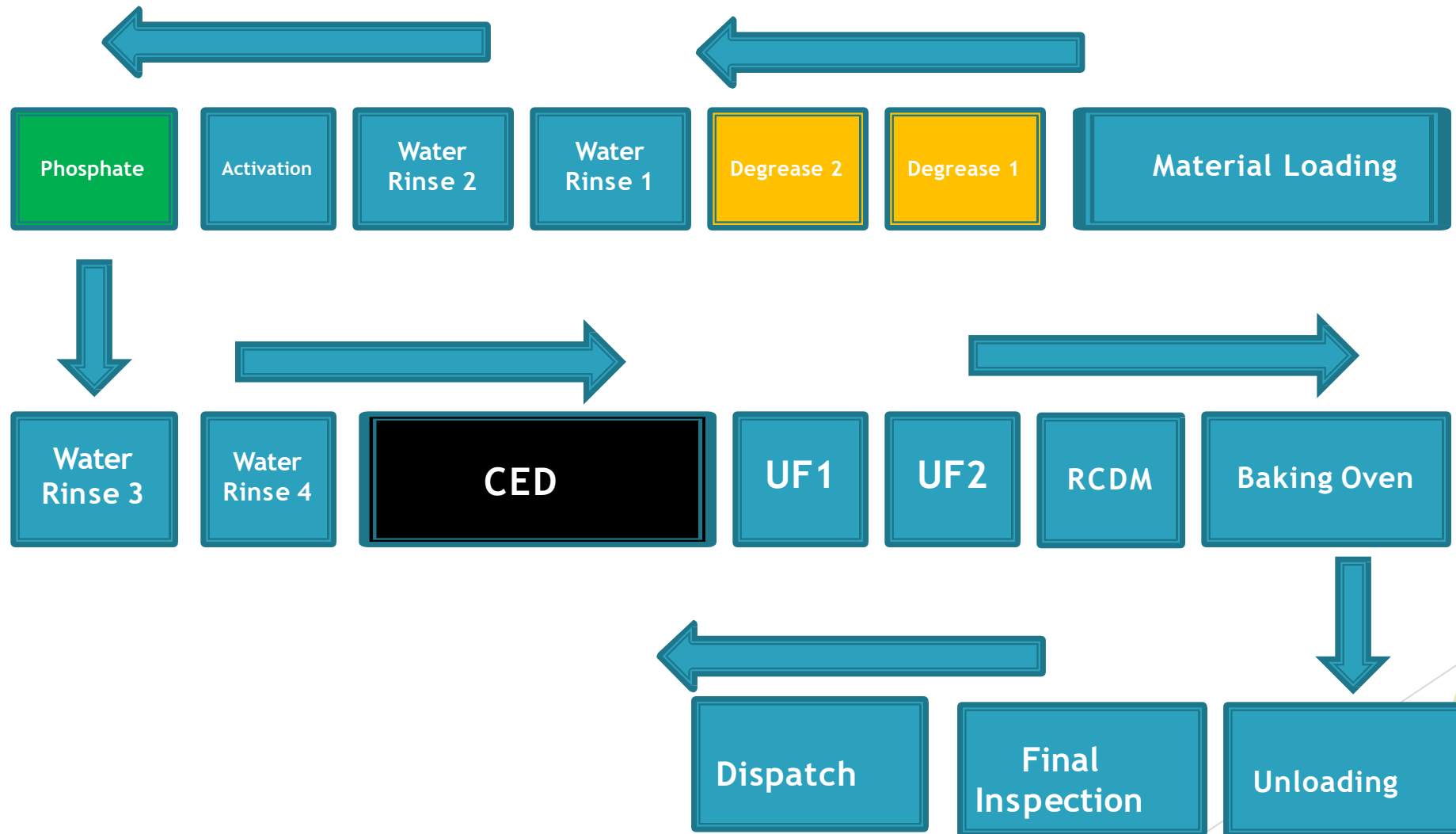
Sr. No.	Process	Supplier	Chemical Name
<b>A</b>	<b>PT Section</b>		
<b>1</b>	Degreasing 1	BASF Chemetall	Gardoclean 444 & Additive GC 4292 B
<b>2</b>	Degreasing 2	BASF Chemetall	Gardoclean 444 & Additive GC 4292 B
<b>5</b>	Activation	BASF Chemetall	Gardolene ZM
<b>6</b>	Phosphate	BASF Chemetall	Tri cation Zinc Phosphate Gardobond 249 TE
<b>B</b>	<b>CED Section</b>		
<b>1</b>	Cathodic Electro-deposition (CED)	PPG Asian Paints	POWERCRON CR691B PASTE CP 524

# Major Customer Approved – Pretreatment and CED products used at Shree Paint & Coating Industries

GM  
FORD  
TOYOTA  
HYUNDAI  
VOLKSWAGEN  
AUDI  
MERCEDES BENZ  
BMW  
CAMI  
CHERY  
CHRYSLER  
DAIMLER-BENZ  
FIAT  
FIRST AUTO WORKS  
SEAT  
FERRARI  
GEELEY  
HINO  
M G Motors  
Volvo  
Cater Pillar  
John Deere  
Mahindra  
TML  
KIA

Paccar  
Tesla  
Force Motors  
BOSCH  
HONDA  
INOKOM  
IRAN KHODRO  
IVECO  
KIA  
LIAZ  
MAZDA  
MEKONG  
MG ROVER  
MITSUBISHI  
NANJING MG  
NISSAN  
HARLEY DAVIDSON  
PININFARINA  
PORSCHE  
.... Many more

# PT-CED PROCESS





# CED PROCESS DETAILS

Automatic 2 PLC Wagon for Pre-Treatment & CED line  
following stages -

Sr. No.	Process	Type	Time mins	Temp°C
<b>A PT Section</b>				
1	Degreasing 1	Dip	5	Ambient
2	Degreasing 2	Dip	5	45 - 55
3	Water Rinse - 1	Dip	1	Ambient
4	Water Rinse - 2	Dip	1	Ambient
5	Activation	Dip	1	Ambient
6	Phosphate	Dip	8-10	40 - 45
7, 8	DM Water Rinse – 2 Stage	Dip	1	Ambient
<b>B CED Section</b>				
1	Cathodic Electro-deposition (CED)	Dip	5 - 8	30 ± 3
2	UF Rinse-1	Dip	1	RT
3	UF Rinse-2	Dip	1	RT
4	DM Water Rinse	Dip	1	Ambient
5	Oven Baking (Batch Type)	Trolley	15 - 25	200 - 225

# PT TANK DIMENSION & CAPACITY

Sr.	Equipments	Tank Capacity	Working Dimensions in MM		
			Length	Width	Height
1	Knock Off Degreasing	15000 ltr	3000 mm	2200 mm	2200 mm
2	Hot Degreasing	15000 ltr	3000 mm	2200 mm	2200 mm
3	Water Rinse	14000 ltr	3000 mm	1900 mm	2200 mm
4	Water Rinse	14000 ltr	3000 mm	1900 mm	2200 mm
5	Activation	15000 ltr	3000 mm	2200 mm	2200 mm
6	Phosphate- Heating Arrangement	15000 ltr	3000 mm	2200 mm	2200 mm
7	DM Water Rinse	14000 ltr	3000 mm	1900 mm	2200 mm
8	DM Water Rinse	14000 ltr	3000 mm	1900 mm	2200 mm



# CED TANK DIMENSION & CAPACITY

CED SECTION		Length	Width	Hight
1	CED Tank circulation system. With Box Anode	15000 ltr	3000 mm	2200 mm
2	CED paint cooling system consisting of chiller, PHE, piping, valves, temp control system.	15 Tons	----	----
3	Anolyte flushing system- Anolyte tank.	1 No	----	----
4	Filtration unit for CED,UF-1,UF-2	1 No each	----	----
5	UF module units with all accessories for paint recovery up to 99%.	2 No	----	----
6	Membrane Electrodes(Box Type Anode Cells)	10 No's	----	----
7	Rectifier with accessories.	350 V 350 A	----	----
8	PLC based Automatic Transporter system 2 Wagon with accessories.	2 set	Capacity - 1500 Kgs	----
9	UF rinse-1 tank with circulation system.	15000 Ltr	3000 mm	2200 mm
10	UF Rinse-2 tank with circulation system.	15000 Ltr	3000 mm	2200 mm
11	Basket Size for PT & CED	7 Sets	2800 mm	1800 mm
12	Batch Oven Size	3 Sets/cycle	6500 mm	4000 mm
13	Effluent Treatment Plant (ETP)	10000 Ltrs		
14	RO Water Plant	2000 Ltr/hrs	--	--
15	DM Water Plant	2000 Ltr/hrs	--	--
16	Compressor	7.5 HP	--	--
17	Genset (Power Backup)	1 No	125 KVA	--

# Electrocoat Technology advantages – Superior Corrosion performance

## Cold Rolled steel Panel

P6100HE - Line processed panels

DFT - 13 - 14 microns

Exposed for 1024 hrs



### Observations

CW < 1.5 mm Max either side

Blister size 8F

Passed - sec. adhesion

## Cold Rolled steel Panel

P6100HE - Line processed panels

DFT - 17 - 18 microns

Exposed for 1332 hrs



### Observations

CW < 2.0 mm Max either side

Blister size -NIL

Passed - sec. adhesion

## Pickled Hot rolled steel panel

panels

DFT - 17 - 18 microns

Exposed for 1332 hrs



### Observations

CW < 2.0 mm Max either side

Blister size -NIL

Passed - sec. adhesion

THANK YOU

