

STATE OF THE ART EPOXY PRODUCTS FOR COATING APPLICATIONS



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OLIN CORPORATION ???

“Blue Cube Germany” ???

The Dow Chemical Company ???

D.E.R. TM, D.E.H. TM and D.E.N. TM

DOW (part of) plus OLIN = "New OLIN"



BLUE CUBE

Epoxy
Chlor.Org
Cl, NaOH in US



Chlor-Alkali products
chlorine, caustic, bleach etc.
Chemical Distribution
Winchester ammunition

No. 1 The World's Chlorine Leader

6.2m The No. 1 global chlor alkali producer with 6.2 million tons of low-cost chlorine capacity per year.

The No. 1 global supplier of epoxy materials.

The No. 1 global seller of membrane caustic soda and chlorinated organics.

The No. 1 North American seller of chlorine, bleach and hydrochloric acid.

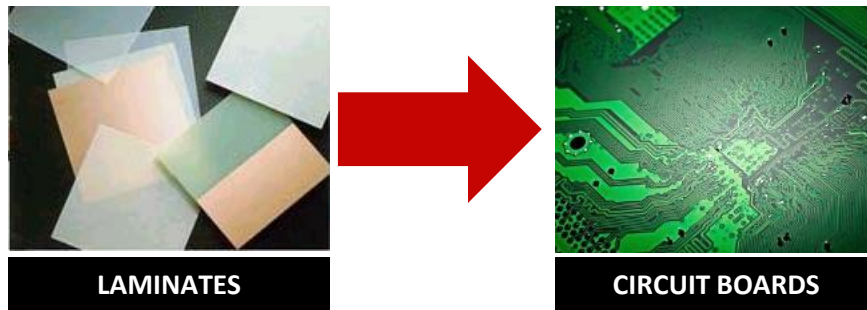


Application Priorities

Coatings and Civil Engineering



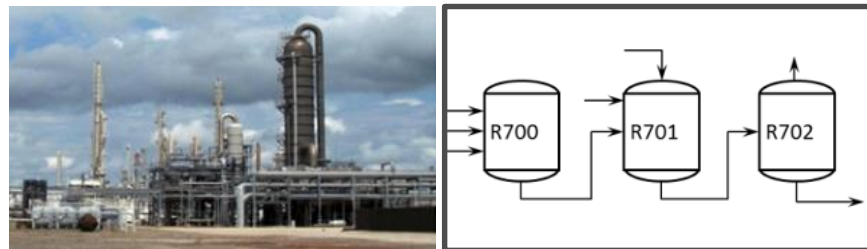
Electrical Laminates and Specialties



Wind Energy and Composites



Process R&D / Plant Support



- Liquid Paints
 - Mineral Substrates
 - (Mannich-base) Labelling
 - Low Emission
 - Waterborne Coatings & Floorings
 - Metal Substrates
 - Waterborne Coatings
 - Ultra-high Solids Content
- Powder Coatings
 - High(er) Service Temperature
 - Low(er) Application Temperature
 - High(er) Adhesion
 - Resin
 - Curing Agent



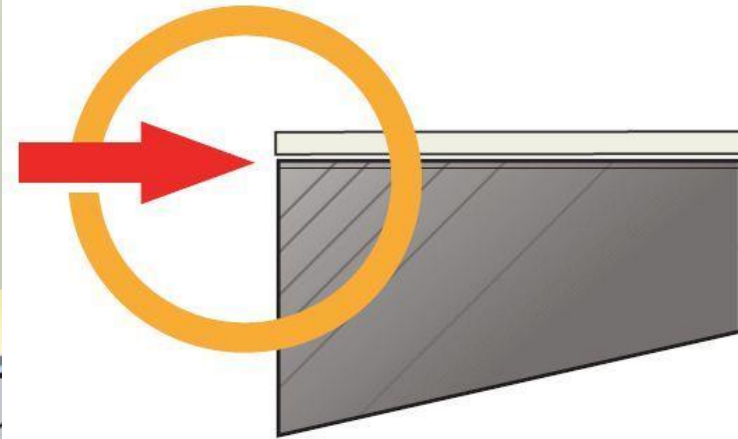
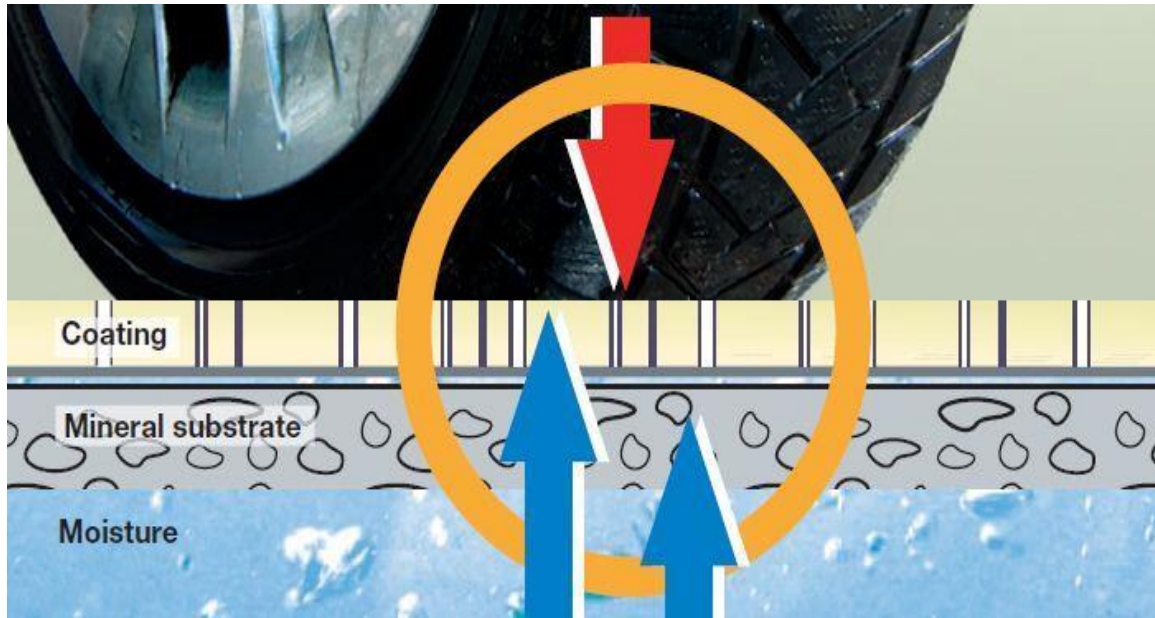


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Advantage:
No curling effect!

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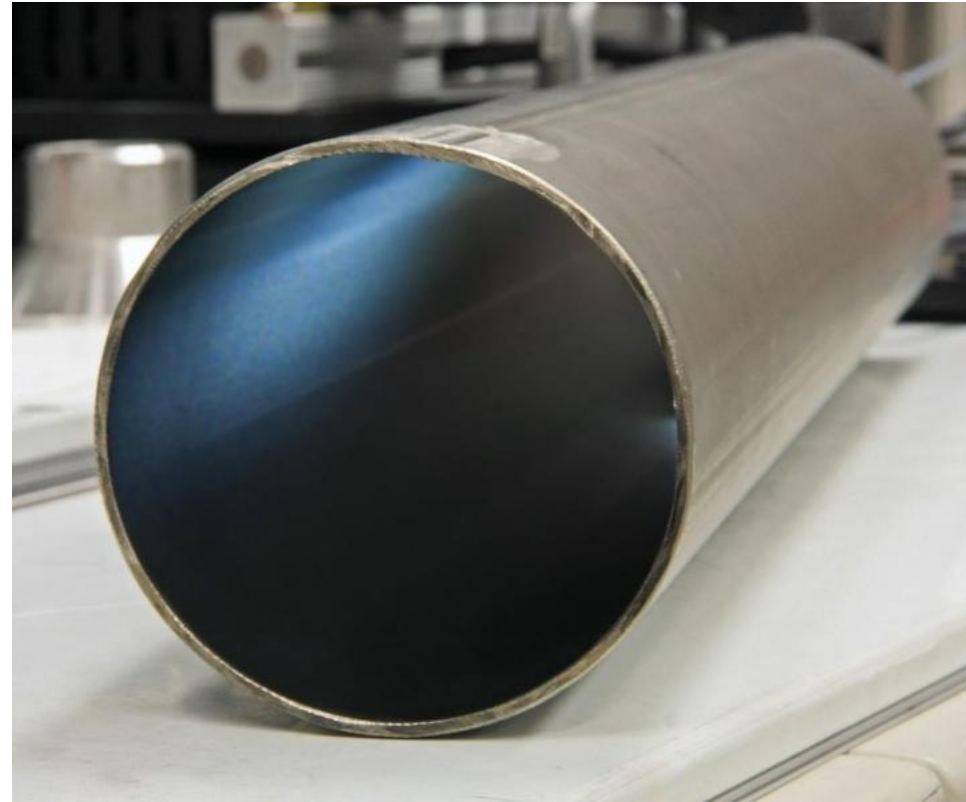


Dark-grey elastic interior pipe-coating
 Visible end of pot-life
 Viscosity reduction with Dowanol-PM or Butyl glycol
 OR water

Internal Waterborne Pipe Coating

D.E.H.™ 805	35	pbw	curing agent
Water	10	pbw	
Tego® Disperse 750W	1.0	pbw	dispersing aid
BYK® 044	0.2	pbw	defoamer
Kronos 2063	5	pbw	pigment
Flammruss 101	5	pbw	pigment
Blanc Fixe HD 80	15	pbw	Bariumsulphate
Water	26.8	pbw	
Tafigel PUR 61	2.0	pbw	Thixotropic agent
	100.0		

D.E.R.™ 3581	23.9	pbw	epoxy resin
D.E.R. 732P	6.1	pbw	epoxy resin

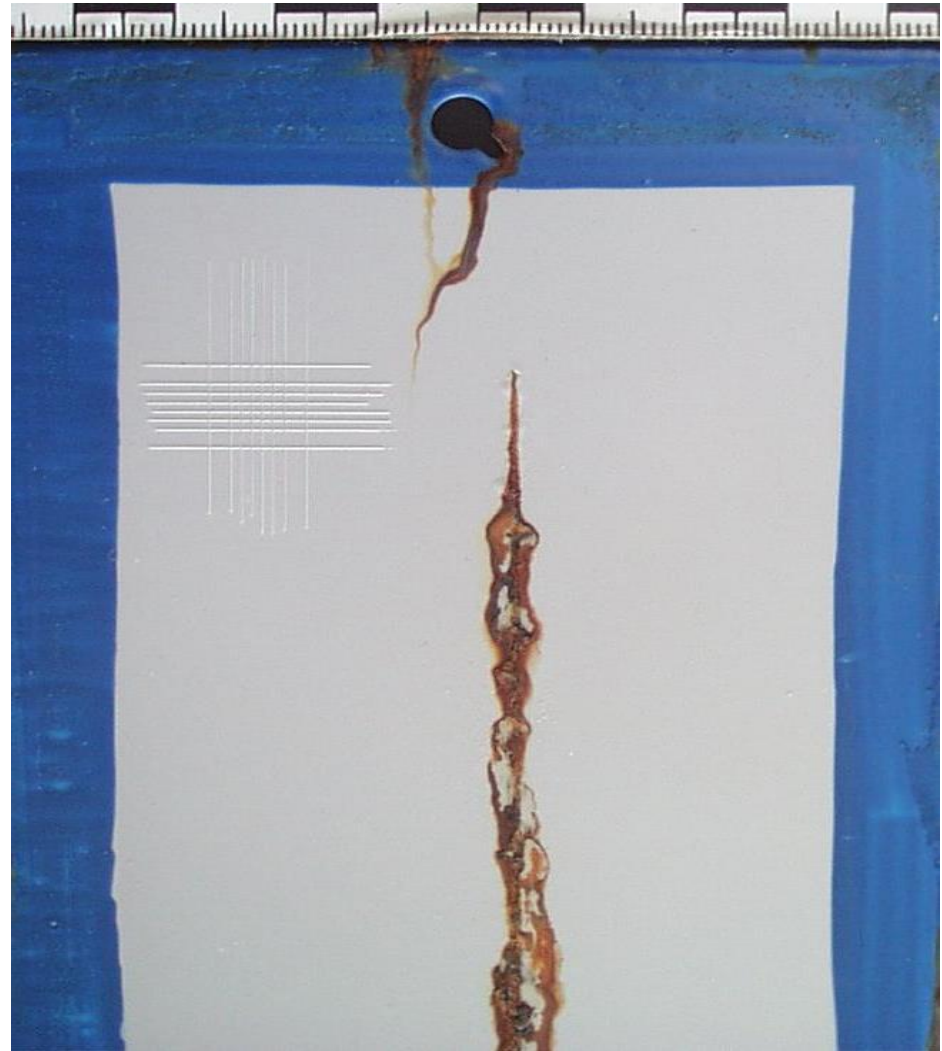


Pot-life	60	min
Gloss	>90	60°
Solids-content	60.5	wt%
PVC	14.5	wt%

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Commercial Ref. 1
324 g/L VOC
65% Volume Solids



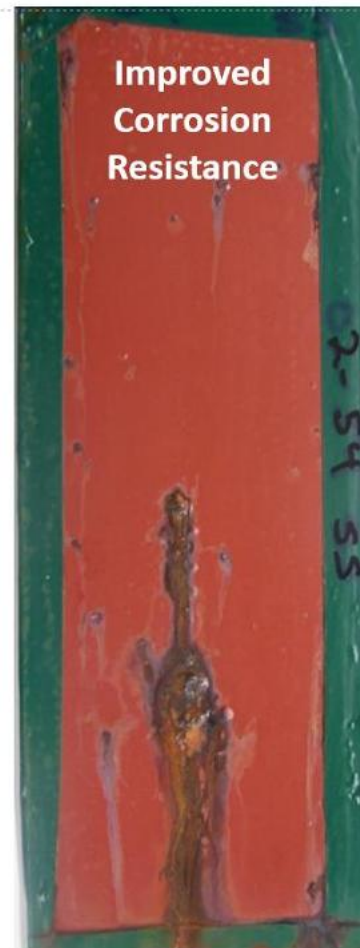
Commercial Ref. 2
285 g/L VOC
67% Volume Solids



Commercial Ref. 3
250 g/L VOC
72% Volume Solids



Eclipse XCM-18
127 g/L VOC
85% Volume Solids

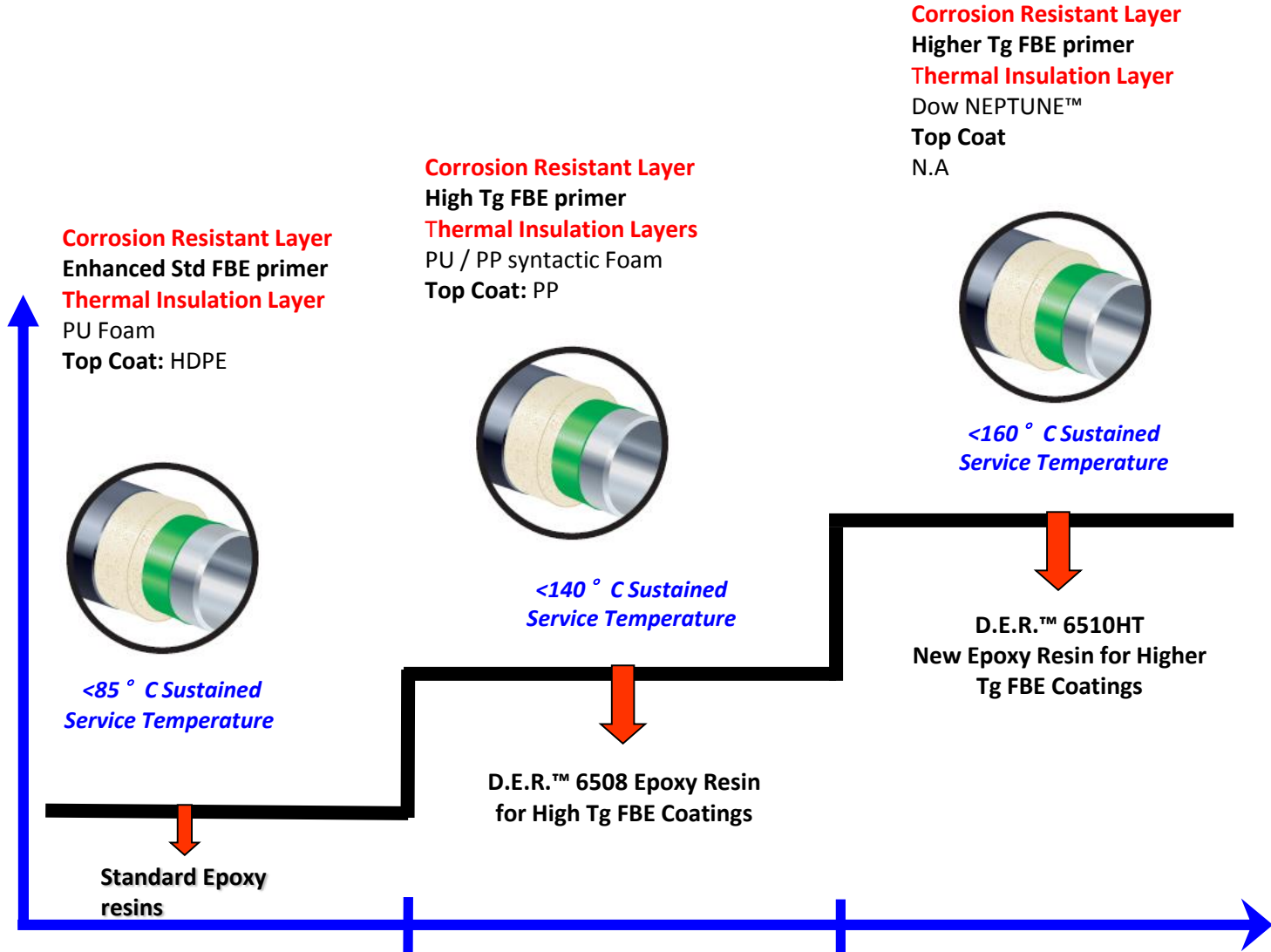


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FBE Coating
Key
Performance
Attributes

- **Tg Higher Than Service Temperature**
- **Corrosion Protection**
- **High Adhesion**
- **Resist Cathodic Disbondment**
- **Flexibility**



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Ingredient	Function	Phenolic Cure		Self-Crosslink	
		Parts by Weight		Parts by Weight	
D.E.R.™ 6615 epoxy resin	resin	56.6		68.5	
D.E.H™ 82 curing agent	hardeners	13.2		x	
2-Methylimidazole	accelerator	x		0.4	
Titanium dioxide	pigment	29.6		29.6	
Benzoin	degassing agent	0.3		0.4	
Resiflow® P-67	flow-agent	0.4		1.0	
Property(1)		Results		Results	
Gel-time @ 180 °C (s)		47		39	
Bake Schedule Temperature (°C) / Time (min)		110 / 30	120 / 25	110 / 25	120 / 20
Impact resistance (Forward/reverse) 1/32" thick cold rolled steel panels		160 / 100	160 / 140	160 / 100	160 / 80
Gloss 60 / 20 degrees		170 / 88	108 / 97	104 / 83	104 / 84

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Components	Description	phr	phr
D.E.R.™ 664 Epoxy Resin	Standard Epoxy Resin	100	-
D.E.R. 664-HA Epoxy Resin	Specialty Epoxy Resin	-	100
Amicure® CG-1200	DICY	1.4	1.34
XZ 97101.00 catalyst	2-MI Adduct	1.4	1.4
MODAFLOW® Powder III	Flow Modifier	1.4	1.4
VANSIL® W 20	Wollastonite Extender	35.5	35.4
Properties	Test Method		
Gel Time (s) @ 205± 3 °C	CSA Z245.20-10 / 12.2	41	35
Hot-wet Adhesion (rating) @ 75 ± 3 °C / 7 days	CSA Z245.20-10 / 12.14	5	1
Cathodic Disbondment (mm) (3.5 V @ 65 ± 3 °C, for 7 d)	CSA Z245.20-10 / 12.08	16	7
Flexibility @ 5°/PD (Cracks)	NACE RP0394-2002 H4.3	No Cracks	No Cracks

– High(er) Adhesion

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köszönöm



in B1

