Product Datasheet

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Functional Powder Coatings

Resicoat® R-726
FBE – External Pipe Coatings
Code: HLF04R

Product Description

Resicoat® R-726 is a Fusion Bonded Epoxy Single Layer corrosion protection technology for standard service temperature. It has excellent flexibility characteristics even at -50° C (-58° F) and exhibits low water absorption. The recommended coating thickness is in the range of 300 – 700 µm (12 – 28 mils). Resicoat® R-726 can also be used as a primer in a multi layer system.

		Typical value	Method
Powder Properties	**Gel time at 200° C (392° F)**	25 – 35 sec.	modified ISO 8130-6
	at 205° C (401° F)	12 – 18 sec.	CSA hot plate
	Density	1.58 ± 0.05 g/cm³	Air comparison pyknometer
	Particle size distribution	< 32 µm = 30 – 50 % < 160 µm = 99 – 100 %	Sympatec laser ISO 8130-1
	Theoretical coverage	25 m² per 1 kg at 25 µm (122 square feet per pound at 1 mil) at 100 % application efficiency	
	Color	gray	
	Storage stability	12 months from delivery date at ≤ 23° C (74° F) and 65 % relative humidity. Cooler temperatures and lower humidity are recommended. Shorter shelf life stability at higher temperatures. Do not exceed 33° C (91° F).	
Application Data	**Substrate**	Mild steel	
	Surface preparation	Near-White Blast as defined by SSPC SP 10, Nace No. 2, Swedish Sa 2½ or BS Second Quality	
	Required surface roughness	50 – 100 µm (2 – 4 mils)	
Single Layer	**Recommended film thickness**	300 – 700 µm (12 – 28 mils)	
	Application method	Electrostatic powder spray using a negative charge of 40 – 120 kV	
	Application temperature	220 – 235° C (428 – 455° F)	
	Minimum time before quench	225° C (437° F): 90 sec. 235° C (455° F): 60 sec.	
Three Layer PE	**Recommended film thickness**	100 – 300 µm (4 – 12 mils) – preferred 250 µm (10 mils)	
	Application method	Electrostatic powder spray using a negative charge of 40 – 120 kV	
	Application temperature	190 – 220° C (375 - 428° F)	
	Glass transition temperature	58 ± 5° C (Tg1) 105 ± 3° C (Tg2) inflection point 30 – 70 J/g (Delta H)	

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		Typical value	Method
Physical Tests	**Performance will be influenced by quality of surface preparation, film formation and curing conditions. The following test results are typical for Resicoat® R-726 applied to 300 – 700 µm (12 – 28 mils) on steel panels cleaned to Near-White Blast (without pre-treatment):**		
	Gloss 60° angle	85 – 100 units	DIN 67530
	Flexibility (12 – 16 mils)	5° pass at 25° C (77° F) 3° pass at 0° C (32° F) 3° pass at -30° C (-22° F) 3° pass at -50° C (-58° F)	 CSA Z245.20-06 12.11 CSA Z245.20-06 12.11 CSA Z245.20-06 12.11
	Impact resistance (12 – 16 mils)	2.5 J at -30° C (-22° F) 18.0 J at 25° C (77° F) 9.0 J at 25° C (77° F)	CSA Z245.20-06 12.12 ASTM G 14 (1/8"x5"x8" steel panels) ASTM G 14 (2.375" pipe)
	Dielectric strength	≥ 30 kV/mm	DIN 30677-2
	Adhesion (lab shear)	> 20 MPa	modified ASTM D 1002
	Adhesion	> 20 MPa	ASTM D 4541
	Adhesion in distilled water	rating 1 at 75 ± 3° C, 24 h no disbonding	CSA Z245.20-06 12.14 4 weeks, 90° C
	Tensile strength	approx. 500 kg/cm² (7000 psi)	ASTM D 2370-82
	Elongation	approx. 3 %	ASTM D 2370-82
	Hardness	> 85 90 – 110 F	Shore D, ASTM 2240 Buchholz, DIN 53153 Pencil
	Abrasion (Taber)	 80 mg 350 – 450 mg	ASTM D 4060 1000 g load 1000 cycles, CS 17 wheels 5000 cycles, CS 17 wheels
	Cathodic disbonding	 1 – 3 mm 4 – 7 mm 8 – 12 mm 1 – 3.5 mm	CSA Z245.20-06 12.8 -3.5 VDC, 65° C (149° F), 24 h -1.5 VDC, 20° C (68° F), 28 d -1.5 VDC, 65° C (149° F), 28 d TES-COAT-FBE, TC1A -1.5 VDC, 65° C (149° F), 48 h
	Cross-section porosity	rating 2	CSA Z245.20-06 12.10
	Interface porosity	rating 2 – 3	CSA Z245.20-06 12.10
	Water immersion	 no blistering or other failure no blistering or other failure	ASTM D 870-54 distilled water 38° C (100° F), 3000 h Tap water, 90° C (194° F), 4 weeks
	Water absorption	< 2.5 % < 15% 3 % 4.5 %	60° C (140° F), 28 days 80° C (176° F), 28 days 60° C (140° F), 40 days 80° C (176° F), 40 days

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