



Functional Powder Coatings

Resicoat® R-726 + R-641

Dual Layer Coatings – External Pipe Coatings

Code: HLF04R + HKF20R

Product Description

Resicoat® Dual Layer Fusion Bonded Epoxy technology is a two layer system. The first layer is normally the R-726 FBE. Resicoat® R-641 is designed for use as the top layer to provide excellent mechanical and gouge resistant properties. It provides protection from mechanical damage during handling/installation, backfill and directional drilling. The coating is applied to a total thickness of 700 – 1000 µm depending on the end specification.

Powder Properties

	Typical value	Method
Gel time		
R-726 (first layer)		
at 200° C	25 – 35 sec.	ISO 8130-6
at 205° C	12 – 18 sec.	CSA hot plate
R-641 (second layer)		
at 200° C	25 – 35 sec.	ISO 8130-6
at 205° C	12 – 18 sec.	CSA hot plate
Cure time (232 ± 3° C)	120 sec.	CSA Z245.20-06 12.1
Density		
R-726 (first layer)	1.58 ± 0.05 g/cm ³	Air comparison pycnometer
R-641 (second layer)	1.48 ± 0.05 g/cm ³	Air comparison pycnometer
Particle size distribution	99.8 % ≤ 160 µm (94 mesh)	Alpine air jet sieve
Theoretical coverage		
R-726 (first layer)	25 m ² per 1 kg at 25 µm (121 square feet per pound at 1 mil) at 100 % efficiency	
R-641 (second layer)	27 m ² per 1 kg at 25 µm (130 square feet per pound at 1 mil) at 100 % efficiency	
Color		
R-726 (first layer)	gray	
R-641 (second layer)	green	
Moisture content	≤ 0.6 %	CSA Z245.20-10
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).	
MSDS		
R-726 (first layer)	PC 513	
R-641 (second layer)	PC 513	

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)
Recommended film thickness	
R-726 (first layer)	300 – 400 µm (12 – 16 mils)
R-641 (second layer)	400 – 600 µm (16 – 24 mils)
Application method	Electrostatic powder spray using a negative charge of 40 – 120 kV
Application temperature	Minimum: 220° C (428° F) Maximum: 240° C (464° F)



		Typical value	Method
Application Data (continued)	Minimum time before quench	≥ 90 sec. at 235° C (455° F) metal temperature	
	Glass transition temperature		DSC (R-726 + R-641)
		60 ± 5° C (Tg1)	onset
		101 ± 5° C (Tg2)	onset
		30 – 70 J/g (Delta H)	
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 and R-641 applied on steel panels cleaned to Near-White Blast (without pre-treatment):		
	Flexibility	5° pass at 23° C (77° F) 3° pass at 0° C (32° F) 3° pass at -30° C (-22° F)	CSA Z245.20-06 12.11
	Impact resistance	5.0 J at 50° C (122° F) 5.0 J at 23° C (77° F) 5.0 J at -30° C (-22° F)	CSA Z245.20-06 12.12
	Adhesion in distilled water	rating 1 at 75 ± 3° C, 24 h	CSA Z245.20-06 12.14
	Hardness of top coat R-641	90 – 110 H	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	CSA Z245.20-06 12.8 -3.5 VDC, 65° C (149° F), 24 h -1.5 VDC, 20° C (68° F), 28 d
	Cross-section porosity	rating 2	CSA Z245.20-06 12.10
	Interface porosity	rating 2 – 3	CSA Z245.20-06 12.10
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Revision no.:	3		

Disclaimer: This Product Data Sheet is based on the present state of our knowledge and on current laws. The data referring to Powder Properties, Application Data and Physical Tests is based on lab based samples. Factors such as quality or condition of the substrate may have an effect on the use and application of the product. It remains the responsibility of the user to test thoroughly if the product is applicable for the intended use. The use of the product beyond our recommendation releases us from our responsibility, unless we have recommended the specific use in writing. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. We are not liable for any application-technological advice. The Product Data Sheet shall be updated from time to time. Please ensure you have the latest version before using the product. All products and Product Data Sheets are subject to our standard terms and conditions of sale (GCS). You can receive the latest copy of GCS via internet or our post address. Brand names mentioned in this Product Data Sheet are trademarks of or are licensed to the AkzoNobel group.