Product Datasheet

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Functional Powder Coatings

Resicoat® PI
FBE – Interior Pipe Coating
Code: HKH15QF

Product Description

Resicoat® PI HKH15QF (Corvel 10-6090 green) is a melt-mixed, epoxy Novolac pipe internal powder coating designed for use at elevated temperatures and pressures in drill pipe, production tubing, valves and fittings. It is a tough coating which will resist damage and cracking during handling and coupling operations. When applied over Resicoat® 596301 primer (Corvel EP-10), Resicoat® PI HKH15QF is also resistant to H_2S, CO_2, CH_4 and petroleum distillates and drilling muds. Resicoat® PI HKH15QF is designed for application by blow coating, powder lance, fluidized bed, electrostatic spray, or hot flocking.

		Typical value	Method
Powder Properties	**Specific gravity**	1.70 – 1.80	calculated
	Gel time @ 400 °F (204.4 °C)	50 – 100 sec	ASTM D 4217
	Coverage	109 ft^2 / lb / mil	calculated
	Storage stability	12 months at ≤ 73 °F (23 °C), stored in dry conditions	
Application Data	**Surface preparation**	NACE #1 White Metal Blast, SA2.5 – SA3	
	Anchor profile	1.5 sharp, dense recommended	
	Primer thickness (Resicoat® 596301)	0.5 – 1 mil (13 – 25 µm)	
	Preheating	20 min. at 320 °F (160 °C)	
	Post-curing	30 min. at 425 °F (218 °C)	
	Film thickness	8 – 12 mils (200 – 300 µm)	
	Particle size distribution	70 mesh: 0 – 4 % 140 mesh: 26 – 40 % 325 mesh: 50 – 70 %	ASTM D 3451 (% retained) Alpine Jet Sieve
Material Properties	**Color**	green	
	Direct impact resistance	100 in. lbs.	ASTM D 2794 (5/8" intender)
	Taber abrasion	0.025 gm wt loss	ASTM D 1044, CS-10 wheel, 1000 gm.wt., 1000 cycles
	Hardness, Shore D	94	ASTM D 2240
	Flexibility	meets industry standards	

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		Typical value	Method
Material Properties	**Resicoat® PI HKH15QF (Corvel 10-6090) has been used for many years to coat mostly over phenolic primer drill pipe, production tubing and CO_2 injection tubing. It has been evaluated under various autoclave test conditions such as those referenced below:**		
	Autoclave #1 WAG Well (Water-Alternating Gas) Time: 24 hours per cycle Temp.: 200 °F (93 °C) Pressure: 4000 psi	no effect	100 % CO_2 100 % H_2S 3 cycles each 100 % Immersion
	Autoclave #2 Drill Pipe Environment Time: 24 hours Temp.: 300 °F (149 °C) Pressure: 2500 psi	no effect	Immersion: 66% in mud Mud: Weighted Lignosulfonate Potassium Chloride Salt Water Polymer Fresh Water Polymer
	Autoclave #3 Gas Well Environment Time: 24 hours Temp.: 400 °F (204 °C) Pressure: 2500 psi	no effect	Immersion: 1/3 in each phase Gas: 25 % CO_2 75 % CH_4 Trace H_2S Hydrocarbon: 50 % Kerosene 50 % Toluene Brine: 5 % NaCl
	Autoclave #4 Time: 7 days Temp.: 350 °F (177 °C) Pressure: 5000 psi Discharge: within 2-3 min. to 100 °F (38 °C)	no swelling, no blistering, no cracking, no detachment from the substrate Discoloration in the gas phase	Immersion: 50% in each phase Gas: 3 % CO_2 96.8 % CH_4 0.2 %H_2S Liquid: Formation Water Sodium Chloride Calcium Chloride Magnesium Sulphate Hydrogencarbonate
	Autoclave #5 Time: 7 days Temp.: 400 °F (177 °C) Pressure: 5000 psi Discharge: within 2-3 min. to 100 °F (38° C)	no swelling, no blistering, no cracking, no detachment from the substrate Discoloration in the gas phase	Immersion: 50% in each phase Gas: 3 % CO_2 96.8 % CH_4 0.2 %H_2S Liquid: Formation Water Sodium Chloride Calcium Chloride Magnesium Sulphate Hydrogencarbonate

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