

# Product Datasheet



**AkzoNobel**  
Tomorrow's Answers Today

## 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<sub>2</sub>S, CO<sub>2</sub>, CH<sub>4</sub> 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
<b>Powder Properties</b>	Specific gravity	1.70 – 1.80 calculated
	Gel time @ 400 °F (204.4 °C)	50 – 100 sec ASTM D 4217
	Coverage	109 ft <sup>2</sup> / lb / mil calculated
	Storage stability	12 months at ≤ 73 °F (23 °C), stored in dry conditions
<b>Application Data</b>	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
<b>Material Properties</b>	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



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



---

<b>Date of issue:</b>	<b>September 26, 2013</b>
<b>Authorized by:</b>	<b>GK</b>
<b>Revision No.:</b>	<b>3</b>

---

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.