

Flint-Coat's mix of epoxy resin reinforced with flint aggregate creates a coating tougher than any other wrap in the world. Used for external casing applications where the wellbore and casing become one.



Features

Technical specifications and physical properties.

- Uniform Coating: Applied at a consistent thickness of 40 - 50 mils.
- Temperature & Pressure: Rated for operating temperatures up to 149°C (300°F) and pressures up to the yield strength of the host pipe.
- Chemical & Environmental Resistance: Chemically inert, highly resistant to CO₂, brine, and H₂S.
- Corrosion Protection: Provides superior cathodic protection
- Durability: Resists crushing and is physically rugged enough to withstand the severe forces exerted by normal downhole handling tools without degrading.



Benefits

The value proposition and operational advantages.

- Enhanced Cement Bonding: The rough surface yields high retention with cement, vastly increasing the bond strength at the pipe-to-cement interface.
- Zonal & Environmental Isolation: Prevents gas migration and water encroachment into production zones while avoiding communication losses to protect freshwater zones.
- Asset Longevity: Drastically improves long-term corrosion prevention and mitigation effectiveness downhole.
- Cost Reduction: Minimizes expensive intervention costs by reducing well workovers, maintenance, casing leaks, and premature tubing replacements.



Applications

Where and when to use Flint-Coat.

- Unconsolidated Formations: Running production casing through unstable or loose geological zones.
- Downhole Tubular Protection: Providing robust external corrosion barriers on vulnerable downhole tubular strings.
- Injection Wells: Coating completion tubing positioned securely between injection intervals.
- Critical Zonal Isolation: Projects requiring total structural isolation of the wellbore from surrounding formations.
- High-Stress Environments: Deployments requiring mechanical reinforcement at the interface where cement meets the pipe.

Don't forget your coat for outside protection

ZEROCOR Tubulars | 1950, 639 5 Ave SW | Calgary, AB | (403) 234-7473

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PRODUCT SPECIFICATIONS

Physical Properties	Measurement	Unit	Method
Coating Type	Epoxy with Flint Aggregate	-	-
Operating Temperature	149 (300)	°C (°F)	-
Pressure Rating	Yield Strength of Pipe	-	-
Coating Thickness	40 - 50 (1016 - 1270)	mils (µm)	-
Mechanical Properties	Measurement	Unit	Method
Impact Resistance	4.1 (36.4)	Joules (in. lbs)	ASTM G14
Static Coefficient of Friction (COF)	0.187	-	-
Pull-Off Strength (Adhesion)	13.8 (1997)	MPa (psi)	ASTM D4541
Shear Test at 100°C (212°F)	15.3 (2219)	MPa (psi)	ASTM D1002
Salt Spray and Salt Fog Test, 672+ hours 35°C (95°F)	PASS	hours	ISO 7253

Chemical Resistance Test 1 (Method: ASTM G8-96)			
ACID: Test 1		ACID: Test 1 cont.	
Substance	Test Result	Substance	Test Result
Cathodic Disbondment: 30 days, 23°C (73.4°F)	1.5 mm	Sulfuric, 50%	Excellent
Corrosion Test: 7 days, 427°C (800°F)	See below	Nitric, 10%	Excellent
Acetic, 5%	Excellent	Phosphoric, 85%	Fair (surface attack)
Acetic, 10%	Excellent	ALKALI: Test 1	
Hydrochloric, 37.5%	Good (discoloration)	Sodium Hydroxide, 50%	Excellent
Hydrochloric:Hydrofluoric, 50:50	Good (discoloration)	SOLVENT: Test 1	
Lactic, 5%	Excellent	Toluene, Butyl, Ethyl Alcohol, Methyl Isobutyl Ketone, Chloroethane	Excellent

Chemical Resistance Test 2 (Method: ASTM G8-96)			
ACID: Test 2		ALKALI: Test 2	
Corrosion Test: 7 days, 27°C (80°F)	See below	Corrosion Test: 7 days, 27°C (80°F)	See below
Acetic, 5%	Excellent	Sodium Hydroxide, 50%	Excellent
Citric, 10%	Excellent	Ammonium Hydroxide, 10%	Excellent
Lactic, 5%	Excellent	SOLVENT: Test 2	
Sulfuric, 50%	Excellent	Toluene, Mineral Spirits, Butyl, Sour Crude Oil, Butyl Acetate, Ethyl Alcohol, Methyl Isobutyl Ketone, Chloroethane	Excellent
Nitric, 10%	Excellent		
Phosphoric, 85%	Fair (surface attack)		
Hydrochloric-Hydrofluoric, 50:50	Good (discoloration)	MISCELLANEOUS: Test 2	
Hydrochloric, 37.5%	Good (discoloration)	Tap Water	Excellent
-	-	Sodium Hypochlorite, 5%	Excellent

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