ZEROCOR Green Solutions

ZEro300

ZEro300 is a high strength Carbon Zirconium Corrosion and Wear Resistance coating designed to increase tubing's service life for areas exposed to abrasion, high wear, and corrosive conditions.

Features

- Tough, smooth, and flexible coating moves with the pipe allowing for improved flow dynamics.
- Applied uniform coating thickness of 10 - 12 mils, Full API Drift.
- Maximum operating temperature rating up to 145°C.
- Excellent protection against abrasion.
- Tubing J-section is coated to the first threads and end face.
- Anti-corrosion characteristics against CO_2 and O_2.
- Chemically resistant with enhanced wear properties.

Benefits

- Reduced tubing failures and wellsite interventions due to rod wear from deviations, side loads, fines and sand above pump discharge.
- Low friction coefficient reduces over time with improved hydraulic efficiency.
- Minimized workover, well servicing, maintenance, and lost production costs.
- Service life of coated tubing is three times longer than that of uncoated tubing.

Applications

- Extreme abrasive, erosive and sliding wear environments in downhole applications.
- Wear and corrosion problems related to production equipment such as rod pumping wells.
- Horizontal wells through the deviation and build sections.
- Slanted wellbores, and aggressive side loads.
- Tail joint for sand abrasion.

For zero erosion trust ZEro300

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

Physical Properties:	Value	Unit	Method
Colour	Dark brown	-	-
Density	1.65	g/cm^3	ASTM D792
Maximum Operating Temperature - dry gas (temperature depends on total operating environment, i.e., H_2S, CO_2, pressure, rates)	≤145 (293)	°C (°F)	-
Non-Volatile Matter Content	≥99.5	%	-
Coating Thickness (Full API Drift)	10 - 12 (254 - 305)	mils (µm)	-
Mechanical Properties:			
Abrasion Resistance, Taber (CS17 Wheel, 1000g, 1000rpm)	≤12	mg	ASTM D4060
Adhesion, Pull-Off Strength (not lower than A Class)	≥20 (2900)	MPa (psi)	ASTM D4541
Coefficient of Friction (COF)	0.10	-	ASTM D1894
Hazen-Williams	150	C Value	-
Hardness, 60 Shore D	80 - 90	-	ASTM D2240
Impact Resistance	>20 (177)	Joules (in*lbf)	ASTM G14
Bend Resistance (4°)	No Cracking	-	-
Tensile Strength (strength of pipe body)	>80 (11603)	MPa (psi)	ASTM D638
Wear Resistance, Dry Sand	≥4	L/µm	ASTM G65
Pinholes	0	pcs/m^2	-
Chemical Resistance:			
Autoclave Test Results: NO swelling, blistering, cracking or detachment from the substrate			
Test 1: 12-hour, 93°C (200°F), 10% HCl, 3% HF Acid	PASS	hours	ASTM G8-96
Test 2: 16-hour, 148°C (300°F), 70MPa (10150psi), Gas Phase (N_2), Liquid Phase (NaOH), pH = 12.5, 30-min decompression	PASS	hours	ASTM G8-96
Test 3: 16-hour, 107°C (225°F), 35MPa (5000psi), Gas Phase (100% CO_2), Liquid Phase (water, Toluene:Kerosene)	PASS	hours	ASTM G8-96
Test 4: 7-day, 96°C (205°F), 35MPa (5000psi), 1/3 Gas Phase (8% H_2S, 0.5% CO_2, balanced with CH_4), 1/3 Hydrocarbon Phase (well condensate), 1/3 Liquid Phase (produced water)	No cracking/ detachment, small blisters in Gas Phase	hours	ASTM G8-96

January 2025

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