

Calabar COROD® Continuous Rod

Boost uptime in corrosive rod- and PCP-lifted wells

Applications

- Mild to aggressively corrosive wells
- Reciprocating rod-lift systems
- PCP systems

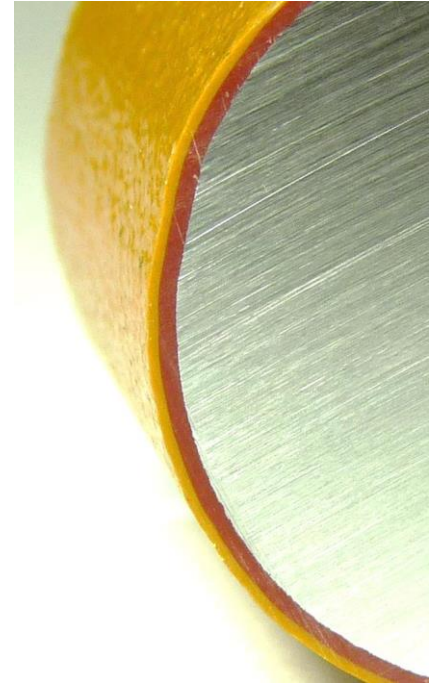
Features and Benefits

- Dual-layer, fusion-bond epoxy coating minimizes corrosion-related rod failures by protecting the steel string from corrosive fluids, which eliminates material loss and fatigue-initiation locations.
- The coating acts as a barrier between rod and tubing contact to protect against rod-tubing wear and reduce drag loads caused by a lower friction coefficient.
- Fewer threaded connections on the rod string reduce the potential for pin and coupling failures and the need for costly interventions.
- Its uniform body design evenly distributes contact loads, which reduces the severity of tubing and rod wear.
- The large, uninterrupted annular tubing space minimizes pressure losses and facilitates laminar, non-turbulent flow to the wellhead.
- The rod strings are lighter than conventional sucker-rod strings. By creating less weight on the service unit, continuous rod is capable of reaching lower pump landing depths.

Tool Description

The Weatherford Calabar COROD continuous rod provides improved uptime and tubing life with its exclusive, two-stage, epoxy-coating technology that dramatically reduces corrosion—the leading cause of rod-system failures. Harsh well fluids can create material loss and produce detrimental pitting, which often leads to fatigue fractures. The flexible and strong Calabar coating also reduces the coefficient of friction, which results in less drag-load on surface-pumping units.

Unlike conventional sucker rods, which are coupled every 25 ft or 30 ft (7.6 m or 9.1 m), COROD continuous rod requires couplings only at the top and bottom of the rod string, regardless of well depth. This innovative solution reduces pin and coupling failures by decreasing the number of threaded connections, thereby minimizing the potential for rod-string failures and costly well interventions. Uniform contact loads and a lighter weight also reduces motor power requirements.



Calabar COROD features a dual-layer, fusion-bond epoxy coating that protects the rod string from corrosive fluids while reducing wear and drag.



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Specifications

Description	Standard (if applicable)	Criteria (if applicable)	Value or result
Static friction coefficient	-	-	0.170
Kinetic friction coefficient	-	-	0.145
Adhesion	CSA Z245.20	194°F (90°C), 24 hr	Rating: 1 to 2
Flexibility	CSA Z245.20	2.5% strain, -22°F (-30°C)	No cracking
Hardness	ASTM D2240-74	Shore D	80 to 90 average
Taber abrasion base coat	ASTM D4060	1,000 cycles, CS17 wheel, 2.2-lb (1-kg) load	45 mg removal
Taber abrasion top coat	ASTM D4060	5,000 cycles, CS17 wheel, 2.2-lb (1-kg) load	45 mg removal
Chemical resistance	Refer to Axalta product specification sheet		

Measurement and Weight

Description	Value
COROD continuous rod*	Nominal +0.020 in. (0.5 mm)
Total coating thickness	0.015 to 0.035 in. (0.4 to 0.9 mm)
Total change to rod diameter	0.030 to 0.070 in. (0.8 to 1.8 mm)
Total change to rod weight	<2%

* Refer to COROD continuous rod technical specification sheet 12373.00 for nominal sizes and weights.

