Racer Severe-Service Coupling

Minimizes production-tubing wear and parted rod strings in erosive and corrosive rod-lift and PCP-lift wells

Applications

- Reciprocating rod-lift and PCP-lift wells
- Sandy and corrosive well environments
- Deviated wells prone to tubing failures or parted rod strings

Features and Benefits

- Proprietary diamond-like coating—technology licensed exclusively from ExxonMobil Upstream Research Company—reduces friction between the coupling and production tubing to provide superior uptime when compared to standard, spray-metal, or other friction-resistant couplings
- Reducing the effective wear on production tubing and the coupling reduces both OPEX and CAPEX by reducing workover intensity and frequency
- Tailored chemistry and architecture is proven in extensive field and laboratory tests to provide extreme increases in tubing life between planned workovers

Tool Description

Designed exclusively in a co-commercialization partnership with ExxonMobil, the Weatherford Racer severe-service sucker-rod coupling is engineered to significantly reduce production-tubing friction and wear in sandy, corrosive, and deviated wells. Available in a selection of two proprietary coatings—a single-stage process and a triple-layer, diamond-like coating—Racer couplings are ideal for problematic PCP and rod-lift wells.

Compared to all previously available couplings—including standard, spray metal, and premium friction-resistant or softer-than-tubing base materials used in high-abrasion areas—the exclusive Racer carbon-spray coating provides 6-times greater wear resistance and uptime in both laboratory and extensive field tests.

Racer severe-service, sucker-rod couplings provide 6-times greater wear resistance compared to conventional or premium wear-resistant couplings in laboratory and field tests.

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Racer Severe-Service Coupling

Coupling Wear Test Results

Laboratory tests show impeccable results following excruciating, 900,000-stroke run with 60 pounds of side-force. Only a superficial wear path is exposed through the sacrificial layer.

Wear location	Before	After	Difference
Top	1.8141 in. (46.08 mm)	1.8139 in. (46.07 mm)	0.0002 in. (0.005 mm)
Middle	1.8150 in. (46.1 mm)	1.8150 in. (46.1 mm)	0.0000 in. (0.0000 mm)
Bottom	1.8138 in. (46.07 mm)	1.8135 in. (46.06 mm)	0.0003 in. (0.0076 mm)

In laboratory wear tests, Racer severe-service couplings show superior wear protection. Following 900,000 strokes with 60-lb. side pressure, Racer couplings showed only a superficial wear path in sacrificial layer.

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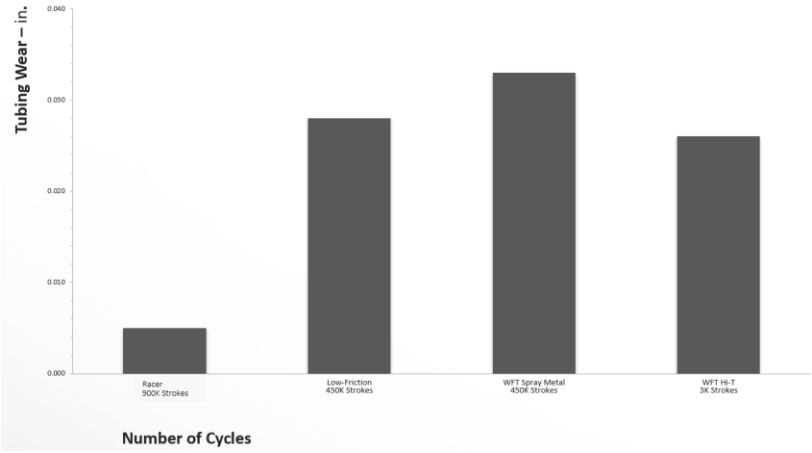
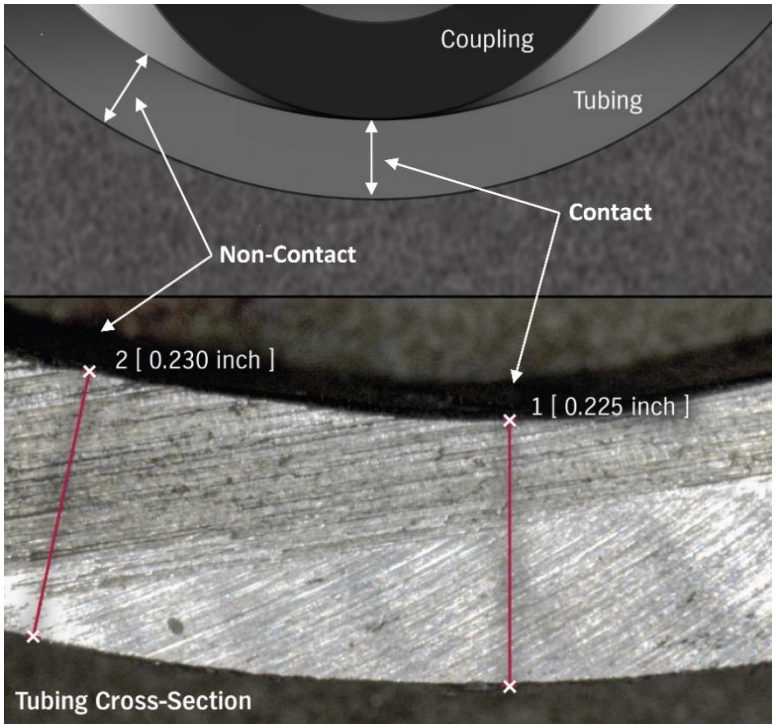
Specifications

Tubing Wear Test Results



Laboratory tests conclude Racer severe-service couplings preserved tubing IDs with superior protective properties. After 900,000 strokes with 60-lb. side pressure, Racer couplings produced at least 10 times less wear following at least twice as many strokes.



Tubing-wear test results conclude Racer severe-service couplings provide outstanding tubing-wear protection, producing only .005 in. of tubing ID wear following 900,000 test strokes at 60-lb. side pressure.

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