

ARTIFICIAL LIFT SYSTEMS

FIBERGLASS SUCKER RODS

Optimizing rod-lift production with
superior strength and performance

DRILLING & FORMATION EVALUATION
WELL CONSTRUCTION
COMPLETION & STIMULATION
PRODUCTION

The Weatherford logo features a red downward-pointing chevron symbol above the brand name "Weatherford" in a bold, white, sans-serif font. The background of the entire page is a photograph of an oil well rig in a desert landscape under a clear blue sky. Several workers in red uniforms and white hard hats are visible at the base of the rig. A stack of red fiberglass sucker rods is in the foreground on the right.

Weatherford®

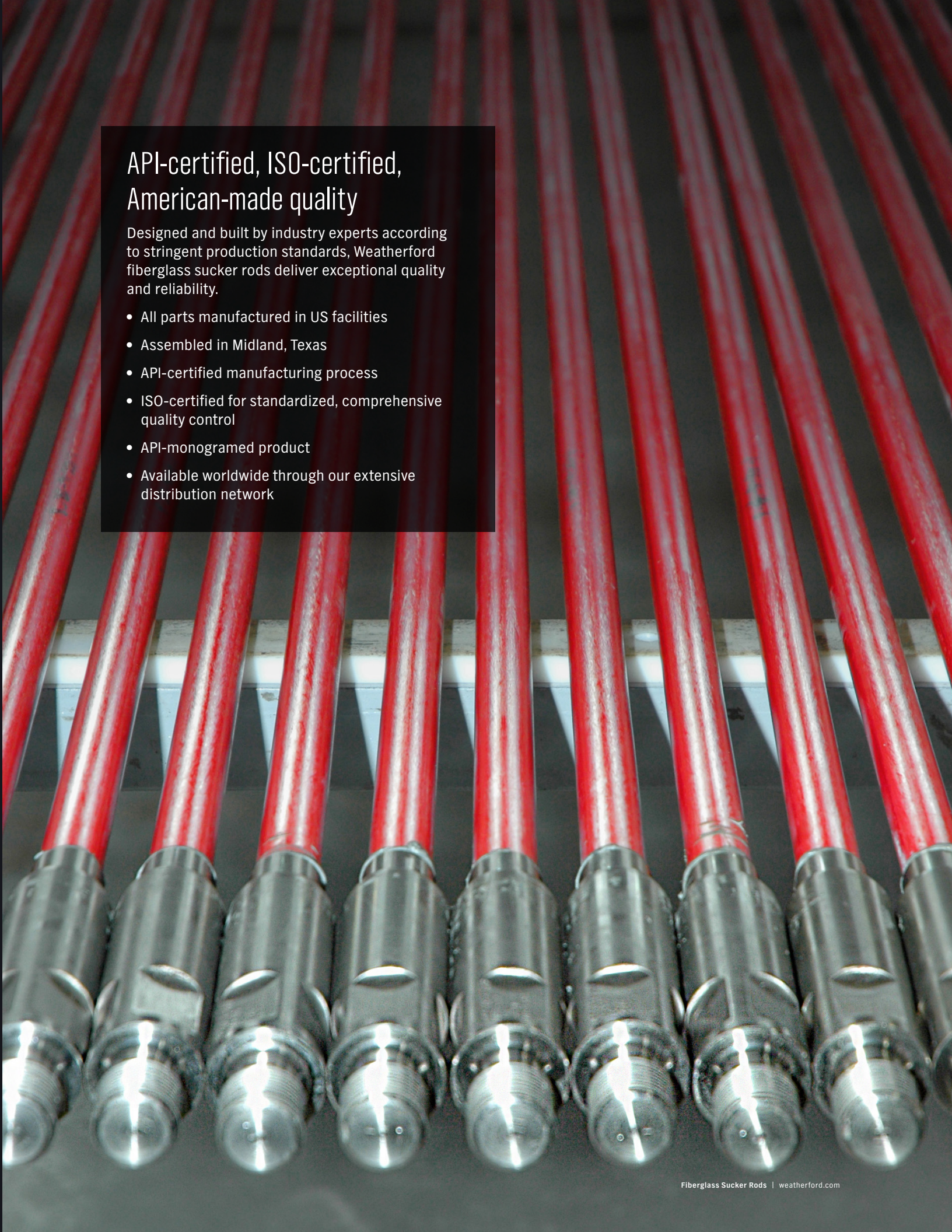
Another solution to help maximize runtime and optimize production.

BROUGHT TO YOU BY THE WORLDWIDE LEADER IN RECIPROCATING ROD LIFT.

With ever-increasing demands on production, it's vitally important that you use the best-suited products for the job.

Matching the materials and design to the application helps to make your operations more efficient in tough conditions. Weatherford fiberglass sucker rods stand up to the challenge. Depending on wellbore geometries and operational conditions, they can often deliver increased efficiency and greater longevity than steel rods—which translates to less downtime and greater profitability.

Like our comprehensive offering of conventional steel sucker rods and our COROD® continuous rod, our fiberglass sucker rods are backed by the expertise of Weatherford design and engineering teams—so you can be confident you're getting the most advanced and reliable solution for even the most complex challenges. With unmatched product selection and application-specific lift expertise, your Weatherford team is here to help you get more life from your wells.



API-certified, ISO-certified, American-made quality

Designed and built by industry experts according to stringent production standards, Weatherford fiberglass sucker rods deliver exceptional quality and reliability.

- All parts manufactured in US facilities
- Assembled in Midland, Texas
- API-certified manufacturing process
- ISO-certified for standardized, comprehensive quality control
- API-monogrammed product
- Available worldwide through our extensive distribution network



FIBERGLASS SUCKER RODS COMPARED TO STEEL SUCKER RODS

In specific applications, fiberglass sucker rods are an optimal choice because they lighten the load in the rod string and stand up to corrosive wellbore fluids. At 37-1/2 ft (11.4 m) long, our fiberglass sucker rods have fewer connections, which significantly shortens pull times. These features translate to more efficient production and far less downtime.

Weatherford fiberglass sucker rods are manufactured according to the highest industry-recognized performance and quality standards. In addition, they are manufactured according to API specifications in facilities that are ISO 9001:2008-certified, which means that each rod is designed, tested, and validated to meet stringent API specifications and ISO standards. Compared to conventional steel sucker rods, our fiberglass sucker rods offer these advantages:

- **Better overtravel capabilities than traditional rods.** The elasticity of fiberglass gives you a greater stroke length at the pump, which increases efficiency and profitability by producing more fluid per stroke.
- **Smaller surface equipment.** Approximately 70 percent lighter than steel sucker rods, a fiberglass sucker rod application gives you greater flexibility in your choice of surface equipment, which enables you to reduce power requirements while maintaining the same production level.
- **Corrosion resistance.** Fiberglass sucker rods last longer than steel sucker rods in corrosive wells, which reduces your maintenance costs.

Fiberglass sucker rods and steel sucker rods: Working together.

To optimize overtravel, prevent harmful rod compression, and fine-tune the overall stroke, a fiberglass sucker rod string requires steel sucker rods at the bottom of the string for pre-tensioning. And just as fiberglass and steel work together to enhance rod-pump performance, Weatherford experts will work with you to determine the best design and configuration for your specific well conditions.

Weatherford technology gives you the edge

Whether you need downhole products that can withstand a harsh or corrosive environment or you simply want to increase production and lower costs safely and reliably, Weatherford fiberglass sucker rods can give you the edge you're looking for. Their industry-leading characteristics include:

- High glass content to reduce splintering and increase tensile strength
- Exceptional performance in operating temperatures up to 240°F (116°C)
- Unsurpassed traceability, including a unique serial number stamped on the wrench square to denote the date of manufacture for each component
- Individual testing for integrity and consistency

Specifications

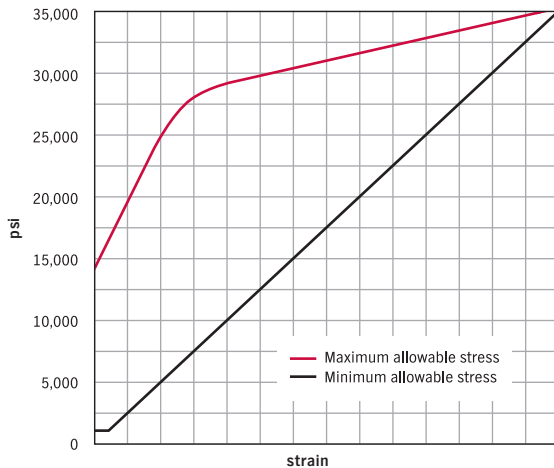
Technical Data	Rod Size	
	1.00 in.	1.25 in.
Rod body diameter	0.993 in. (2.522 cm)	1.242 in. (3.155 cm)
Rod length	37.50 ft (11.43 m)	
Rod weight	0.819 lb/ft (1.214 kg/m)	1.288 lb/ft (1.903 kg/m)
API pin size	7/8 in. (2.22 cm)	1.00 in. (2.54 cm)
Diameter of end fitting	1.615 in. (4.102 cm)	1.990 in. (5.055 cm)

API Tool	Rod Size	
	1.00 in.	1.25 in.
Wrench	1.00 in. (2.54 cm.)	1 1/8 in. (2.86 cm)
Elevators		Special*
Transfer		1 1/8 in. (2.86 cm)

Operating Properties	Rod Size	
	1.00 in.	1.25 in.
Tensile strength (minimum to maximum)	90,000 to 115,000 psi (620,528 to 792,897 kPa)	
Maximum working load	27,000 lb (12,247 kg)	42,000 lb (19,051 kg)
Maximum working stress	35,000 psi (241,317 kPa)	
Maximum load (short term)	41,000 lb (18,598 kg)	60,000 lb (27,215 kg)
Maximum stress (short term)	53,000 psi (365,422 kPa)	
Maximum operating temperature	240°F (116°C)	

*The 1.25-in. fiberglass sucker rod can be fitted with either elevator E1B-6A, which does not require a plate, or with elevator 27797-100, which requires plate number 27830.

Stress Range



Nominal rod body diameters covered	1 and 1.25 in.
End fitting grade	A
Modulus of elasticity	7,200,000 psi (including end fitting)

Cycles to First Expected Failure	Allowable Range Modifier
5.0 million	104%
7.5 million	100%
10.0 million	92%
15.0 million	85%
30.0 million	80%

Rod Operating Temperature	Allowable Range Modifier
Room temperature	105%
160°F (71°C)	100%
180°F (82°C)	98%
200°F (93°C)	95%
220°F (104°C)	88%
240°F (116°C)	80%



90,000 TO 115,000 PSI

(620,528 to 792,897 kPa)

Extraordinary tensile strength
and reliability

240°F MAX TEMP

(116°C)

Highest rating for standard
fiberglass sucker rods

37 1/2-FT ROD LENGTH

Fewer connections =
shorter pull times

25-MONTH WARRANTY

Committed to the best product
support in the industry

70% LIGHTER

Than conventional steel
sucker rods



Lift smarter.™

Top-performing fiberglass sucker rods represent only a fraction of our production solutions. With unparalleled experience and an unmatched breadth and depth of solutions for all forms of artificial lift, we can optimize production in any well. Since each field and well is unique, we will help you identify the best option to achieve your production goals effectively and efficiently.

Our customer-service centers are conveniently located in every major oil-producing area of the world, so we are well equipped to address your needs efficiently, wherever you operate. Weatherford also offers comprehensive artificial-lift training programs that enhance your team's expertise and productivity.



To learn more about how Weatherford fiberglass sucker rods can help you increase reliability, optimize production, and minimize operating costs, contact your local Weatherford representative. For more information about our full breadth and depth of offerings, visit weatherford.com.

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