



by



Technical
Data Brochure

Fiberflex® Fiberglass Sucker Rods

MAXIMIZE DOWNHOLE OPERATION EFFICIENCY

At Total Rod Concepts, Inc., we understand that a pumping operation is only as good as its continuous production. Anything that gets in the way of extraction is costing you money.

Fiberglass sucker rods offer operators unique benefits over steel sucker rods, allowing them to produce more fluids while lowering operating costs. Fiberglass sucker rods are stronger, lighter, and more elastic than steel sucker rods, reducing stresses on the rod string, while allowing for more fluid production and lower lifting costs. In addition, fiberglass sucker rods improves on corrosion resistance.

KEY FACTS

- ▶ Weighs approximately 70% less than steel rods
- ▶ Highest tensile strengths available
- ▶ Largest outside diameter rod body in the industry
- ▶ TRC's long-standing reputation for service is one of the best in the industry
- ▶ 25-month warranty is the longest in the industry

	TRC Fiberflex	Other Manufacturers
ALL COMPONENTS MADE IN THE USA	✓	X
MANUFACTURED TO API SPECS	✓	X
FOCUS ON ENDS, NOT JUST THE ROD BODY	✓	X
TOTAL TRACEABILITY ON ALL COMPONENTS	✓	X
LARGER OD, MORE GLASS CONTENT	✓	X

Technical Data

	1" Rod	1.25" Rod
Rod body diameter	0.993"	1.242"
Rod length	37.5'	37.5'
Rod weight per ft. (LBS)	0.8188	1.2879
API pin size	7/8"	1.0"
Diameter of endfitting (MIN)	1.615"	1.990"

API Tool Size	1" Rod	1.25" Rod
Wrench	1.0"	1 1/8"
Elevators	1.0"	Special
Transfer	1.0"	1 1/8"

Operating Properties	1" Rod	1.25" Rod
Tensile strength (PSI) (Minimum-maximum)	90K-115K	90K-115K
Max work load (LBS)	27,000	42,000
Max working stress (PSI)	35,000	35,000
Max load short term (LBS)	41,000	60,000
Max stress short term (V)	53,000	53,000
Max design temp (°F)	240°	240°

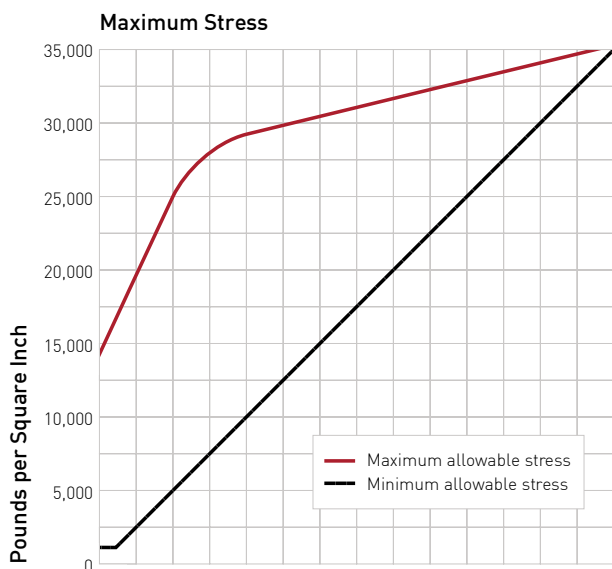
Calculating Minimum Pump Length

Pump Length	Inches
A $(9 \times \text{Footage of glass rods} \times 1.75) \div 1000$	= <input type="text"/>
B Maximum predicted downhole pump Stroke or surface stroke	= <input type="text"/>
C Plunger length (inches)	= <input type="text"/>
D $(2 \times \text{Seating nipple depth}) \div 1000$	= <input type="text"/>
Total length of pump (A + B + C + D)	= <input type="text"/>

Pump Spacing	Inches
A $(9 \times \text{Footage of glass rods}) \div 1000$	= <input type="text"/>
B $(2 \times \text{Seating nipple depth}) \div 1000$	= <input type="text"/>
Total inches off bottom* (A + B)	= <input type="text"/>

*Fiberglass rods should never be left tagging

Stress Range Diagram



Nominal Rod Body Diameters Covered 1" and 1.25"

End Fitting Grade A

Modulus of Elasticity 7,200,000 PSI
(Includes endfitting)

Cycles to First Expected Failure	Allowable Range Modifier	Operating Temperature of Rods (°F)	Allowable Range Modifier
5.0 million	104%	RT	105%
7.5 million	100%	160°	100%
10.0 million	92%	180°	98%
15.0 million	85%	200°	95%
30.0 million	80%	220°	88%
		240°	80%

Note: This diagram applies to Fiberflex® Standard Rods. This diagram is rated for 160°F temperature and 7.5 million cycles to first expected failure of the rod string.



AMERICAN MADE

There was a time when you could trust that when a company said their product was “Made in America,” it was exactly that, made in America. Now, to some, “Made in America” means something much less. To some, it means importing components for assembly in the United States. To others, it means assembling a portion of their total production abroad.

Let us be clear. At TRC | Fiberflex[®], “Made in America” means what it should mean. It means that every component of every product is made in the United States. It does not mean purchasing a few machines to make a small percentage of the endfittings used in our production locally, while importing the majority of our endfittings from abroad. And, it does not mean assembling some of our fiberglass sucker rods outside of the United States.

At TRC | Fiberflex[®] you can trust that when we say “Made in America,” every component of every fiberglass sucker rod was proudly made and assembled in the United States.

Total Rod Concepts, Inc.

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