

**Metal Friction Wrench**

Designed to give 360 degrees of uniform compression on the male pipe upset, NOV Fiber Glass Systems metal friction wrenches are used for make-up and break out of fiberglass pipe 8rd threaded connections. The wrenches are equipped with replaceable dies which firmly grip the pipe without slipping. The dies may require replacement if they become dull from heavy usage. These wrenches are hand operated tools; handle extensions which reduce the required force are used successfully and recommended for larger pipe sizes.



Weight - Lbs (Kgs)										
1.90	2 3/8	2 7/8	3 1/2	4	4 1/2	5 1/2	6 5/8	7	8 5/8	9 5/8
19	23	25	30	35	35	39	52	52	52	56
(836)	(10.4)	(11.3)	(13.6)	(15.9)	(15.9)	(17.7)	(23.6)	(23.6)	(23.6)	(25.4)
Replacement Dies										
Small					Large					

**Strap Wrench**

The NOV Fiber Glass Systems recommended strap wrenches are designed to be used by hand on fiberglass pipe. These wrenches should always be used on the pipe end connection upsets, never on the pipe body. Handle extensions are used very successfully on wrench sizes No. 11 and larger. These wrenches require the use of abrasive powder to assist the grip of the strap on the pipe. Never use the point of the wrench against the strap onto the pipe; always use the heel which provides uniform compression 360 degrees around the pipe.



Thread Sizes (Inches)	Recommended Wrench	Weight Lbs (Kgs)	Strap Size (in) Width x Length
1.90	No. 5	2.0 (.91)	Prefabricated 2" Replacement Strap 2" x 48"
2 3/8			
2 7/8			
3 1/2	No. 11	10.5 (4.8)	3" x 84"
4			
4 4/2			
5 1/2	No. 20	22.0 (10.0)	4" x 84"
6 5/8			
7			
8 5/8	No. 30	38.0 (17.2)	6" x 84"
9 5/8			

**Replacement Strap**

Over time the strap material for the Strap Wrenches will wear down or break from heavy usage. Refer to the chart above when ordering replacement strap for the appropriate wrench.



### STARtec Threaded Connection Lubricant/Sealant

The STAR API 10rd and 8rd Advanced Composite Thread (ACT) connection is designed to utilize a teflon based lubricant for make-up. STARtec assures power tight makeup at low torque and allows easy breakout without seizing, stripping or galling. It also provides a permanent seal and maintains joint efficiency under vibration, pressure, surge and temperature fluctuations. Use of any other lubricant can void the product warranty and requires special approval from Fiber Glass Systems. Do not use STARtec lubricant on STAR Super Seal (SSS). STARtec is available in a one-gallon container.



Thread Size	1.90"	2 3/8"	2 7/8"	3 1/2"	4"	4 1/2"	5 1/2"	6 5/8"	7"	8 5/8"	9 5/8"
Joints per Gallon	100	100	100	68	50	50	34	34	34	26	26



### Hi Pro Plus

Hi Pro Plus is a two-part, manganese dioxide cured polysulfide based PTFE (polytetrafluoroethylene) filled sealant that is lead free and solvent free. Hi Pro Plus is used as pipe thread sealing compound for joining and coupling threaded oilfield pipe. The mixed compound has a thixotropic consistency and can be readily applied with a spatula or brush to the threaded surfaces. It will cure to a fuel-resistant rubber at temperatures above 60°F and exhibits superb tooling properties with very low shrinkage. Hi Pro Plus exhibits excellent adhesion to a wide range of substrates including reinforced fiberglass, stainless steel, carbon steel and galvanized pipe. Hi Pro Plus has superior chemical resistance to oil

and fuels and should be considered on all 3000 psi, 4" 2500 psi, 6" 1500-2000 psi and 8" 1000-2000 psi products. When ordering, specification of jobsite temperature is required.

Thread Size	1.90"	2 3/8"	2 7/8"	3 1/2"	4"	4 1/2"	5 1/2"	6 5/8"	7"	8 5/8"	9 5/8"
Bonds per Kit	33	25	20	16	12	12	10	8	8	4	3

### Lube Brush

A Lube Brush is used to apply STARtec to the box and pin end of the threaded connection.

### Thread Molds

FGS manufactures threaded pin molds for field fabrication of STAR API 10rd and 8rd Advanced Composite Thread (ACT) for use with the Epoxy Kits. These precision molds are made from hardened alloy steel, which if properly maintained can be used repeatedly to mold numerous threads. Prior to attempting to use a mold, several items must be addressed such as the pipe outside diameter and all the required accessories for applying field threads. Refer to the High Pressure Line Pipe Installation and Application Practices Manual for complete instructions on making field threads.



### Mold Release

The FGS thread mold release is a clear wax that is applied to the thread molds prior to applying the epoxy for making field threads. This wax allows the epoxy to set up without adhering to the thread mold for easy removal of the mold after the epoxy fully cures to the required hardness. Brush not included but is required to apply wax to the mold.



**Woven Roven**

Woven roving glass mat is used for increasing the outside diameter of a pipe body to the correct size for a pin mold inside diameter when the pipe outside diameter is insufficient to apply a field thread. Application of this material requires the use of an Epoxy Kit and special training by a NOV Fiber Glass Systems representative.



**Heat Collars**

Electric heat collars are used for the purpose of curing field threads or bonded connections. They are available in a variety of sizes and ordered by the nominal pipe size. Specify either 115V or 240V when ordering. Chemical heat packs are also available.



**Detectable Underground Warning Tape**

The detectable underground warning tape is used for location and early warning protection of underground pipe lines. The detectable tape is recommended to be buried between 6" to 12" below the finished grade.



**Pipe Roller / Cradle**

The Pipe Roller / Cradle is designed to help support and keep large diameter pipe (6" and above) aligned during make-up.



**Centralizers**

Plastic centralizers are used to support and provide spacing for fiberglass pipe during insertions into a secondary pipe for road and river crossings. The centralizers are made of lightweight, high density polyethylene and are easy to install. Spacing depends on support span per given pipe.



**Hydraulic Power Tongs**

Hydraulic Power Tongs are designed to provide maximum power output from a compact and rugged design. The power tongs will handle pipe from 5-1/2" - 13-5/8" pipe with 35,000 ft-lbs of torque .



**Standard Pull On End Seals**

End seals are used to seal off the ends of the conductor pipe when a fiberglass pipe is inserted, such as at a road crossing. This protects the inside of the conductor pipe and the outside of the fiberglass pipe by eliminating the possibility of foreign material entering the annular space. Manufactured from 1/8" thick synthetic rubber, the Model "S" end seals are extremely robust and resistant to wide variations in environmental conditions.

**NOV Fiber Glass Systems**

Headquarters  
 2425 SW 36th Street  
 PO Box 37389  
 San Antonio, Texas 78237 USA  
 Phone: 1 (210) 434-5043  
 Fax: 1 (210) 434-7543  
 www.fiberglasssystems.com  
 E-Mail: info@starfiberglass.com