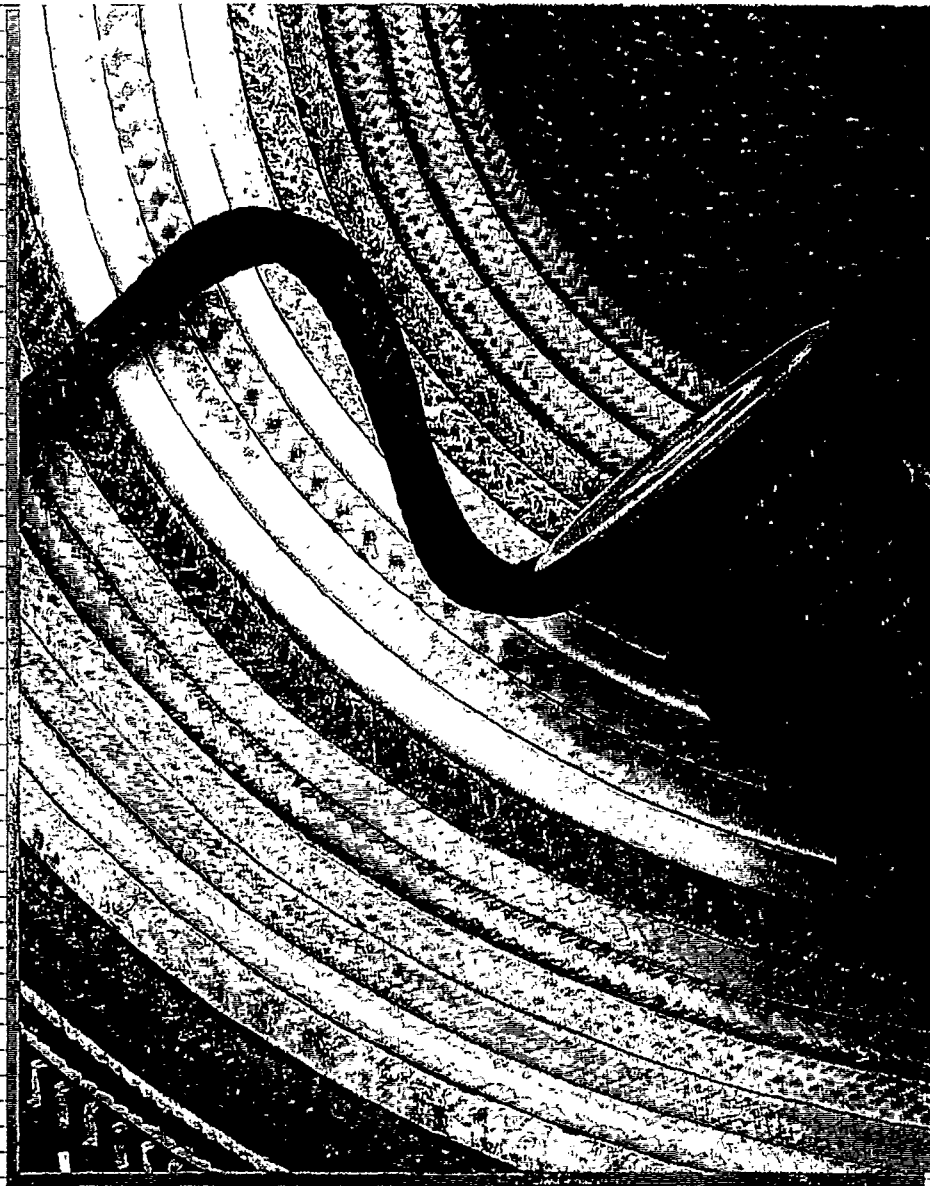


Compression Packings Catalog



UTEX INDUSTRIES, INC.

Taking Sealing Technology Beyond Tomorrow

PLAINTIFF'S EXHIBIT

UTX-116

MARLO 004579

Serving Industry Worldwide

- 2 In this brochure we offer a brief description of our non-asbestos packings and seals. Our commitment is to manufacture UTEX products that are safe, reliable, long lasting and easy to install.

UTEX Compression Packings are produced using the most modern braiding equipment and the highest quality materials available.

These packings and seals have many unique and outstanding characteristics to ensure a broader range of sealing acceptance and to meet your most critical requirements, applications, and environments.

TAILORED TO FIT YOUR APPLICATION

In addition to the styles and materials shown, new styles are constantly being considered. Research and development of new materials and unique, high performance fibers are constantly being tested and evaluated to perform effectively in rigorous end-use.

For more information on how UTEX can solve a wide range of sealing problems, contact your UTEX sales office or nearest distributor. Let our UTEX team survey your application to determine the best solution to your needs.

INSTALLATION RECOMMENDATIONS

RING CUTTING AND INSTALLATION RECOMMENDATIONS

- Shut-down system and disable electric motor(s) to prevent accidental start-up. Isolate equipment to be packed, relieve internal pressure, and flush system if required. Use all recommended safety equipment and procedures.
- Remove old packing from stuffing box. Clean the box and shaft and inspect for any wear or scoring. Replace the shaft or sleeve if wear is excessive. Note the location of the lantern ring if one is used.
- Use a coil packing size that will fit and compensate for any shaft wear. To determine correct size use this formula:

$$\frac{(\text{Stuffing Box dia.} - \text{Shaft dia.})}{2} = \text{Cross-Section}$$

- Cut coil into proper ring lengths. Never attempt to determine length by winding coil into the box. Rather, place the coil around a tube having the same O.D. as the shaft, holding it down firmly but not stretching it. Cut the first ring and try it out to see if it properly fills the space, and make sure there is no gap where the ring ends meet.

Cut additional rings using the first as a standard. If these cuts are to be made on a flat surface, make the cut on the coil profile so that the I.D./O.D. bevel is reproduced.

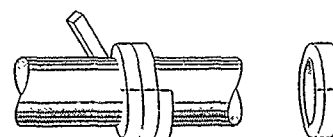
If a packing is soft and tends to fray, apply a small piece of tape where the cut is to be made and cut through the tape. Remove tape if it substantially alters the ring joint O.D.

- Install one ring at a time, making certain that each is free of dirt or other debris. Rings may be lubricated with clean oil, as well as the shaft, if desired.

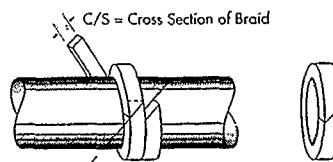
Stagger each successive ring joint 90°. Seat each ring firmly in place using a tamping tool. When enough rings have been seated that the follower can reach them, the tamping can be supplemented using the follower. Remember, the follower is only a supplement; individual tamping ensures proper seating of all rings and can avoid erratic packing performance.

- After installing rings, make up bolts finger tight. Stopping leakage at this point will cause packing to burn up. Adjustments should then be made by tightening the nuts one flat at a time until leakage reaches an acceptable rate.

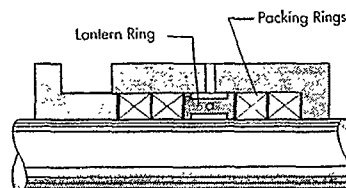
Wherever possible a lantern ring should be used to lubricate the shaft and packing by supplying oil to the stuffing box. If the box has a lantern ring, it is important that this ring be in line with the exterior lubrication fittings.



BUTT JOINT



ANGLE JOINT



Contents

Page

Materials:

Multi-Core	3
PTFE/Graphite Composites	4
PTFE	5
Aramid	6
Spun Aramid	8
Synthetic	9
Carbon	10
Graphite	11
Spiral Unilized	11
Flax	12
Die-Formed Rings	13
Packing Tools	13
Texturized Glass	14
Plastic	15
Metallic	16
Combination Sets	17
Technical Specialities	17
Comparative Style Chart	18

Standard Packaging

Standard Cross-Sections

- 1 lb Spool 1/8" thru 3/8"
- 2 lb Spool 3/8" thru 1/2"
- 5 lb Spool 1/2" thru 3/4"
- 5 lb Box 3/4" thru 1"
- 10 lb Spool 1" thru 1 1/2"
- 10 lb Box 1 1/2" thru 2"
- 30 lb Reel 2" thru 4"
- 50 lb and 100 lb reels available, prices on request.

Format for Ordering

Amount, style number, size and packaging.

Example: 10 lbs, style 215, 1/2" on 5 lb spools.

Braiding Construction: most styles available 1/8" cross-section, Square Braided; 1/4" and larger cross-section will be TexLok Braided, unless other is specified or noted for style construction.

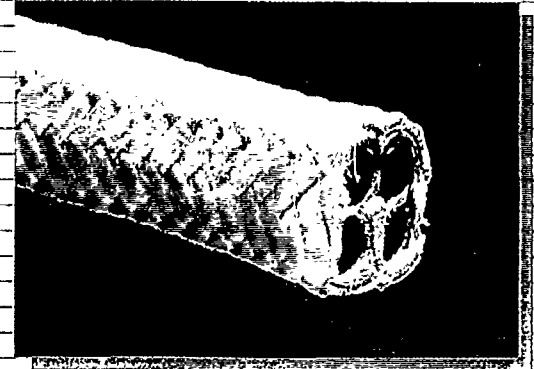
MARLO 004580

This unique packing is constructed with an elastomeric cord. Each style is designed with fibers positioned in the corners and cross braided around the cord. This breakthrough in technology provides maximum flexibility, uniform density and resiliency critical to efficient packing performance.

Style 240

Composite braid, high strength aramid fibers braided around a silicone rubber cord forming a packing that offers excellent resiliency and wear resistance. Excellent for worn glands and for large equipment with eccentricity and run out problems.

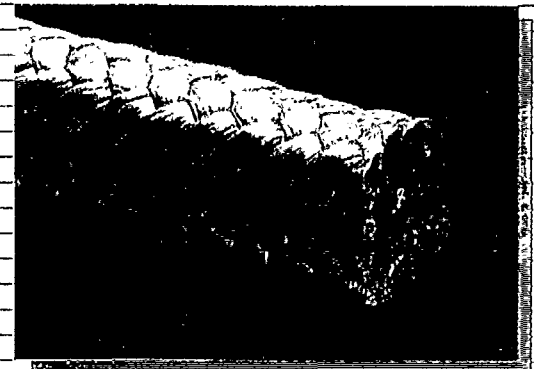
Uses: Rotary reciprocating and shafts, mixers, agitators, shotguns
 Temperature: to 500°F
 pH Range: 3 to 11
 Shaft Speed: 1900 fpm



Style 243

Composite braid, graphite impregnated PTFE self-lubricating fibers, braided around Aflas™ rubber cord forming a packing that offers excellent resiliency and is resistant to chemical attack in a wide range of applications. Designed to seal in applications where large run-out or eccentricity of the shaft exists or large deformation of the packing is required. Aflas™ a registered trademark of ASAHI Glass Ltd.

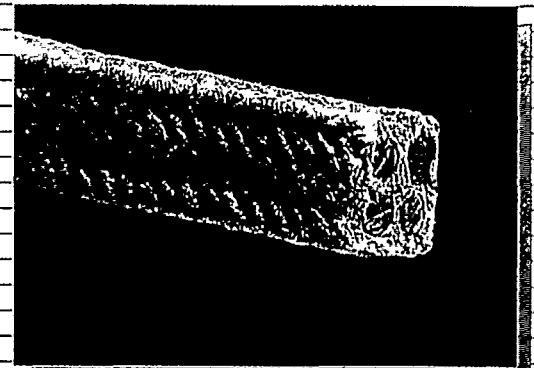
Uses: Reciprocating and rotary shafts, mixers, agitators
 Temperature: to 500°F
 pH Range: 0 to 14
 Shaft Speed: to 4000 fpm
 Note: Also available as Style 239 with nitrile cord.



Style 277

Composite braid, acrylic fibers, individually lubricated with PTFE and graphite, braided around nitrile rubber cord, surface treated with special break-in lubricants to seal all voids. General service packing designed for use in large shaft diameters or worn equipment.

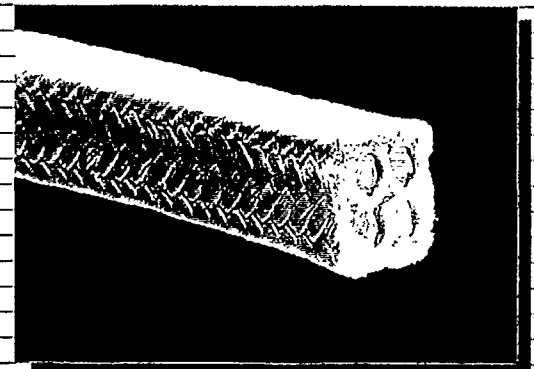
Uses: Agitators, rotary equipment
 Temperature: to 250°F
 pH Range: 2 to 12
 Shaft Speed: to 1900 fpm



Style 278

Composite braid, FDA approved PTFE filaments braided around FDA approved white silicone rubber cord forming a packing that offers excellent resiliency. Designed to seal in applications where large run-out or eccentricity of the shaft exists or large deformation of the packing is required.

Uses: Mixers, agitators, food processing equipment
 Temperature: to 500°F
 pH Range: 3 to 10
 Shaft Speed: to 1000 fpm



UTEX PTFE/Graphite Composites

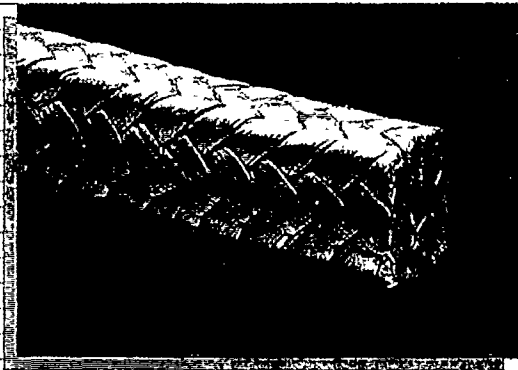
- 4 *These low friction and thermally stable packings are extremely easy to install and remove, while providing superior performance and compatibility in a wide range of applications including acids, alkalies, solvents, petroleum and synthetic oils, steam and similar severe services.*



Style 209

TexLok interbraid, graphite impregnated PTFE, with individual PTFE filament. Recommended for corrosive services.

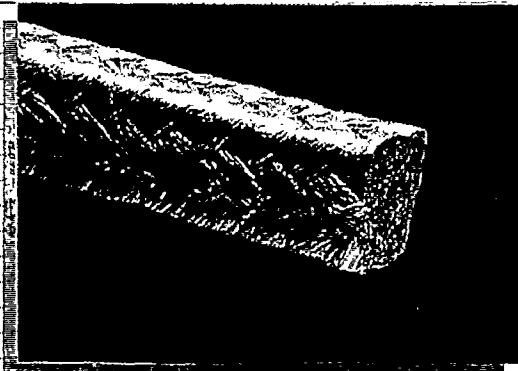
Uses:	Reciprocating and rotary shafts, valve stems
Temperature:	to 550°F
pH Range:	0 to 14
Shaft Speed:	to 4,300 fpm



Style 210

TexLok interbraid, GFO[®] fiber, graphite particles encapsulated in an expanded PTFE matrix. Recommended for corrosive services that are suitable for graphite/PTFE. GFO[®] is a registered trademark of W.L. Gore & Associates.

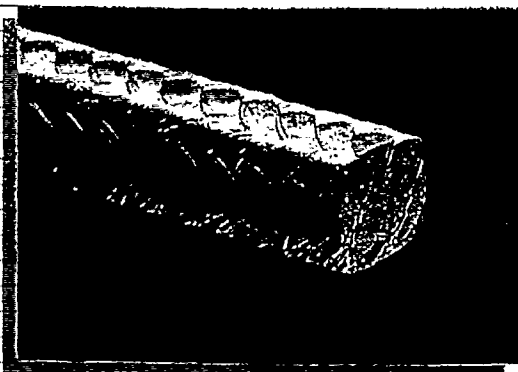
Uses:	Reciprocating and rotary shafts, valve stems
Temperature:	to 550°F
pH Range:	0 to 14
Shaft Speed:	to 4,300 fpm



Style 244

TexLok interbraid, graphite impregnated PTFE with break-in lubricant. Recommended for corrosive applications.

Uses:	Reciprocating and rotating shafts, valve stems
Temperature:	to 550°F
pH Range:	0 to 14
Shaft Speed:	to 4800 fpm



Style 246

TexLok interbraid, blend of graphite impregnated PTFE hard corners with proprietary graphite PTFE composite soft fiber seams.

Uses:	Reciprocating and rotary equipment, valve stems
Temperature:	to 550°F
pH Range:	0 to 14
Shaft Speed:	to 4500 fpm

Continuous PTFE fibers are lubricated and braided, each style is dimensionally stable and treated with a PTFE dispersion to provide a low friction braided packing that will minimize gland adjustment. Each has excellent chemical and solvent resistance for general plant applications.

5

Style 231

Pure 100% PTFE filament yarns, impregnated with PTFE suspenoid and high temperature break-in oil. The soft, flexible braided PTFE is suited for most chemicals, solvents, and gases, TexLok Interbraid.

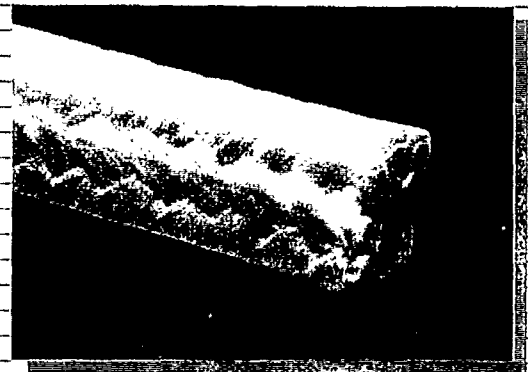
Uses: Valve stems, expansion joints, reciprocating and rotary shafts
 Temperature: to 500°F
 pH Range: 0 to 14
 Shaft Speed: to 1500 fpm



Style 232

Pure 100% PTFE filament yarns, impregnated with PTFE suspenoid. Firm high-density braided packing for process chemicals and concentrated acids, TexLok Interbraid.

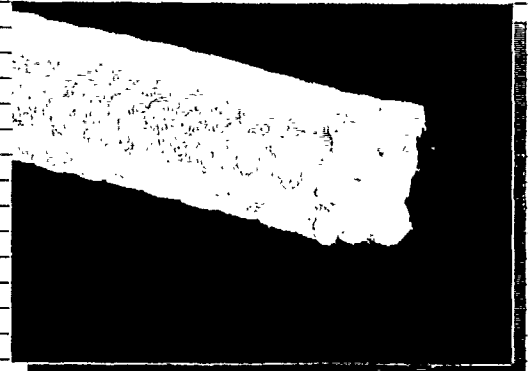
Uses: Valve stems, processing equipment, reciprocating and rotary shafts
 Temperature: to 500°F
 pH Range: 0 to 14
 Shaft Speed: to 1000 fpm



Style 245

TexLok interbraid, FDA approved PTFE filament yarns impregnated with PTFE and treated with a special break-in lubricant. Meets FDA guidelines 178.3570, 177.1550, and 175.300. Suitable for food processing.

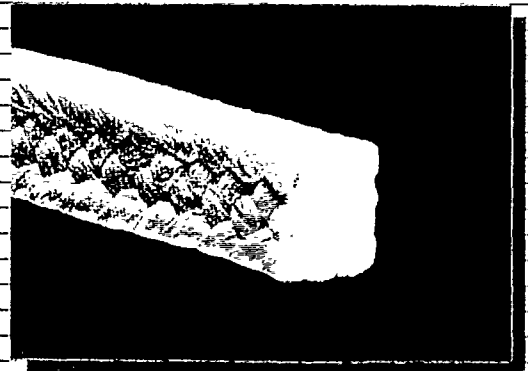
Uses: Centrifugal equipment, homogenizers, valve stems
 Temperature: to 500°F
 pH Range: 0 to 14
 Shaft Speed: to 1400 fpm



Style 276

TexLok interbraid, oxygen service PTFE packing, braided from pure PTFE filaments without the use of additional lubricants or break-in oils. Thermally treated to remove all oxidants.

Uses: Rotary shafts, valve stems
 Temperature: to 500°F
 pH Range: 0 to 14
 Shaft Speed: to 1000 fpm



UTEX Aramid Packings

- 6 *Engineered for performance and designed for quality. Braided from aramid fiber yarn to produce a high tensile strength and abrasion resistant packing. Incorporation of PTFE or other lubricants and alternating filament material offer a wide range of styles for general plant applications in air, oil, gases, caustics and mild acids.*



Style 212

Pure aramid IT fiber coated with a high temperature lubricant and braided to produce a dense packing that is ideal for mild chemicals, oil, mild caustics, hydrocarbon and abrasive services, TextLok Interbraid.

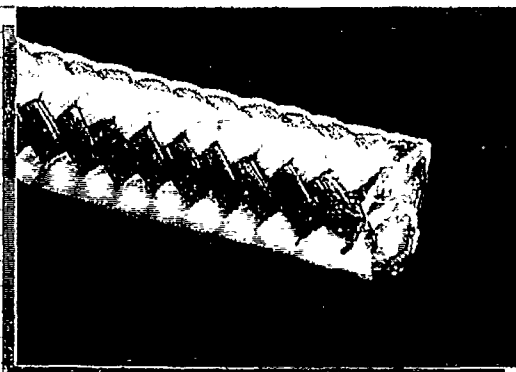
Uses: Rotary, reciprocating and centrifugal shafts, valves, agitators, mixers
 Temperature: to 500°F
 pH Range: 3 to 11
 Shaft Speed: to 1900 fpm



Style 213

Braided texturized aramid, impregnated with PTFE for added lubricant. Designed for special service applications, hydrocarbons, sewage, abrasives, TextLok Interbraid.

Uses: Rotating equipment, pumps, mixers, agitators, valves
 Temperature: to 500°F
 pH Range: 3 to 11
 Shaft Speed: to 1900 fpm



Style 214

Combines dual materials of aramid fibers positioned in the corners for strength and graphite impregnated PTFE lubricating fibers for demanding service where strength and lubricating qualities are needed for paper mills and waste treatment stock, TextLok Interbraid.

Uses: Rotating and reciprocating shafts, mill stock pumps
 Temperature: to 500°F
 pH Range: 3 to 11
 Shaft Speed: to 1900 fpm



Style 215

High tensile strength aramid fibers and PTFE fibers are diagonally positioned and braided where high performance is required in paper and pulp, waste treatment and food processing, TextLok Interbraid.

Uses: Rotary and reciprocating shafts
 Temperature: to 500°F
 pH Range: 3 to 11
 Shaft Speed: to 1900 fpm

MARLO 004584

Style 216

High tensile strength aramid fibers and graphite impregnated PTFE self-lubricating fibers diagonally positioned and braided to produce a low friction, wear resistant packing for mild chemicals, process fluids and general services, TexLok Interbraid.

Uses: Rotary, centrifugal and reciprocating shafts

Temperature: to 500°F

pH Range: 3 to 11

Shaft Speed: to 1900 fpm



Style 217

Aramid fiber corners interbraided for added strength, combined with PTFE filaments for high performance in paper and pulp, waste treatment, petrochemical and general industrial applications, TexLok Interbraid.

Uses: Reciprocating and rotary shafts

Temperature: to 500°F

pH Range: 3 to 11

Shaft Speed: to 1900 fpm



Style 241

Pure aramid filament corners interbraided for strength and abrasion resistance combined with synthetic filaments produce a high performance chemically resistant packing for petrochemical and industrial applications, TexLok Interbraid.

Uses: Rotary and reciprocating shafts

Temperature: to 500°F

pH Range: 3 to 10

Shaft Speed: 1900 fpm



Style 247

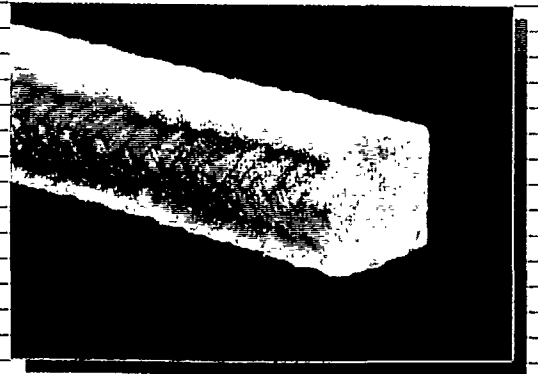
TexLok interbraid, white aramid fibers with a high temperature lubricant, braided into a dense packing suitable for mild chemicals, alkalis, acids, hot water, and some bleaches. This packing offers greater thermal stability than other aramid packing.

Uses: Reciprocating and Centrifugal Shafts, Valve Stems

Temperature: to 550°F

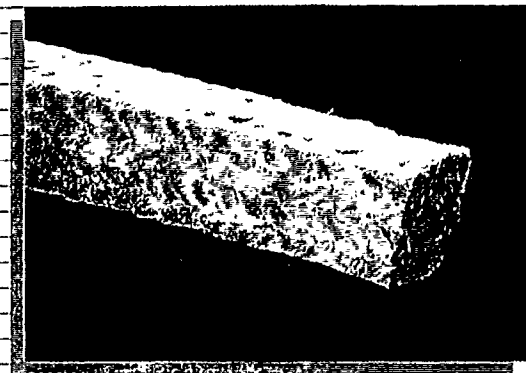
pH Range: 2 to 12

Shaft Speed: to 1900 fpm



UTEX Spun Aramid Packings

- 8 *Each style is designed to give long lasting service. High tensile strength spun aramid fibers produce an economical replacement for asbestos fiber packings. These non-contaminating braided packings offer a broad range of lubrication treatments to handle chemicals, oils, water, and mild acids in general plant services.*



Style 220

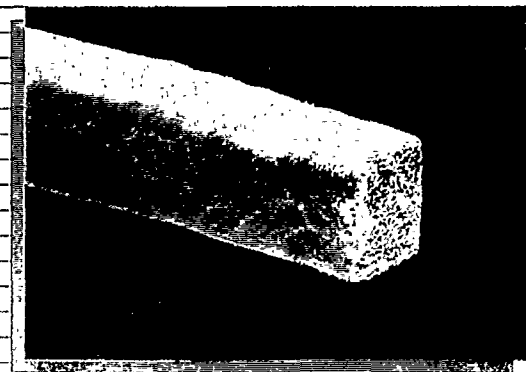
Impregnated with PTFE throughout, the PTFE suspensoid fills and seals all voids around the spun aramid braided packing. Provides excellent chemical resistance in general plant services, TexLok Interbraid.

Uses: Valves, mixers, agitators, reciprocating and rotary shafts

Temperature: to 550°F

pH Range: 3 to 11

Shaft Speed: to 1900 fpm



Style 222

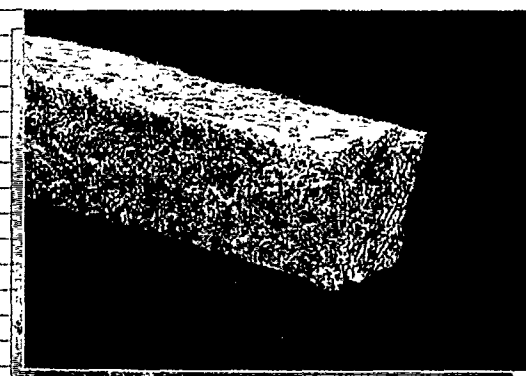
Thoroughly impregnated with PTFE, treated with oil and wax, long-life interbraids of spun aramid packing for slurries, mild chemicals and general plant services, TexLok Interbraid.

Uses: Valves, mixers, agitators, reciprocating and rotary shafts

Temperature: to 550°F

pH Range: 3 to 11

Shaft Speed: to 1900 fpm



Style 223

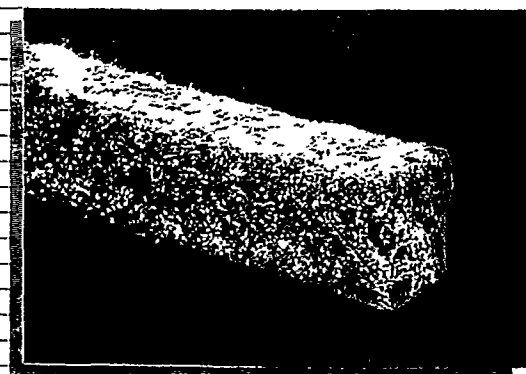
TexLok Interbraid spun aramid packing is treated with a unique combination of PTFE and molybdenum disulfide.

Uses: Valves, mixers, agitators, reciprocating and rotary shafts

Temperature: to 550°F

pH Range: 3 to 11

Shaft Speed: to 1900 fpm



Style 225

TexLok Interbraid spun aramid fiber, with PTFE dispersion and special lubricant of vacuum grease and graphite for waste treatment applications.

Uses: Rotary and centrifugal shafts

Temperature: to 550°F

pH Range: 3 to 10

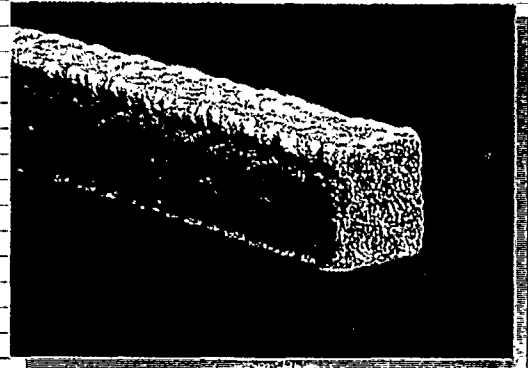
Shaft Speed: to 1900 fpm

Proprietary blend of braided acrylic yarn. Packings are manufactured to provide long-lasting service. These economical, yet proven performance packings are available with special lubricant treatments. They are designed to handle a wide range of services, including mild acids, chemicals, oils, steam, water and air in general plant applications.

Style 208

TexLok interbraid, acrylic yarns individually treated with PTFE and graphite. Surface coated with special break-in lubricant to seal all voids. Can be used for a wide range of services including water, solvents, steam, and mild acids.

Uses:	Rotary and centrifugal equipment, recirculating shafts, agitators, valve stems
Temperature:	to 550°F
pH Range:	2 to 12
Shaft Speed:	to 2300 fpm

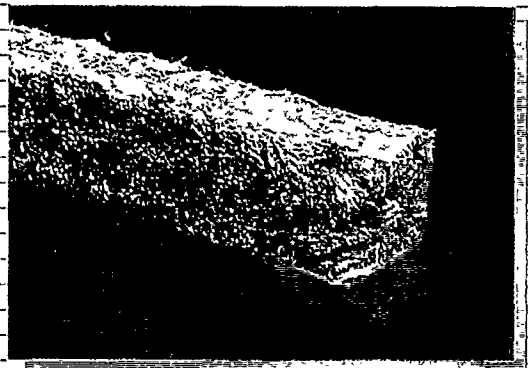


Style 233 & Style 236

Square Braid Interbraid

Acrylic yarn impregnated with special lubricant and graphite. Can be used for a wide variety of moderate services such as solvents, water, and mild acids.

Uses:	Rotary and reciprocating pumps, valves
Temperature:	to 500°F
pH Range:	4 to 10
Shaft Speed:	to 1900 fpm



Style 234 & Style 237

Square Braid Interbraid

Acrylic yarns are treated with PTFE throughout. PTFE suspensoid fills and seals all voids, special lubricant applied for added resiliency. Suited for most general service plant applications.

Uses:	Valves, agitators, rotary and reciprocating shafts
Temperature:	to 500°F
pH Range:	2 to 12
Shaft Speed:	to 2200 fpm



Style 235 & Style 238

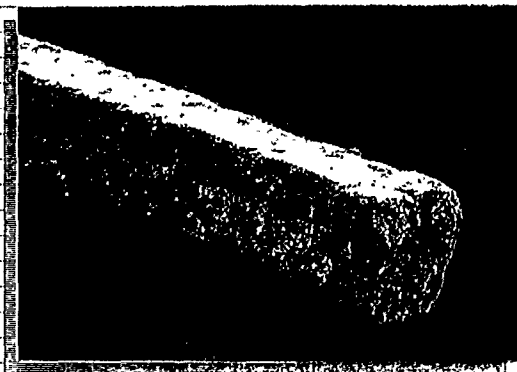
Square Braid Interbraid

Each strand of acrylic yarn is thoroughly impregnated with PTFE to provide excellent resistance to chemical attack. Universal applications for alkalis, mild acids, solvents, steam and oils.

Uses:	Rotary and reciprocating shafts, agitators, valves
Temperature:	to 500°F
pH Range:	2 to 12
Shaft Speed:	to 2200 fpm



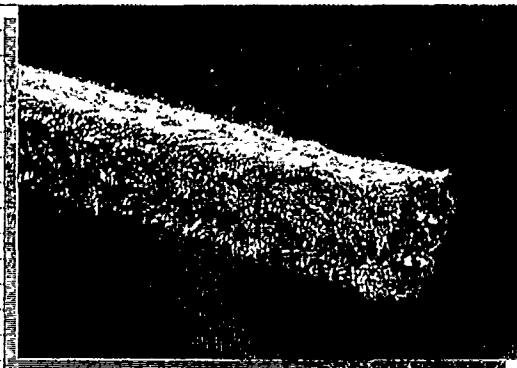
40 *Manufactured from high quality carbon yarn, provides low coefficient of friction, high thermal conductivity, and a high chemical resistance. Suited for applications with acids, strong caustics, hot oils, steam and solvents over a wide range of non-oxidizing environments. Special lubricants can be applied that provide added protection against heat and shaft wear.*



Style 226

Unique low friction carbon yarn controls wear evenly during long service life. Multi-service applications in hydrocarbons and chemicals where carbon is suitable. Lubricated with PTFE and graphite, TexLok Interbraid.

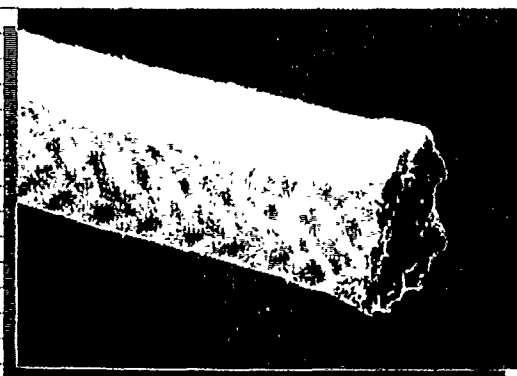
Uses: General service rotating and reciprocating shafts, high temperature valves
 Temperature: to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
 pH Range: 0 to 14, except in strong oxidizers
 Shaft Speed: to 4000 fpm



Style 227

Braided carbon yarn, inconel wire inserted to provide added strength, common applications in hydrocarbons and chemicals. Special graphite particle treatment is available, TexLok Interbraid.

Uses: High temperature valves, rotating shafts
 Temperature: to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
 pH Range: 0 to 14, except in strong oxidizers
 Shaft Speed: to 2000 fpm



Style 228

Carbon yarn packing is treated with PTFE to prevent carbon migration and provide excellent break-in qualities with a non-silicone break-in lubricant. For use in paper and pulp, hydrocarbons, water and most chemical services, TexLok Interbraid.

Uses: Reciprocating and rotary shafts, valve stems, mixers
 Temperature: to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
 pH Range: 0 to 14
 Shaft Speed: to 2600 fpm



Style 249

TexLok Interbraid, carbon packing treated with PTFE throughout to form a more dense packing for harsh services. For use in pulp and paper, chemical service, hydrocarbons, hot water.

Uses: Reciprocating Equipment, Valve Stems, Mixers
 Temperature: to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
 pH Range: 0 to 14
 Shaft Speed: to 2000 fpm

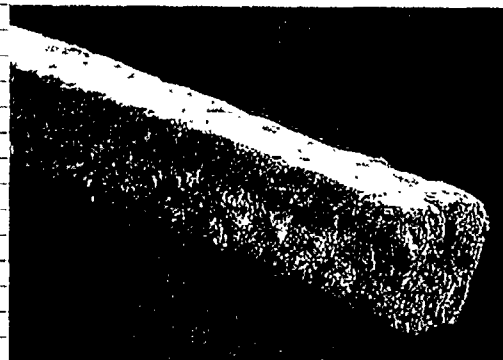
UTEX Graphite Packings

Manufactured from the highest quality graphite yarns that can be treated with a special PTFE or graphite powder lubricant. Ideally suited for use in severe service applications such as in valves, high-speed shafts, and reciprocating rods in petrochemical, chemical and related industries.

Style 229

Pure graphite yarns lubricated with PTFE and graphite lubricant. Recommended for most corrosive acids and caustics in high temperature applications, including nuclear services, TexLok Interbraid.

Uses:	Rotary equipment, valve stems
Temperature:	to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
pH Range:	0 to 14
Shaft Speed:	to 5000 fpm



Style 230

Graphite filament yarns braided with a light PTFE break-in lubricant. Has excellent heat dissipation characteristics that is ideal for difficult corrosive applications, TexLok Interbraid.

Uses:	Rotary and reciprocating shafts, valve stems, dryers, blowers
Temperature:	to 650°F in oxidizing atmosphere/ to 1200°F in steam or non-oxidizing atmosphere
pH Range:	0 to 14
Shaft Speed:	to 5000 fpm

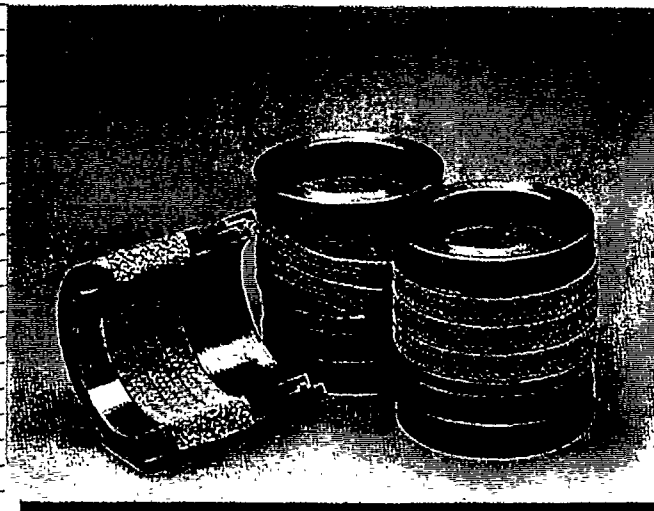


UTEX Spiral Unitized Packing Sets

Style 242 (Patent Pending)

Utex has developed an innovative concept in braided packing sets for use in all reciprocating equipment. Style 242 is made of pure aramid yarns interbraided with a stabilizing core. This unitized set of packings will not separate during storage or installation. The unique spiral unit eliminates the conventional leak path found in multiple ring die-formed sets and retards leakage even when the pump is idle. It is installed as a solid unit and can be used alone or in conjunction with spacers, wear rings or other items normally supplied with conventional die-formed sets.

This unique construction can be used with other styles of braided packing. Consult Utex for your specific requirements.



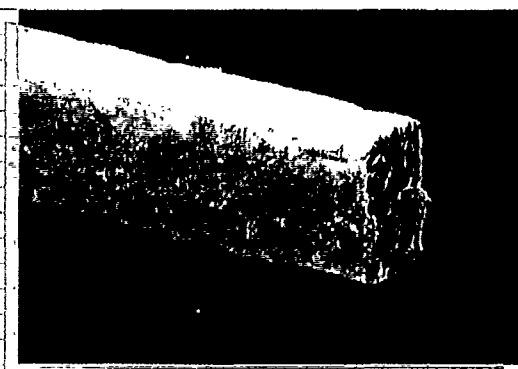
- 12 *Wide spectrum of styles to meet varied applications. Each style is specifically braided to provide optimum performance. Each is manufactured from the highest quality flax available with various treatments of lubricants to reduce heat and friction.*



Style 200

Square braided medium flax fibers treated with tallow and marine wax. General service packings recommended for cold water, cold oil and brine applications.

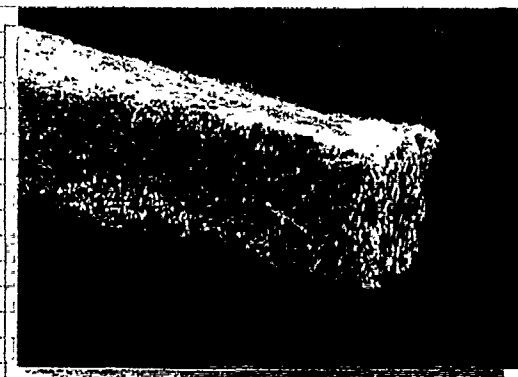
Uses:	Reciprocating, rotary equipment, medium pressure hydraulic rams, stern tubes
Temperature:	to 150°F
pH Range:	6 to 8
Shaft Speed:	1000 to 2000 fpm



Style 201

High quality long fiber flax roving, square braided with dispersion of PTFE throughout, plus surface coating for brine, cold water, and cold oil services.

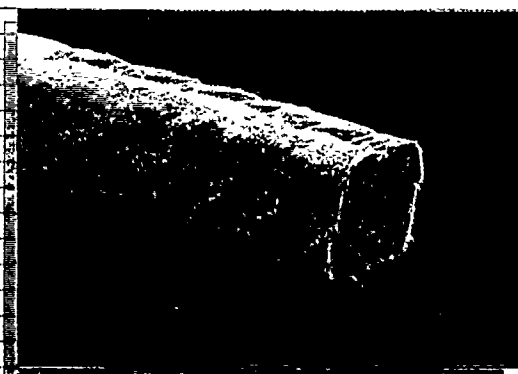
Uses:	Rotary equipment, valves, reciprocating rams and plungers, stern tubes
Temperature:	to 200°F
pH Range:	5 to 10
Shaft Speed:	to 1800 fpm



Style 204

Made from flax fibers that are thoroughly impregnated with tallow and wax. Square braided, plus a graphite lubricant for heavy duty hydraulics, brine, cold water and oils.

Uses:	General hydraulics, valves, rotating and reciprocating equipment, stern tubes
Temperature:	to 200°F
pH Range:	5 to 9
Shaft Speed:	1000 to 1200 fpm



Style 206

Unique Square braided flax fibers impregnated throughout with PTFE to seal the fibers, surface treated with a special break-in lubricant and dry PTFE particles.

Uses:	Rotating shafts, stern tubes
Temperature:	to 200°F
pH Range:	5 to 10
Shaft Speed:	to 1800 fpm

COMBINATION DIE FORMED PACKING SETS

Engineered Packings for specific applications where extreme high pressures, chemicals and high pressures exist. Combining various die formed materials provides the best sealing with the least amount of maintenance. Die forming each pressure ring provides the proper density and offers easy installation. These pressure formed packing sets are often furnished with anti-slugging spacers to prevent extrusion. Spacers may be furnished from high tech plastics, PTFE, nylon, alloys and elastomeric composite materials. The elastomeric composite material spacers are a convex shape. Because of the convex shape, the spacer design enhances sealability of each pressure ring to maintain uniform contact on all sealing areas. Consult UTEX or authorized distributors about your application.



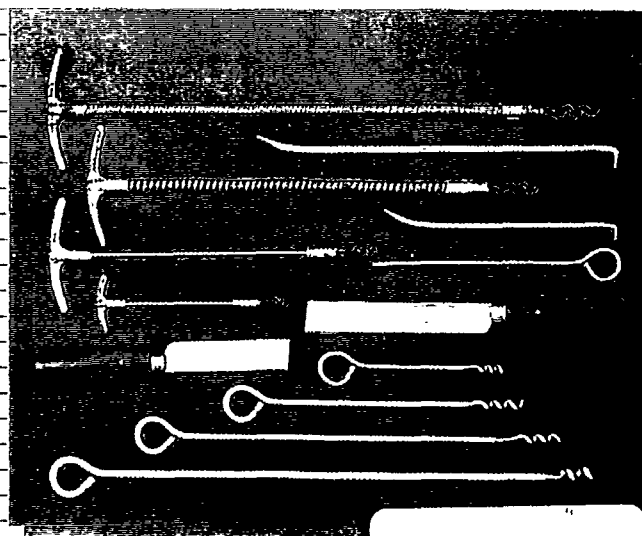
DIE FORMED PACKING RINGS/SETS

Pressure formed rings or specified sets are preferred in many applications. Die forming by pressure results in accurate density and precise size of each packing ring for easy installation and minimum gland adjustment. Specify style number, inside and outside diameters, number of rings required per set, and butt or bevel cut.



PACKING TOOLS, HOOKS and KNIVES

Rigid and flexible packing hooks are made from special tool steel and spiral steel shafts. Hardened ground knives offer long life for use with braided packings. Each available in sets or individually.



UTEX Texturized Glass Packings

- 14 *Designed and manufactured from high quality, dense glass fibers that have been processed to rigid specifications. These texturized yarn packings are stable, heat resistant and are highly resistant to most chemicals.*

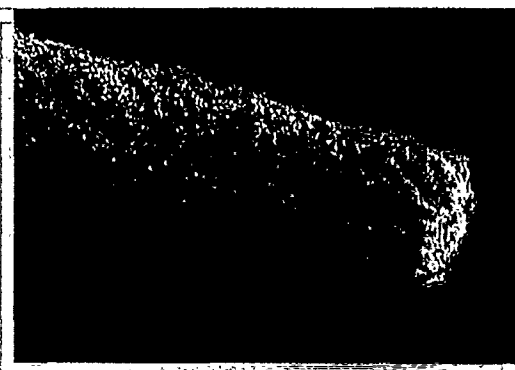


Style 132

High density texturized glass rope, designed for maximum flexibility and strength. Special coating available to achieve desirable properties in forming.

Uses: Casting molds, boilers, expansion joints

Temperature: to 1000°F



Style 161

Twisted proprietary strands of glass roving, treated with special lubricants and coated with graphite. Suited for mild acids, steam, oil and brine in general service.

Uses: Small valve stems, rotary shafts

Temperature: to 450°F

pH Range: 4 to 10

Shaft Speed: to 1900 fpm



Style 162

Similar to Style 161, strands of glass roving loosely twisted to required size. Recommended for heat sensitive applications.

Uses: Small valve stems, rods

Temperature: to 450°F

pH Range: 4 to 10



Style 163

Constructed from tightly twisted multiple strands of glass fibers. Widely used throughout due to flexibility, durability, and temperature resistance.

Uses: Valves, expansion joints, fittings and molds

Temperature: 120°F to 1000°F depending on application

Designed to provide maximum sealing efficiency. Proprietary organic binders, glass fibers, graphite flakes and special sacrificial inhibitors compounded to meet extreme conditions. Each style is specifically engineered to stay resilient and is easily controlled by gland adjustment

Style 681

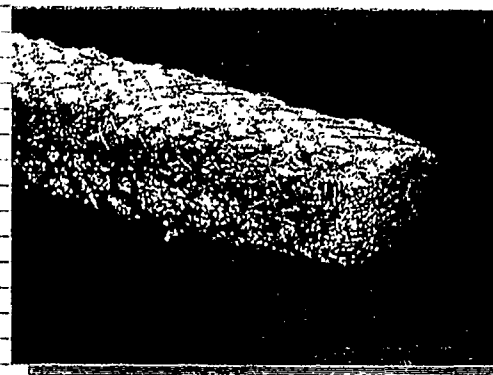
Consists of special composite core with braided cotton jacket for long-lasting service in steam, water, ammonia, gases and oil applications.

Uses: Valves, rotary and centrifugal shafts

Temperature: to 550°F

pH Range: 3 to 8

Shaft Speed: to 1900 fpm



Style 683

This braided synthetic packing contains a special core of flake graphite, corrosion inhibitors, composite fillers and organic binders with Inconel wire inserted carbon/synthetic fiber jacket treated with graphite and corrosion inhibitors.

Uses: Valve stems, rods, expansion joints, glass fittings

Temperature: to 800°F

pH Range: 3 to 11



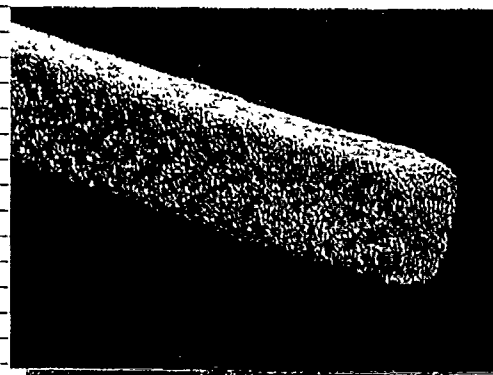
Style 684

Consists of a braided jacket of Inconel wire inserted carbon/glass fibers treated with graphite and corrosion inhibitors around a special core made up of flake graphite, corrosion inhibitors, composite fillers and organic binders.

Uses: Rods, valve stems, expansion joints, glass fittings, door seals

Temperature: to 1200°F

pH Range: 1 to 12



Style 685

High Tech Packing made of high purity TexLok® braid carbon yarn core with overbraid of Inconel wire reinforced carbon/glass jacket. Resistant to most chemicals in demanding service conditions.

Uses: Valve stem packings, soot blower packings, control valve packings, and other high temperature applications.

Temperature: to + 850°F in air
to + 1200°F in steam or inert atmosphere

pH Range: 0-14

Pressure: to 4500 psi at 1200°F steam*

*Dependent on condition of equipment and application

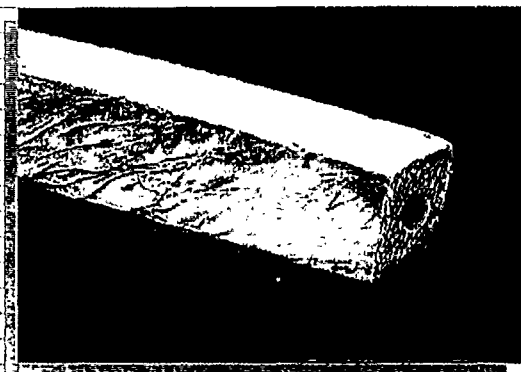


MARLO 004593

Injectable Plastic Packings are also available in bulk, stick or strip form to cover a wide range of temperatures and services. Specifically formulated from a variety of non-asbestos composites for easy loading of plastic injection equipment. Consult UTEX for specific details.

UTEX Metallic Packings

- 16 *Constructed from thin ribbons of low friction special alloy foils. Each is thoroughly treated with a high temperature oil and graphite. Each style offers a wide range of sealability for specific applications in water, saturated steam, light and heavy oils, air, ammonia and gasolines.*



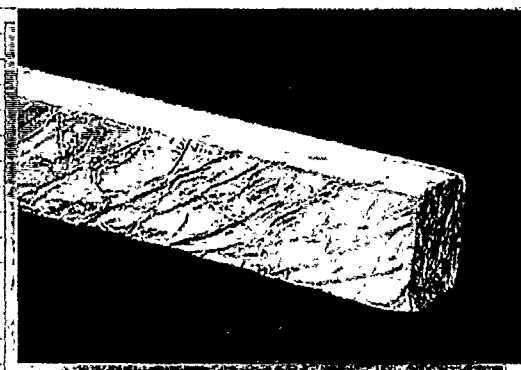
Style 609

Special alloy lead foil is wrapped in layers around an elastomeric core treated with graphite, high temperature oils. It is suitable for water, oils and mild chemicals.

Uses: Rotary and reciprocating shafts

Temperature: to 250°F

pH Range: 4 to 10



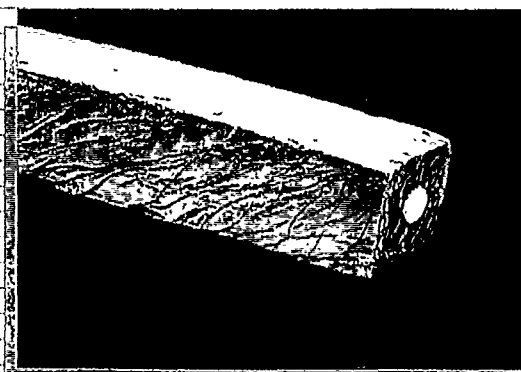
Style 610

Soft ribbons of special alloy lead foil, each layer of foil is thoroughly lubricated and graphited, twisted and crimped construction for steam, gasoline, oils, etc.

Uses: Centrifugal and reciprocating shafts, valves

Temperature: to 500°F

pH Range: 4 to 10



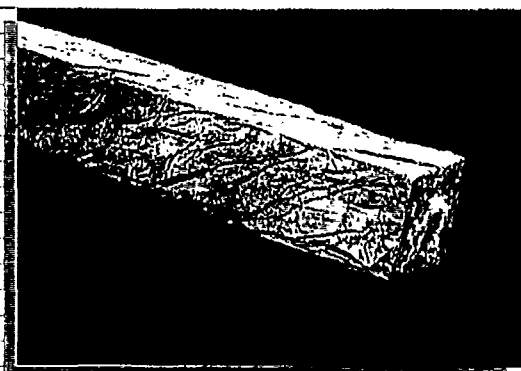
Style 616

Thin layers of alloy lead foil are wrapped, layer over layer around proprietary fiber core to provide added resilience. Treated with high temperature oil and graphite. Suited for water, oil, steam, etc.

Uses: Centrifugal and reciprocating shafts, valves

Temperature: to 500°F

pH Range: 4 to 10



Style 631

Thin ribbons of aluminum foil material, each layer treated with a special lubricant and graphite, are twisted and crimped around a fiberglass core producing a flexible, resilient packing.

Uses: Hot oil charge pumps, valves, centrifugal pumps

Temperature: to 1000°F

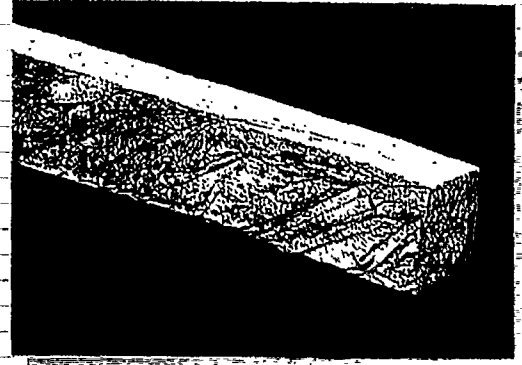
pH Range: 4 to 10

Style 632

Aluminum foil ribbons, thoroughly lubricated and graphited, are twisted and crimped to size for hot oils, steam, mild chemicals, etc.

Uses: Hot oil valves, boiler feed pumps, centrifugal pumps
 Temperature: to 1000°F
 pH Range: 4 to 10

Additional alloy foil packings are available on request, please consult UTEX.

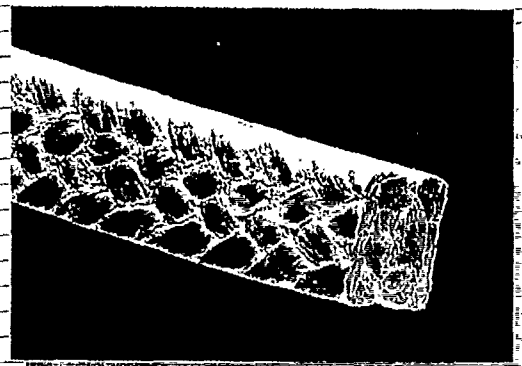


UTEX Technical Specialities

Style 248

TexLok interbraid, thermoset synthetic Novoloid fibers treated with PTFE throughout and a non-silicone break-in lubricant. Excellent where nonstaining, high speed, and non-abrasive packing is required.

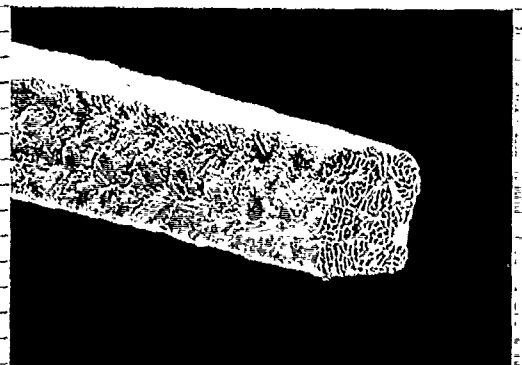
Uses: Rotary and centrifugal equipment, pulp and paper equipment
 Temperature: to 500°F long term, to 750°F short term
 pH Range: 1 to 14 (except in concentrated hot sulfuric or nitric acid)
 Shaft Speed: to 1800 fpm



Style 251

TexLok interbraid, PTFE impregnated proprietary fiber with a proprietary blocking agent and a non-silicone break-in lubricant to create a packing with a similar chemical resistance to PTFE, without the thermal expansion characteristics of PTFE.

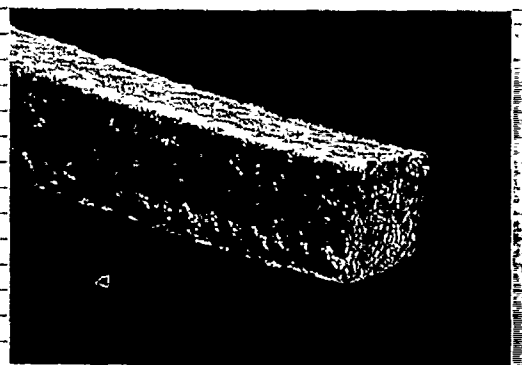
Uses: Rotary and centrifugal equipment, valve stem, pulp and paper equipment
 Temperature: to 500°F
 pH Range: 1 to 14 (except in concentrated oxidizing acids)
 Shaft Speed: to 2500 fpm



Style 279

TexLok interbraid, thermoset synthetic Novoloid fibers individually treated with PTFE and graphite, then braided and surface coated with a multi-process break-in lubricant. This packing is non-abrasive and chemical resistant.

Uses: Centrifugal and rotary equipment
 Temperature: to 500°F long term, intermittent to 750°F
 pH Range: 1 to 14
 Shaft Speed: to 3500 fpm



Comparative Style Chart

18

UTEX	CONSTRUCTION MATERIALS	CRANE	CHESTERTON	GARLOCK	DURA-METALLIC	PHELPS
132	Knitted Fiberglass					
161	Twisted Glass Yarn, Lube & Graphite					
162	Twisted Glass Wick					
163	Twisted Glass Rope					
200	Flax, Tallow, Wax, Square Braid	863	80	31		3014
201	Flax, PTFE, Square Braid	867		5413	FLX-TL	3110
204	Flax, Tallow, Wax, Surface Graphite, Square Braid	866	81	131		3111
206	Flax, PTFE Impregnated, Break-in Lube w/Surface PTFE, Square Braid		329			
208	Synthetic Yarn, PTFE & Graphite Lube, Surface Graphite & PTFE, TexLok Interbraid					2070
209	Graphite Impregnated PTFE, w/PTFE Filament, TexLok Interbraid					
210	GFO®, TexLok Interbraid	1065	1750	6 • 5100	TGF	2026
212	Aramid Fiber, TexLok Interbraid	K1730	1740	5200	KT	2042
213	Aramid Fiber w/PTFE Lube, TexLok Interbraid					
214	Aramid Fiber Corners, Graphite Impregnated PTFE Centers, Texlok Interbraid	C1064		6K	TKF	
215	Aramid Fiber, Alternating PTFE Filament, TexLok Interbraid					
216	Aramid Fiber, Alternating Graphite Impregnated PTFE, TexLok Interbraid					
217	Aramid Fiber Corners, PTFE Center, TexLok Interbraid					
220	Spun Aramid, PTFE Impregnated, TexLok Interbraid	K1760	1774	4 • 8922		
222	Spun Aramid, Oil, PTFE, Wax, TexLok Interbraid					
223	Spun Aramid, PTFE, Moly, TexLok Interbraid					
225	Spun Aramid, PTFE, Vac Grease, Graphite, TexLok Interbraid	K1761		8911		
226	Spun Carbon Yarn, Lubricated w/PTFE & Graphite, TexLok Interbraid	1650CF	370	98	CG	2010
227	Spun Carbon Yarn, Inconel Wire Inserted, Graphite On Request, TexLok Interbraid					
228	Spun Carbon Yarn, PTFE Coating, TexLok Interbraid	1655C	1738	5000		
229	Graphite Filament w/PTFE & Graphite Lubricant, TexLok Interbraid	1630	1	G200	DDG	2000
230	Graphite Filament w/PTFE Break-in Lubricant, Texlok Interbraid	1625GF	2	100		2005
231	Pure PTFE Filament, Suspensoid, Light Break-in Oil, TexLok Interbraid	C1050	1728	5889	TL66	2034
232	Pure PTFE Filament, Suspensoid, TexLok Interbraid	C1045	1724	5888	TE	2033
233	Synthetic Yarn, Graphite, Break-in Lubrication, Square Braid					
234	Synthetic Yarn, PTFE, Break-in Lubrication, Square Braid					
235	Synthetic Yarn, PTFE Impregnated, Square Braid					
236	Synthetic Yarn, Graphite, Break-in Lubrication, TexLok Interbraid	1340		8913	SG	
237	Synthetic Yarn, PTFE, Break-in Lubrication, TexLok Interbraid	1335				5014
238	Synthetic Yarn, PTFE Impregnated, TexLok Interbraid	1330			ST	5024
239	Multi-Core, Graphite Impregnated PTFE Around Nitrile Cord, Composite Braid					
240	Multi-Core, Aramid Fiber Around Silicone Cord, Composite Braid					
241	Aramid Fiber Corners, Synthetic Yarn Center, TexLok Interbraid			8921K		
243	Multi-Core, Graphite Impregnated PTFE Around Atlas® Cord, Composite Braid					
244	Graphite Impregnated PTFE, Break-in Lubricant, TexLok Interbraid					
245	FDA Approved PTFE Filament, Special Break-in Lubricant, TexLok Interbraid	715	1725	5900		2031
246	Graphite Impregnated PTFE Corners, Special Alloy Center, TexLok Interbraid					
247	White Aramid Fiber, High Temperature Lubricant, TexLok Interbraid					
248	Novoloid Fibers, PTFE Impregnated, Surface PTFE & Break-in Oil, TexLok Interbraid		1727			
249	Carbon Filament, PTFE Impregnated, TexLok Interbraid					
251	PTFE Impregnated Fiber, Proprietary Oils, TexLok Interbraid			20/20		
276	Oxygen Service PTFE, Pure PTFE Filaments, No Lubricants, TexLok Interbraid	704		5883		
277	Multi-core, Synthetic, w/PTFE & Graphite, Around Nitrile Cord, Composite Braid					
278	FDA Pure PTFE Filaments Around FDA Silicone Cord, Composite Braid					
279	Novoloid Fibers, PTFE & Graphite Lubrication, Non-Silicone Break-in Lube, TexLok					
609	Lead Foil w/Nitrile Core	100M				
610	Lead Foil, Twisted And Crimped	100	555	632	B	
616	Lead Foil, Glass Core				B10	
631	Aluminum Foil, Glass Core	100AL	666	915	D10	
632	Aluminum Foil, Twisted And Crimped	124			D	
681	Plastic Packing, High Temperature					
683	Synthetic Core, Inconel Wire Inserted Carbon Jacket, Graphite Lube	87-I		127	HPW	4000
684	Synthetic Core, Inconel Wire Inserted Carbon/Glass Jacket, Graphite Lube			127AFP		
685	Carbon Yarn Core, Inconel Wire Inserted Carbon/Glass Jacket, Graphite Lube			129B		

Utex Industries has made every effort to provide exact equivalents between manufacturers' products. However, no representation or warranty of accuracy is implied or stated.

MARLO 004596

You can count on UTEX for performance...where performance counts most!

OTHER UTEX PRODUCTS

UTEX manufactures a full line of other types
of packing and seal systems,
complex molded elastomers, thermoplastic and urethane components.
For additional information consult your
UTEX representative.



UTEX INDUSTRIES, INC.

Taking Sealing Technology Beyond Tomorrow

P.O. Box 79227 / 10810 Katy Road / Houston, Texas 77279
Telephone (713) 467-1000 or 1 (800) 359-9229 / Telex 794317
FAX (713) 464-8393 or 1 (800) 359-9230

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Comparative Style Chart

22

UTEX	CONSTRUCTION/MATERIALS	CRANE	CHESTERTON	GARLOCK	DURA-METALLIC	PHELPS	SEPCO
200	FLAX, TALLOW WAX, SQ. BRAID	863	80	31		3124	2 31
201	FLAX, PTFE, SQ. BRAID	867	329	5413	FLX-TL	3110	219
202	FLAX, WATERPROOF w/ or w/o SURFACE GRAPHITE, SQ. BRAID	861	85	31		3114	2WPH
203	FLAX, LEAD WIRE, TALLOW/WAX, RED POLISHING COMPOUND, SQ. BRAID						
204	FLAX, TALLOW/WAX, SURFACE GRAPHITE, SQ. BRAID	866	81	131		3111	31
209	GFO w/PTFE FILAMENT, TexLok INTERBRAID						
210	GFO, TexLok INTERBRAID	C1065	1750	5 5100	TGF	2026	ML4002
211	GFO 64, TexLok INTERBRAID	C1035					ML4000
212	ARAMID FIBER, TexLok INTERBRAID	K1730	1740	5200	KT	2042	ML4800
213	ARAMID, PTFE LUBE, TexLok INTERBRAID	K1760					
214	ARAMID, GFO CENTER, TexLok INTERBRAID	C-1064					ML4004
215	ARAMID, ALTERNATING PTFE YARN, TexLok INTERBRAID						
216	ARAMID, ALTERNATING GFO, TexLok INTERBRAID						
217	ARAMID CORNERS, PTFE YARN, TexLok INTERBRAID						
218	ARAMID CENTER w/SPUN ARAMID CORNERS, TexLok INTERBRAID						
220	SPUN ARAMID PTFE IMPREGNATED, TexLok INTERBRAID	K1745	1774				ML6225
221	SPUN ARAMID, OIL, WAX, TexLok INTERBRAID						
222	SPUN ARAMID, OIL, PTFE, WAX, TexLok INTERBRAID						
223	SPUN ARAMID, PTFE, HOLY, TexLok INTERBRAID						
224	SPUN ARAMID, VAC GREASE, PTFE, TexLok INTERBRAID						
225	SPUN ARAMID, PTFE, VAC GREASE, GRAPHITE, TexLok INTERBRAID	K1761					
226	SPUN CARBON, GRAPHITE ON REQUEST, TexLok INTERBRAID	1650CF	370	98	CG	2010	ML4460
227	SPUN CARBON, INCONEL W1, GRAPHITE ON REQUEST, TexLok INTERBRAID						
228	SPUN CARBON, PTFE COATED, TexLok INTERBRAID	1655C	1738	5000			ML4461
229	GRAPHITE FILAMENT, GRAPHITE, TexLok INTERBRAID	16306	1	6200	DDG	2000	ML4500
230	GRAPHITE FILAMENT, PTFE, TexLok INTERBRAID	16256	2				
231	PTFE, SUSPENSOID, LIGHT BREAK-IN OIL, TexLok INTERBRAID	C-1045	1728	5889	TL66	2033	ML2235
232	PTFE, SUSPENSOID, TexLok INTERBRAID	C1050	1724	5888	TE	2034	ML2245
233	SYNTHETIC YARN, GRAPHITE, LUBE, SQ. BRAID						
234	SYNTHETIC YARN, PTFE, LUBE, SQ. BRAID						
235	SYNTHETIC YARN, PTFE, SQ. BRAID						
236	SYNTHETIC YARN, LUBE, GRAPHITE, TexLok INTERBRAID	1340		8913			ML6402
237	SYNTHETIC YARN, LUBE, PTFE, TexLok INTERBRAID	1335					
238	SYNTHETIC YARN, PTFE, TexLok INTERBRAID	1330					
239	MULTI-CORE, GFO, BUNA CORD, COMPOSITE BRAID						
240	MULTI-CORE, ARAMID, SILICON CORD, COMPOSITE BRAID						
132	KNIT FIBERGLASS						
161	TWISTED GLASS YARN, LUBE & GRAPHITE						
162	TWISTED GLASS WICK						
163	TWISTED GLASS ROPE						F6800
609	LEAD FOIL w/RUBBER CORE						
610	LEAD FOIL, TWISTED & CRIMPED	100	555	632	B		180
616	LEAD FOIL, GLASS CORE						
680	PLASTIC PACKING, GENERAL SERVICE, BULK						
681	PLASTIC PACKING, HIGH-TEMP						
683	SYNTHETIC CORE, CARBON/GLASS, INCONEL/W1, GRAPHITE LUBE	18716					

UTEX INDUSTRIES HAS MADE EVERY EFFORT TO PROVIDE EXACT EQUIVALENTS BETWEEN MANUFACTURER'S PRODUCTS. HOWEVER, NO REPRESENTATION OR WARRANTY OF ACCURACY IS IMPLIED OR STATED.

MARLO 004599

UTEX	PARKER	HANVILLE	RM	ANCHOR	HERCULES	GREEN TWEED	DELAWARE VALLEY	AMERICAN BRAIDING	MARLO	NEB	INDUSTRIAL	LATTY	MERKEL	BURGMANN
200	5550	CW2	522	380	CW 201	1600			870		180			
201	5448	CW3	523	381T	381T	1613	525T	345	889		185	1778		
202	5537	181	525	351WPH	221		525	921	870	1015				
203				387F										
204	55506T0	CW2 189	552	386	CW 201	16006								
209														
210	5740L	AF5326	845	1128	1062	1385	165	8000T	462	4357	102	4207	6323	6230
211	5705L	AF700												
212	5730L	AF5317	981	1335	1064	1350	DV170	300	188	5057	150	4788	6215	6426
213											160			
214	5734L										104			6430K1
215	5738L													
216	5735													6430K2
217												4758		
218														
220	5728L			1334	9140	1588	480		270	5156	162	4789		
221														
222														
223					9150									
224	5726													
225														
226	5702L	C19	861	1332	1098	1585	DV90		314	7001	705	TSP		
227							DV50							
228	5703L	V4		1343CT		1588		4000	315	7050	706			
229	5701L	C2		1342	1080	1550		8000	303		707			6011
230						1555			302		707T		6575	6030SP
231	5708	CX1	849	1162	1050	1367S	1545	344 BIL	400	4057	98		6313	6225
232	5707	VX2	847	1121	1060	1367H	154	344	420		100	3206S	6375	6226
233												3206		
234														
235														
236	5726L			1333			400							
237									ASD					
238														
239														
240														
132														
161														
162														
163														
609														
610	2004	393		850	405	4010								
616														
680														
681														
683														

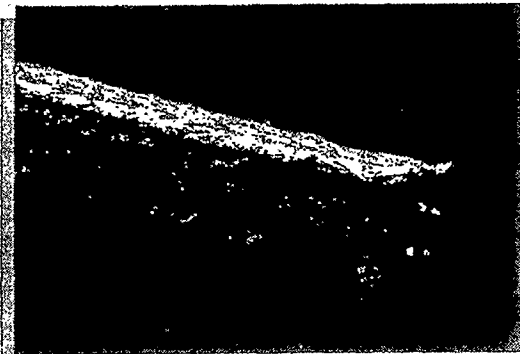
12 **Manufactured from high quality carbon yarn, provides low coefficient of friction, high thermal conductivity, and a high chemical resistance. Suited for applications with acids, strong caustics, hot oils, steam and solvents under a wide range of non-oxidizing environments. Special lubricants can be applied that provide added protection against heat and shaft wear.**



Style 226

Unique low friction carbon yarn controls wear evenly during long service life. Multi-service applications in hydrocarbons and chemicals where carbon is suitable. Graphite particle treatment is optional.

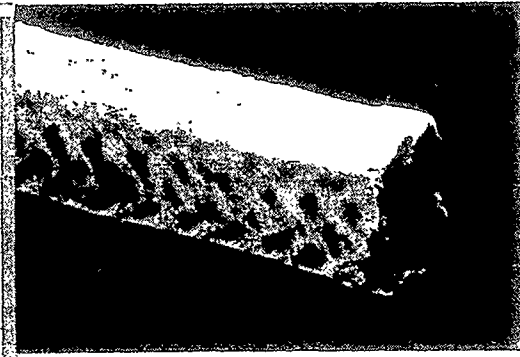
Uses.	General service rotating and reciprocating shafts, high temperature valves
Temperature.	to 650°F in oxidizing atmosphere/ to 1200°F in steam
pH Range.	0 to 14, except in strong oxidizers
Shaft Speed	to 2000 fpm



Style 227

Braided carbon yarn with inconel wire inserted to provide added strength, common applications in hydrocarbons and chemicals. Special graphite particle treatment is available.

Uses:	High temperature valves, rotating shafts
Temperature.	to 650°F in oxidizing atmosphere/ to 1200°F steam
pH Range	0 to 14, except in strong oxidizers
Shaft Speed	to 1900 fpm



Style 228

Carbon filament packing is treated with PTFE to prevent carbon migration and provide excellent break-in qualities. For use in paper and pulp, hydrocarbons, water and most chemical services.

Uses:	Reciprocating and rotary shafts, valve stems, mixers
Temperature:	to 600°F
pH Range.	0 to 14
Shaft Speed:	to 2000 fpm

Manufactured from the highest quality graphite filament yarns that can be treated with a special PTFE or graphite powder lubricant. Ideally suited for use in severe service applications such as in valves, high-speed shafts, and reciprocating rods in petrochemical, chemical and related industries.

13

Style 229

Pure graphite yarns are coated with graphite lubricant. Recommended for most corrosive acids and caustics in high temperature applications, including nuclear services.

Uses: Rotary equipment, valve stems

Temperature: to 800°F air/ to 5300°F in steam

pH Range: 0 to 14

Shaft Speed: to 5000 fpm



Style 230

Graphite filament yarns braided with a light PTFE break-in lubricant. Has excellent heat dissipation characteristics that is ideal for difficult corrosive applications.

Uses: Rotary and reciprocating shafts, valve stems, dryers, blowers, etc.

Temperature: to 1000°F in oxidizing atmosphere/higher in non-oxidizing applications

pH Range: 0 to 14

Shaft Speed: to 5000 fpm

