Hi-Tech Seals

Gasket Catalogue

Volume 4

Our Vision

Provide superior value to our customers.

Our Mission

Supply quality products delivered on time, at a competitive cost, backed by a knowledgeable team of sealing professionals, so our customers may grow and prosper.

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Introduction

For over 33 years, Hi-Tech Seals has been recognized as a leader in the distribution and manufacturing of industrial seals, gaskets, elastomer and plastic solutions. We continually invest in new and innovative products, materials, and services with the intention of helping our customers grow and prosper in an ever-changing world economy.

We offer a personal solution to the business world, tailoring our business relationship to reflect the needs of our clients. We work alongside a variety of industries while maintaining a high standard for all our products and services. Our diverse supply chain allows our customers to be confident we will provide a solution that meets and exceeds their specifications.

After Hours Service

If you experience a seal or gasket emergency, our technical professionals are available 24 hours a day. Hi-Tech Seals offers after-hours service seven days a week to ensure our customers' businesses can continue operating. To assist our customers to the best of our ability, we also offer after hours Rapid Seal machining and Rapid Gasket manufacturing services. *Charges may apply, provided we can assist you.*

ISO 9001 Registered QMS

At Hi-Tech Seals, we are committed to our Quality Management System (QMS). Our first branch registered under an ISO QMS in 1996. We are proud to state that our entire company is registered under the ISO 9001:2015 Quality Management System. The four main goals of our policy include:

- Hi-Tech Seals shall distribute and/or manufacture a quality product that will meet our customers' expectations and applicable requirements.
- Hi-Tech Seals shall commit to quality objectives agreed upon by senior management, identified through a holistic and collaborative approach involving all potential stakeholders.
- Hi-Tech Seals shall strive to continually improve the Quality Management System (QMS) effectiveness based on efficient processes, well-defined measurements, and best practices.

Kit Creation Program

Our kit creation program offers customers a simplified system to order and reorder various seals and related products for maintenance or manufacturing.

We understand that our customers' kitting requirements range in complexity from basic to highly intricate. We offer three service levels that meet these varying demands. Our team of sealing professionals work closely with our customers to determine which service level best suits their needs. They can also assist customers with identifying and measuring kit components.

Once identified, the components are grouped into a single part number for fast and easy ordering and reordering. As required, customers can include additional instructions within their kits.

Kit creation program advantages:

- Increased inventory control
- Streamlined processes
- Consolidation of inventory
- Increased picking and assembly efficiencies
- Brand recognition

Gasket Measuring

We offer on-site gasket measuring services for treaters, free water knockouts, line heaters, dehydrators, and tanks. Our trained professionals use advanced equipment to measure gaskets quickly and accurately. Combined with our in-house cutting capabilities and the consolidation of consumable and complimentary products, our comprehensive solution minimizes downtime and reduces operating costs.

- **Advanced scanning technology** enables us to capture precise measurements in a fraction of the time.
- **Quick turnaround times** are achieved by utilizing our in-house scanning and cutting technologies.
- **Our extensive sheet material inventory** allows us to meet our customers various application conditions and industry requirements.
- **Our comprehensive product offering** extends to key consumables such as anodes, pigtails, isolation kits, bolts, studs, nuts, and spiral wound gaskets.
- **Simplified reordering process** for customers by providing a single site number to reorder gaskets and consumables.

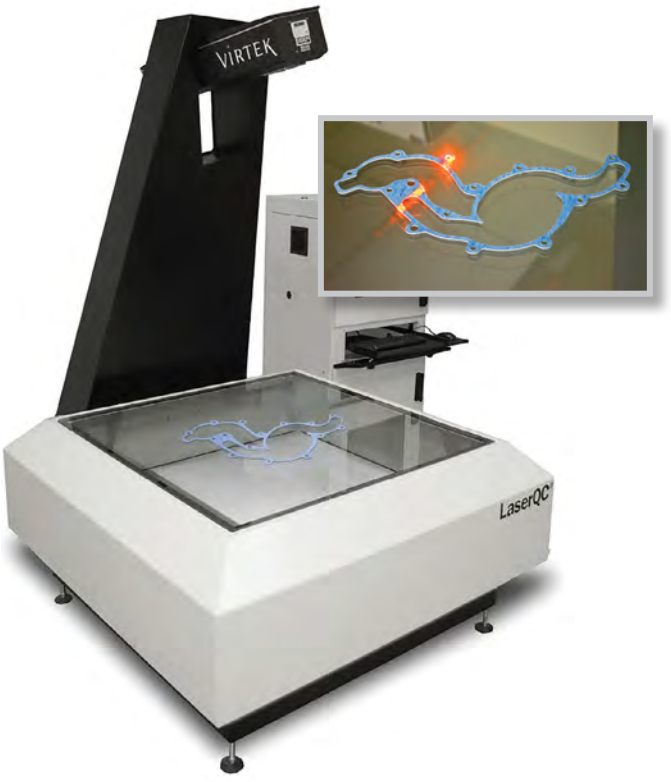
Rapid Gasket

Rapid Gasket is our in-house elastomer, plastic, and compressed sheet gasket manufacturing service. Our team of professionals uses cutting-edge equipment to measure and manufacture gaskets that meet and exceed our customers' application requirements.

Standard or custom-cut gaskets can be produced based on customer-supplied samples, drawings, or flange dimensions. Cut gaskets saves customers the long lead times and expensive tooling or moulding costs.

Rapid Gasket advantages:

- Quick turnaround times
- No minimum quantities
- Extensive inventory of elastomer, plastic, and compressed sheet in various thicknesses
- Custom designed solutions to customer specifications
- Access to engineering and drafing services
- Strict quality control and inspection procedures



LaserQC®

We employ a Virtek LaserQC® machine to assist in reverse engineering, quality inspection, quality control, and statistical process control. Designed for a manufacturing environment, this rapid inspection device uses lasers to measure 2-dimensional parts.

It can captures over 500 data points per second, while maintaining a tolerance of ± 0.05mm (0.002"). Our LaserQC® allows our gasket professionals to:

- Modify scanned data, if needed, to optimize drawing tolerances for production
- Compare production drawing to the final product
- Generate reports for traceability and statistical analysis to meet quality requirements

Rapid Gasket

Equipment

Knife Cutter

Our Atom Flashcutters use CAD renderings to quickly manufacture gaskets from rubber, plastic, and composite materials. Their surface area can accommodate sheet material up to 60" × 120". For gaskets that exceed the bed size, we can use a dovetail or skiving technique. There is no limit to the size of gaskets we can manufacture.

Our knife cutters use a rapid vertical reciprocating movement to cut through sheet material. This produces a cleaner-finished gaskets without the compression marks that can appear when other manufacturing methods are used. We are able to maintain exceptional tolerances on our gaskets.

Materials

Our extensive inventory of rubber, plastic, and composite sheet materials allows for the quick turnaround of cut gaskets. To meet a range of application and industry requirements, our sheet is available in commercial, industrial, and premium grades. Select materials are FDA-compliant, and NSF and MIL-SPEC certified.

Need guidance selecting the right material? Our knowledgeable team of professionals can assist in determining the material solution to optimize gasket and application performance.

Composite Non-Asbestos

AraLite™ Compressed Sheet
BA-U
BA-50
BA-CF

Thickness: 1/64", 1/32", 1/16", 1/8"
Sheet Size: 5' × 5', 5' × 10', 5' × 15'

Composite Flexible Graphite

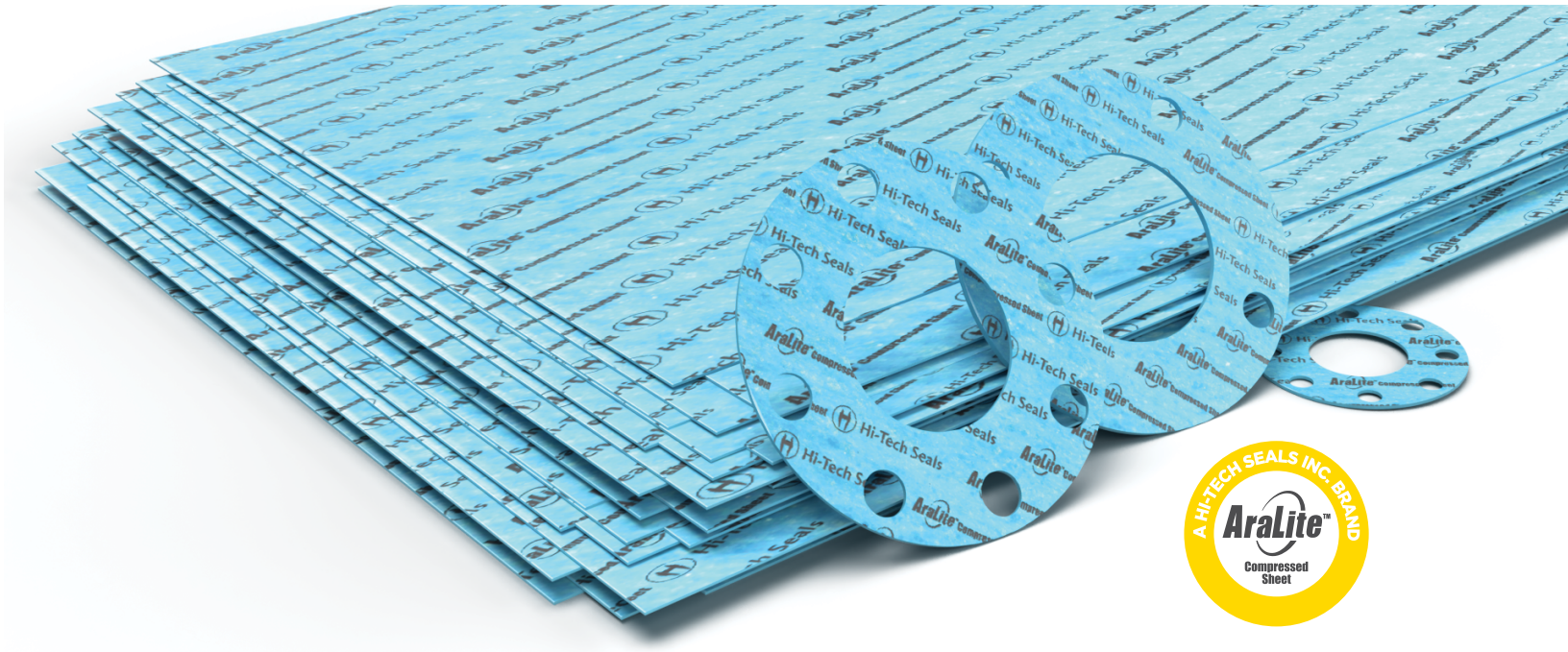
Grafilit® SF
Grafilit® SL
Grafilit® SP

Thickness: 1/64", 1/32", 1/16", 1/8"
Sheet Size: 3' × 3'

Rubber and Plastic

RyFlor™ RF40
Nitrile
Hydrogenated Nitrile
White Nitrile
Nitrile Sponge
Cork/Nitrile
Viton™/Fluorocarbon
PTFE
Ethylene Propylene (EPDM)
Neoprene/Chloroprene
Silicone
Silicone Sponge w/PSA Backing
UHMW-PE
Neo-Nylon
Red Rubber
Vegetable Fibre/Plant Fibre
Natural Rubber

Thickness: 1/64”, 1/32”, 1/16”, 1/8”, 3/16”, 1/4”
Sheet Size: 4’ × 25’, 4’ × 50’, 4’ × 100’



AraLite™ Compressed Sheet

Technical Data	Standard	Value
Density, g/cm³	DIN 28090-2	1.7
Compressibility, %	ASTM F36/J	11
Recovery, %	ASTM F36/J	60
Tensile Strength, MPa	ASTM F152	12
Stress Resistance	DIN 52913	
16h @ 175°C, 50 MPa, MPa		27
16h @ 300°C, 50 MPa, MPa		23
Thickness Increase	ASTM F 146	
ASTM Fuel B, 5h @ 23°C, %		2
Oil IRM 903, 5h @ 150°C, %		5
Specific Leakage Rate, mg/(s·m)	DIN 3535-6	0.02
Max Operating Conditions		
Peak Temp, °C (°F)		350 (662)
Continuous Temp, °C (°F)		250 (482)
With Steam Temp, °C (°F)		200 (392)
Pressure, bar (psi)		100 (1450)

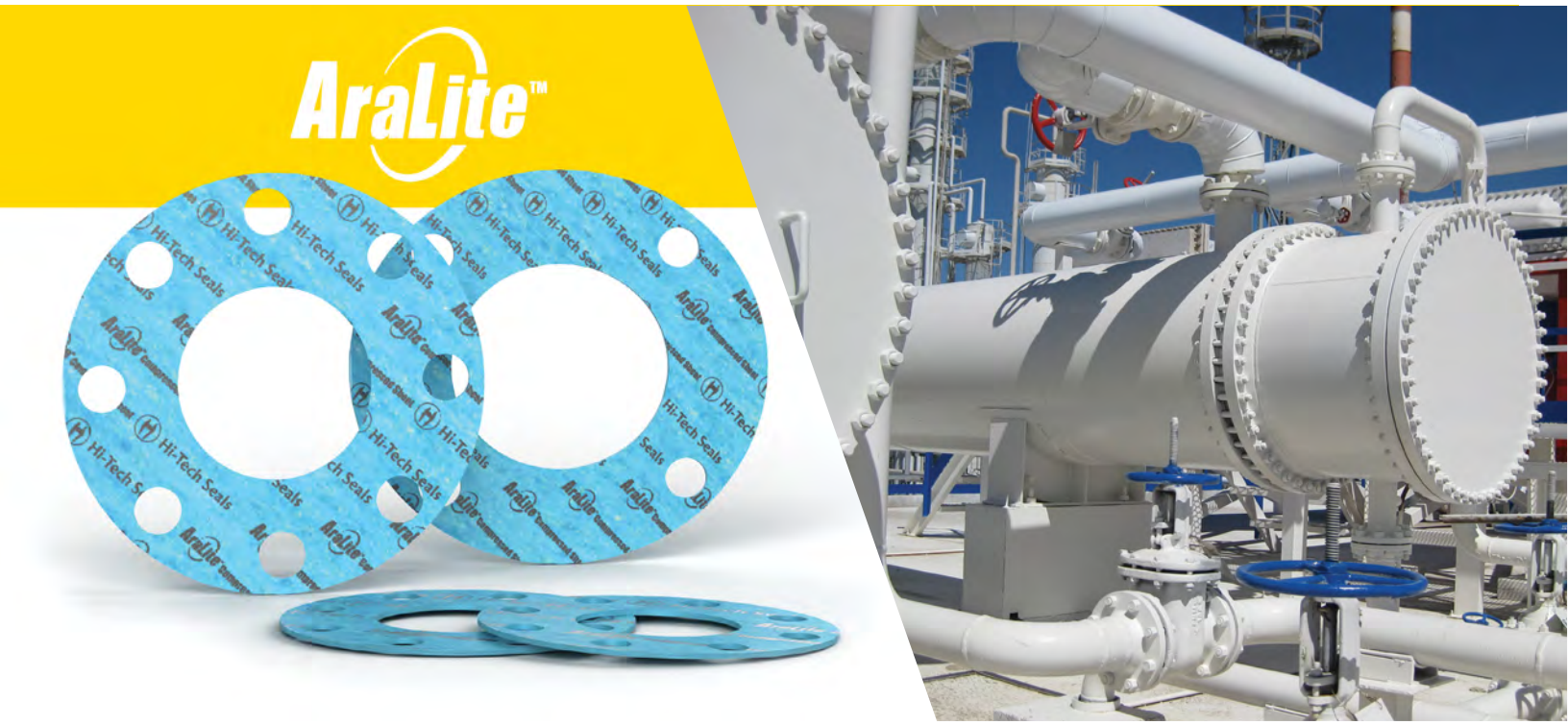
General Properties & Applications:

- Good chemical, mechanical, and thermal properties
- General-purpose material
- Suitable for gas and potable water supplies

Approvals:

- DVGW (DIN 3535-6)
- SVGW (DIN 3535-6)
- DVGW (DIN 30653)
- WRAS
- BAM (Oxygen)
- TZW W270
- AGA AS 4623
- ABS
- DNV GL
- EC 1935/2004
- TA Luft (VDI 2440)
- ELL (hot)

Materials



AraLite™ is Hi-Tech Seals', high-quality, cost-effective, general purpose gasket material. It is composed of high-strength aramid and inorganic fibres, reinforced with a nitrile binder. AraLite™ exhibits an outstanding combination of thermal, mechanical, and chemical properties that help maintain critical applications.

This general-purpose gasket material is excellent for use in oil, hot and cold water, steam, natural gas, new generation refrigerants, and many other liquids and gases. It helps ensure leak-free performance and prevents costly fluid and gas losses. Aralite's high compressibility allows it to conform tightly to irregular surfaces, accommodating various machinery and equipment.

AraLite™ compressed sheet advantages:

- Excellent sealing capability
- Good compressibility and recovery
- Remarkable thermal resistance
- Superior mechanical and chemical properties
- Exceptional performance in connection with gas
- Excels in a wide range of applications
- Wide temperature range

AraLite™ demonstrates its value as a cost-effective, easy-to-handle, and long-lasting material that significantly improves overall efficiency and reduces emissions.

AraLite™ is used in numerous applications across an endless number of markets and industries, including:

- General-Purpose
- Oil and Gas
- Treaters
- Valves
- Compressors and Pumps
- Automotive
- Food & Beverage
- Heatimg Systems
- Refrigeration and Coolind
- Portable Water & Wastewater

Physical Properties	Value
Pressure Range, psi (MPa)	Vacuum to 1450 (10)
Operating Temp., °C (°F)	-200 to 250 (-328 to 482)

Common sheet thickness range is from 1/64" to 1/4".

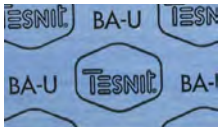
For more information on AraLite™ compressed sheet contact us at *info@hitechseals.com.*

**The above information is correct based on our knowledge at the date of its publication. The temperature range listed is a general guideline and final suitability will depend on various application conditions. To ensure this material meets customers' final requirements and safety demands, we recommend customers conduct their own testing.*

Composite Materials

Non-Asbestos

BA-U
Aramid Fibres, Nitrile



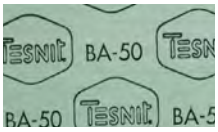
General Properties & Applications:

- Good chemical, mechanical, and thermal properties
- General-purpose material

Approvals:

- DVGW (DIN 3535-6)
- SVGW (DIN 3535-6)
- DVGW (DIN 30653)
- TA Luft (VDI 2440)
- WRAS
- BAM (Oxygen)
- TZW W270
- AGA AS 4623
- ABS
- DNV GL
- EC 1935/2004
- ELL (hot)

BA-50
Aramid Fibres, Nitrile



General Properties & Applications:

- Good chemical resistance
- Suitable for higher loads
- Wide general application in gas, food, and chemical industries

Approvals:

- DVGW (DIN 3535-6)
- SVGW (DIN 3535-6)
- DNV GL
- ELL (hot)
- TZW W270
- WRAS
- EC 1935/2004
- TA Luft (VDI 2440)

BA-CF
Carbon Fibres, Nitrile

General Properties & Applications:

- Excellent resistance to steam
- Chemical and petrochemical industries

Approvals:

- DVGW (DIN 3535-6)
- DVGW (DIN 30653) (5 bars)
- DNV GL
- BAM (Oxygen)
- BS 7531 Grade X

Technical Data	Standard	BA-U	BA-50	BA-CF
Tensile Strength, MPa	ASTM F152	12	11	12
Recovery, %	ASTM F36/J	60	55	62
Compressibility, %	ASTM F36/J	11	9	9
Density, g/cm³	DIN 28090-2	1.7	1.8	1.8
Thickness Increase	ASTM F 146			
ASTM Fuel B, 5h @ 23°C, %		5	10	4
Oil IRM 903, 5h @ 150°C, %		2	8	2
Specific Leakage Rate, mg/(s·m)	DIN 3535-6	0.02	0.07	0.04
Stress Resistance	DIN 52913			
16h @ 175°C, 50 MPa, MPa		27	25	37
16h @ 300°C, 50 MPa, MPa		23		30
Max Operating Conditions				
Pressure, bar (psi)		100 (1450)	80 (1160)	120 (1740)
With Steam Temp, °C (°F)		200 (392)	180 (356)	280 (536)
Continuous Temp, °C (°F)		250 (482)	220 (428)	300 (572)
Peak Temp, °C (°F)		350 (662)	280 (536)	400 (752)

Composite Materials

Flexible Graphite

Grafilit® SF

General Properties & Applications:

- Flexible graphite without an insert
- Suitable for highly demanding conditions in the chemical and petrochemical industries, gas supply, compressors, and pumps

Approvals:

- DVGW DIN 3535-6
- DNV GL
- BAM (Oxygen)
- DVGW DIN 30653 (5 bars)

Grafilit® SL

General Properties & Applications:

- Laminated with a flat stainless steel insertion (AISI 316; 0.05 mm)
- Suitable for a wide range of applications where higher operating pressures are present (i.e., gas supply)

Approvals:

- BAM (Oxygen)

Grafilit® SP

General Properties & Applications:

- Mechanically bonded to a tanged sta-inless steel insertion (AISI 316; 0.1 mm)
- Used in the chemical & petroleum industries, at high surface loads or high operating pressures

Approvals:

- DVGW DIN 3535-6
- DVGW DIN 30653 (5 bars)
- DNV GL
- BAM (Oxygen)
- FIRE SAFE API 607

Technical Data	Standard	SF	SL	SP
Density, g/cm³	DIN 28090-2	1.0	1.2	1.4
Compressibility, %	ASTM F36A	45	42	35
Recovery, %	ASTM F36A	13	15	17
Stress Resistance, 16h @ 300°C, 50 MPa, MPa	DIN 52913	49	49	49
Compression Modulus	DIN 28090-2			
At Room Temp.: ε_{KSW}, %		41	38	34
At Elevated Temp.: $\varepsilon_{WSW/300°C}$, %		0.9	1.2	1.2
Percentage Creep Relaxation	DIN 28090-2			
At Room Temp.: ε_{KRW}, %		5.0	4.3	4.2
At Elevated Temp.: $\varepsilon_{WRW/300°C}$, %		4.0	3.6	3.3
Max. Operating Conditions				
Continuous Max. Temp.				
• Air or oxidizing atmosphere, °C (°F)		550 (1022)	550 (1022)	550 (1022)
• Reducing or inert atmosphere, °C (°F)		700 (1292)	700 (1292)	700 (1292)
Continuous use min. Temp, °C (°F)		-200 (-328)	-200 (-328)	-200 (-328)
Continuous use max. Pressure, bar (psi)		80 (1160)	100 (1450)	200 (2900)
Ash Content, %	DIN 51903	<1	<1	<1
Chloride Content, ppm	FSA NMG 202	<20	<50	<50
Fluoride Content, ppm	FSA NMG 203	<20	<50	<50

Elastomer Materials

C Commercial Grade I Industrial Grade P Premium Grade

Chloroprene (CR)–Neoprene C I P

General Properties & Applications:

- Good resistance to weather, ozone, natural aging, alkalis, and acids
- Moderate gas resistance
- Industrial grade has improved tensile strength and elongation over the 60-durometer commercial grade
- Premium grade shows far superior oil resistance over industrial grade

Technical Data	Commercial	Industrial	Premium
Hardness, Shore A	60	60	60
Tensile Strength, psi	500	1000 (min)	900 (min)
Elongation, %	300	300 (min)	300 (min)
Compression Set, 22 hrs @ 100 °C, %	80 (max)	80 (max)	80 (max)
Temperature Range, °C (°F)	-29 to 88 (-20° to 190°)	-29 to 88 (-20 to 190)	-29 to 88 (-20 to 190)

Ethylene Propylene (EPDM) C I

General Properties & Applications:

- Excellent resistance to heat, ozone, sunlight, water, and steam
- Good flexibility at low temperatures

Technical Data	Commercial	Industrial
Hardness, Shore A	60	60
Tensile Strength, psi	725 (min)	800 (min)
Elongation, %	300 (min)	300 (min)
Temperature Range, °C (°F)	-30 to 104 (-22 to 219)	-40 to 121 (-40 to 250)

Fluorocarbon (FKM) C I P

General Properties & Applications:

- Excellent resistance to heat, oil, and chemicals
- Not suitable for steam or hot water over 100°C

Technical Data	Commercial	Industrial	Premium
Hardness, Shore A	75	75	80
Tensile Strength, psi	1200 (min)	1200 (min)	1800 (min)
Elongation, %	175 (min)	225(min)	350 (min)
Temperature Range, °C (°F)	-40 to 204 (-40 to 399)	-40 to 177 (-40 to 351)	-40 to 232 (-40 to 450)

Elastomer Materials

C Commercial Grade I Industrial Grade P Premium Grade

Hydrogenated Nitrile (HNBR, HSN) C

General Properties & Applications:

- Excellent temperature range
- Superior mechanical properties
- Excellent in oilfield, automotive, chemical, and industrial applications
- Superior resistance in H_2S applications (up to 10%)

Technical Data	Commercial
Hardness, Shore A	70
Tensile Strength, psi	1450 (min)
Elongation, %	400 (min)
Temperature Range, °C (°F)	-45 to 160 (-49 to 320)

Neo-Nylon C

General Properties & Applications:

- Neoprene material with a woven nylon cloth insert
- Maintains the properties of neoprene with added puncture resistance, stability, and tear strength

Technical Data	Commercial
Hardness, Shore A	70
Tensile Strength, psi	1450 (min)
Elongation, %	400 (min)
Temperature Range, °C (°F)	-45 to 160 (-49 to 320)

Nitrile (NBR) C I P

General Properties & Applications:

- Strong resistance to petroleum-based hydraulic fluids
- Poor resistance to ozone and sunlight
- Good for applications where oil resistance is a concern
- Most cost-effective material in most applications

Technical Data	Commercial	Industrial	Premium
Hardness, Shore A	60	60	60
Tensile Strength, psi	1000 (min)	1000 (min)	2500 (min)
Elongation, %	350 (min)	300 (min)	350 (min)
Compression Set, 22 hrs @ 100 °C, %	40 (max)	50 (max)	25 (max)
Temperature Range, °C (°F)	-34 to 88 (-29 to 190)	-40 to 93 (-40 to 199)	-40 to 93 (-40 to 199)

Elastomer Materials

C Commercial Grade I Industrial Grade P Premium Grade

Red Rubber (SBR) C

General Properties & Applications:

- Economical, non-critical applications
- Poor resistance to ozone, sunlight, oil, gasoline, and hydrocarbon solvents
- Low-pressure applications

Technical Data	Commercial
Hardness, Shore A	80
Tensile Strength, psi	500 (min)
Elongation, %	250 (min)
Temperature Range, °C (°F)	-20 to 80 (-4 to 176)

Red Rubber (SBR) – Fabric Surface C

General Properties & Applications:

- Economical, non-critical applications
- Poor resistance to ozone, sunlight, oil, gasoline, and hydrocarbon solvents
- Improved pressure resistance over homogeneous red rubber

Technical Data	Commercial
Hardness, Shore A	80
Tensile Strength, psi	500 (min)
Elongation, %	250 (min)
Temperature Range, °C (°F)	-20 to 80 (-4 to 176)

Silicone (VMQ) C

General Properties & Applications:

- Good heat and low temperature resistance
- Good weather and ozone resistance
- FDA compliant

Technical Data	Commercial
Hardness, Shore A	60
Tensile Strength, psi	1000 (min)
Elongation, %	400 (min)
Temperature Range, °C (°F)	-54 to 200 (-65 to 392)

** Please note that alternative compounds and durometers are available upon request for most materials. Material properties will vary depending on the compound and grade. The information provided is based on multiple reference sources that are accepted by industry and is intended to serve as a general guideline. Testing material in the application's environment is highly recommended.*

Thermoplastic Materials

RyFlor™

General Properties & Applications:

- Near-universal chemical resistance
- Withstands loads over 40,000 psi
- FDA and USDA compliant

Technical Data	ASTM	Value
Pressure Range, psi	-	Full Vacuum to 3,000
Chemical Compatibility Range, pH	-	1 to 14
Temperature Range, °C (°F)	-	-268 to 316 (-450 to 600)

PTFE

General Properties & Applications:

- Composed of 100% virgin PTFE
- Near-universal chemical resistance
- Low friction
- FDA compliant

Technical Data	ASTM	Value
Hardness, Shore D	-	60
Tensile Strength, psi	D638	1990 (min)
Elongation, %	D638	200 (min)
Compression Strength, psi	D695	710 (min)
Temperature Range, °C (°F)	-	-260 to 260 (-436 to 500)

UHMW-PE

General Properties & Applications:

- No moisture absorption
- Self-lubricating
- Chemical, corrosion, and wear resistance
- FDA and 3-A Dairy compliant

Technical Data	ASTM	Value
Hardness, Shore D	D2240	66
Tensile Strength, psi	D638	5800
Elongation, %	D638	300
Compressive Strength, psi	D695	3000
Temperature Range, °C (°F)	-	-250 to 80 (-418 to 176)

Materials

RyFlor™ RF40 is our specialty, high-performance gasket material. It offers remarkable chemical compatibility, a wide temperature range, and withstands extreme and aggressive challenges in the field. Common sheet thicknesses include ¼", ⅛", and 1/16". RyFlor™ solutions are available in standard and custom cut gaskets, material strips, and joint sealant.

RyFlor's isotropism provides a highly fibrillated microstructure with equal strength in every direction. This creates a gasket that will not degrade or deteriorate, making it an excellent solution for handling ultra-pure fluids for the biotech and pharmaceutical industries.

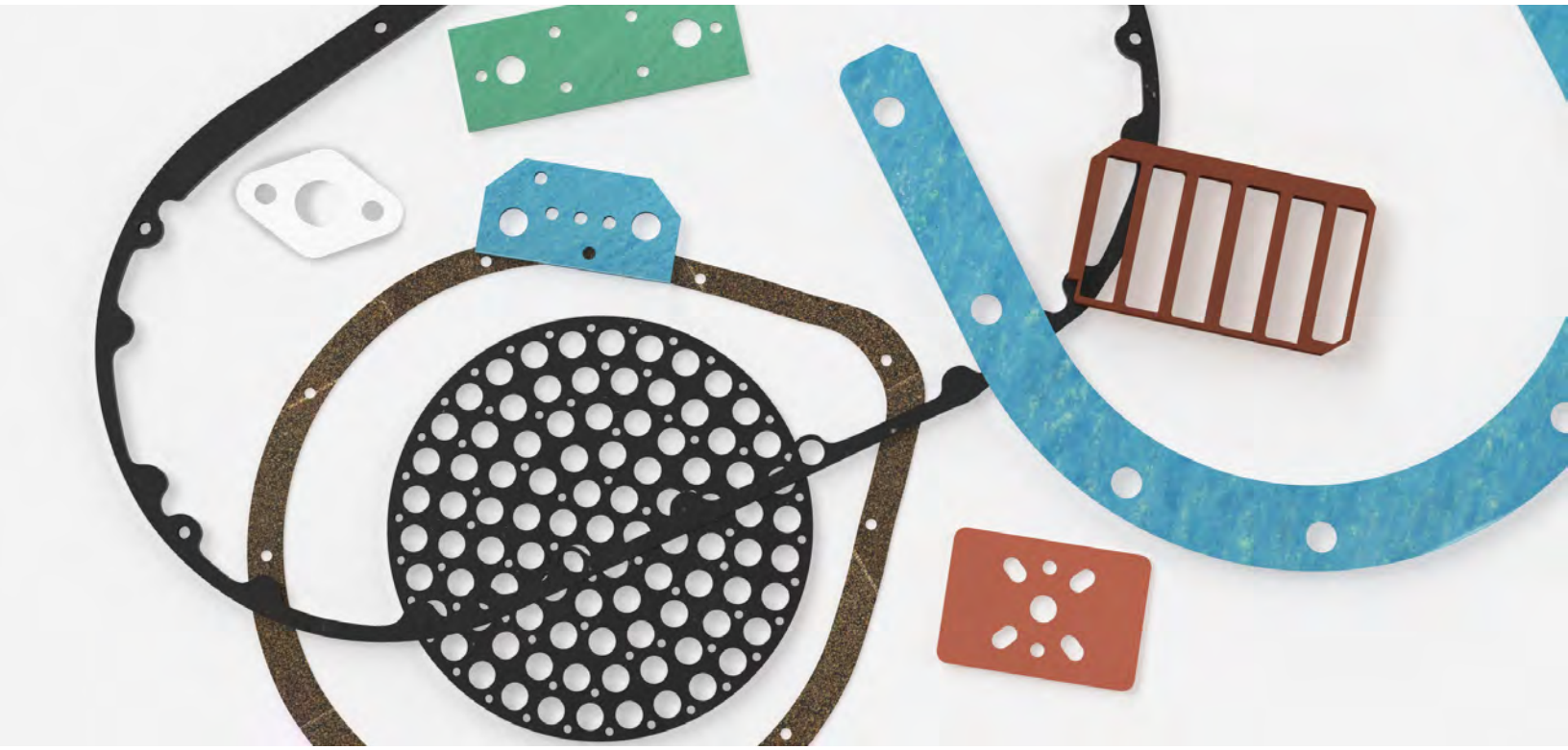
RyFlor™ is suitable for numerous critical applications across a variety of markets and industries, including:

- Oil & Gas
- Pulp & Paper
- Food & Beverage
- Medical
- Pharmaceutical
- Chemical Processing

RyFlor™ advantages:

- Ability to seal imperfect flange surfaces without experiencing deformation
- FDA and USDA compliant
- Substantially increases service life of gasket
- Resistant to UV and ozone
- Withstands loads over 40,000 psi
- Excellent chemical resistance
- Low compressive creep under extreme conditions

Custom Cut Gaskets



We can manufacture custom-cut gaskets to meet our customers' unique shape and size requirements. When a sample is provided, our team can reverse engineer the gasket dimensions using our LaserQC®. Subsequently, our drafting team will fine-tune the dimensions to optimize tolerance levels.

If required, our technical staff can provide guidance in choosing the ideal material for an application. We offer the flexibility to produce low or high quantities as needed.

We go the extra mile to ensure convenience for our customers by keeping gasket drawings and material on file, facilitating easy re-ordering. Our commitment to quality ensures consistent and high-quality cut gaskets every time.

Upon request, custom gaskets can be manufactured in as little as 24 hours. *Rush charges may apply*.

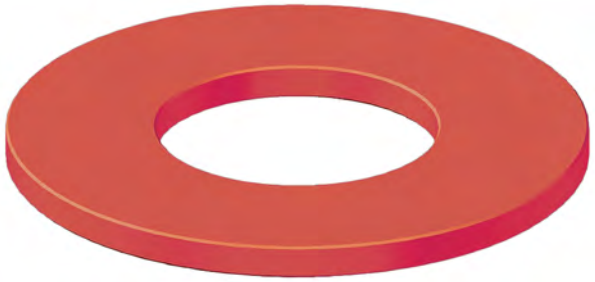
To provide us with dimensions, customers can locate and download our Custom Gasket Measurement forms on our website, *hitechseals.com*.

Available forms include:

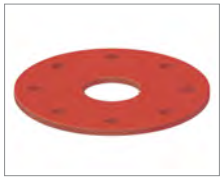
- Round Gasket Measurement Form
- D-Style / Half Circle Gasket Measurement Form
- Firetube / Obround Gasket Measurement Form
- Square / Rectangle Gasket Measurement Form

For more information on our custom cut gaskets or to request a quote, we invite you to reach out to us via phone or email at *info@hitechseals.com.*

Pipe Flange Gaskets



Raised Face Gasket (RFG)



Full Face Gasket (FFG)

Product Description

We utilize an extensive inventory of sheet material to rapidly manufacture gaskets for ASME B16.21 pipe flanges and flange fittings. Sizes are available for classes 150#, 300#, 400#, 600#, 900#, 1500#, and 2500#. We can manufacture custom replacement pipe flange gaskets from a sample or metal dimensions.

Contact us for information on pipe flange gaskets larger than 24".

Part Number:

Nominal Size | # Class | Material | Thickness

RFG – Raised Face Gasket
FFG – Full Face Gasket

Example: RFG 3 3/4/600 RR 125 – Raised Face Gaskets, 3” Nom. Size, 300#, 400#, 600#, Red Rubber, 1/8” Thick

Example: FFG 075 150 BAU 125 – Full Face Gasket, 0.75” Nom. Size, 150#, BA-U, 1/8” Thick

Standard 150# Forged Steel Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	1 7/8	27/32	3 1/2	27/32	4	5/8	2 3/8
3/4	2 1/4	1 1/16	3 7/8	1 1/16	4	5/8	2 3/4
1	2 5/8	1 5/16	4 1/4	1 5/16	4	5/8	3 1/8
1 1/4	3	1 21/32	4 5/8	1 21/32	4	5/8	3 1/2
1 1/2	3 3/8	1 29/32	5	1 29/32	4	5/8	3 7/8
2	4 1/8	2 3/8	6	2 3/8	4	3/4	4 3/4
2 1/2	4 7/8	2 7/8	7	2 7/8	4	3/4	5 1/2
3	5 3/8	3 1/2	7 1/2	3 1/2	4	3/4	6
3 1/2	6 3/8	4	8 1/2	4	8	3/4	7
4	6 7/8	4 1/2	9	4 1/2	8	3/4	7 1/2
5	7 3/4	5 9/16	10	5 9/16	8	7/8	8 1/2
6	8 3/4	6 5/8	11	6 5/8	8	7/8	9 1/2
8	11	8 5/8	13 1/2	8 5/8	8	7/8	11 3/4
10	13 3/8	10 3/4	16	10 3/4	12	1	14 1/4
12	16 1/8	12 3/4	19	12 3/4	12	1	17
14	17 3/4	14	21	14	12	1 1/8	18 3/4
16	20 1/4	16	23 1/2	16	16	1 1/8	21 1/4
18	21 5/8	18	25	18	16	1 1/4	22 3/4
20	23 7/8	20	27 1/2	20	20	1 1/4	25
24	28 1/4	24	32	24	20	1 3/8	29 1/2

150# Flanges - Series A

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
26	30 1/2	26	34 1/4	26	24	1 3/8	31 3/4
28	32 3/4	28	36 1/2	28	28	1 3/8	34
30	34 3/4	30	38 3/4	30	28	1 3/8	36
32	37	32	41 3/4	32	28	1 5/8	38 1/2
34	39	34	43 3/4	34	32	1 5/8	40 1/2
36	41 1/4	36	46	36	32	1 5/8	42 3/4
38	43 3/4	38	48 3/4	38	32	1 5/8	45 1/4
40	45 3/4	40	50 3/4	40	36	1 5/8	47 1/4
42	48	42	53	42	36	1 5/8	49 1/2
44	50 1/4	44	55 1/4	44	40	1 5/8	51 3/4
46	52 1/4	46	57 1/4	46	40	1 5/8	53 3/4
48	54 1/2	48	59 1/2	48	44	1 5/8	56
50	56 1/2	50	61 3/4	50	44	1 7/8	58 1/4
52	58 3/4	52	64	52	44	1 7/8	60 1/2
54	61	54	66 1/4	54	44	1 7/8	62 3/4
56	63 1/4	56	68 3/4	56	48	1 7/8	65
58	65 1/2	58	71	58	48	1 7/8	67 1/4
60	67 1/2	60	73	60	52	1 7/8	69 1/4

B.C.D. – Bolt Circle Diameter

Pipe Flange Gaskets

150# Flanges - Series B

Series B	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
26	28 9/16	26	30 15/16	26	36	7/8	29 5/16
28	30 9/16	28	32 15/16	28	40	7/8	31 5/16
30	32 9/16	30	34 15/16	30	44	7/8	33 5/16
32	34 11/16	32	37 1/16	32	48	7/8	35 7/16
34	36 13/16	34	39 9/16	34	40	1	37 11/16
36	38 7/8	36	41 5/8	36	44	1	39 3/4
38	41 1/8	38	44 1/4	38	40	1 1/8	42 1/8
40	43 1/8	40	46 1/4	40	44	1 1/8	44 1/8
42	45 1/8	42	48.1/4	42	48	1 1/8	46 1/8
44	47 1/8	44	50 1/4	44	52	1 1/8	48 1/8
46	49 7/16	46	52 13/16	46	40	1 1/4	50 9/16
48	51 7/16	48	54 13/16	48	44	1 1/4	52 9/16
50	53 7/16	50	56 13/16	50	48	1 1/4	54 9/16
52	55 7/16	52	58 13/16	52	52	1 1/4	56 9/16
54	57 5/8	54	61	54	56	1 1/4	58 3/4
56	59 5/8	56	63	56	60	1 1/4	60 3/4
58	62 3/16	58	65 15/16	58	48	1 3/8	63 7/16
60	64 3/16	60	67 15/16	60	52	1 3/8	65 7/16

Standard 300# Forged Steel Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 1/8	27/32	3 3/4	27/32	4	5/8	2 5/8
3/4	2 5/8	1 1/16	4 5/8	1 1/16	4	3/4	3 1/4
1	2 7/8	1 5/16	4 7/8	1 5/16	4	3/4	3 1/2
1 1/4	3 1/4	1 21/32	5 1/4	1 21/32	4	3/4	3 7/8
1 1/2	3 3/4	1 29/32	6 1/8	1 29/32	4	7/8	4 1/2
2	4 3/8	2 3/8	6 1/2	2 3/8	8	3/4	5
2 1/2	5 1/8	2 7/8	7 1/2	2 7/8	8	7/8	5 7/8
3	5 7/8	3 1/2	8 1/4	3 1/2	8	7/8	6 5/8
3 1/2	6 1/2	4	9	4	8	7/8	7 1/4
4	7 1/8	4 1/2	10	4 1/2	8	7/8	7 7/8
5	8 1/2	5 9/16	11	5 9/16	8	7/8	9 1/4
6	9 7/8	6 5/8	12 1/2	6 5/8	12	7/8	10 5/8
8	12 1/8	8 5/8	15	8 5/8	12	1	13
10	14 1/4	10 3/4	17 1/2	10 3/4	16	1 1/8	15 1/4
12	16 5/8	12 3/4	20 1/2	12 3/4	16	1 1/4	17 3/4
14	19 1/8	14	23	14	20	1 1/4	20 1/4
16	21 1/4	16	25 1/2	16	20	1 3/8	22 1/2
18	23 1/2	18	28	18	24	1 3/8	24 3/4
20	25 3/4	20	30 1/2	20	24	1 3/8	27
24	30 1/2	24	36	24	24	1 5/8	32

300# Flanges - Series A

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
26	32 7/8	26	38 1/4	26	28	1 3/4	34 1/2
28	35 3/8	28	40 3/4	28	28	1 3/4	37
30	37 1/2	30	43	30	28	1 7/8	39 1/4
32	39 5/8	32	45 1/4	32	28	2	41 1/2
34	41 5/8	34	47 1/2	34	28	2	43 1/2
36	44	36	50	36	32	2 1/8	46
38	41 1/2	38	46	38	32	1 5/8	43
40	43 7/8	40	48 3/4	40	32	1 3/4	45 1/2
42	45 7/8	42	50 3/4	42	32	1 3/4	47 1/2
44	48	44	53 1/4	44	32	1 7/8	49 3/4
46	50 1/8	46	55 3/4	46	28	2	52
48	52 1/8	48	57 3/4	48	32	2	54
50	54 1/4	50	60 1/4	50	32	2 1/8	56 1/4
52	56 1/4	52	62 1/4	52	32	2 1/8	58 1/4
54	58 3/4	54	65 1/4	54	28	2 3/8	61
56	60 3/4	56	67 1/4	56	28	2 3/8	63
58	62 3/4	58	69 1/4	58	32	2 3/8	65
60	64 3/4	60	71 1/4	60	32	2 3/8	67

B.C.D. – Bolt Circle Diameter

Pipe Flange Gaskets

300# Flanges - Series B

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
26	30 3/8	26	34 1/8	26	32	1 3/8	31 5/8
28	32 1/2	28	36 1/4	28	36	1 3/8	33 3/4
30	34 7/8	30	39	30	36	1 1/2	36 1/4
32	37	32	41 1/2	32	32	1 5/8	38 1/2
34	39 1/8	34	43 5/8	34	36	1 5/8	40 5/8
36	41 1/4	36	46 1/8	36	32	1 3/4	42 7/8
38	43 1/4	38	48 1/8	38	36	1 3/4	44 7/8
40	45 1/4	40	50 1/8	40	40	1 3/4	46 7/8
42	47 1/4	42	52 1/2	42	36	1 7/8	49
44	49 1/4	44	54 1/2	44	40	1 7/8	51
46	51 7/8	46	57 1/2	46	36	2	53 3/4
48	53 7/8	48	59 1/2	48	40	2	55 3/4
50	55 7/8	50	61 1/2	50	44	2	57 3/4
52	57 7/8	52	63 1/2	52	48	2	59 3/4
54	61 1/4	54	65 7/8	54	48	2	62 1/8
56	62 3/4	56	69 1/2	56	36	2 3/8	65
58	65 3/16	58	71 15/16	58	40	2 3/8	67 7/16
60	67 1/8	60	73 15/16	60	40	2 3/8	69 7/16

Standard 400# Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 1/8	27/32	3 3/4	27/32	4	5/8	2 5/8
3/4	2 5/8	1 1/16	4 5/8	1 1/16	4	3/4	3 1/4
1	2 7/8	1 5/16	4 7/8	1 5/16	4	3/4	3 1/2
1 1/4	3 1/4	1 21/32	5 1/4	1 21/32	4	3/4	3 7/8
1 1/2	3 3/4	1 29/32	6 1/8	1 29/32	4	7/8	4 1/2
2	4 3/8	2 3/8	6 1/2	2 3/8	8	3/4	5
2 1/2	5 1/8	2 7/8	7 1/2	2 7/8	8	7/8	5 7/8
3	5 7/8	3 1/2	8 1/4	3 1/2	8	7/8	6 5/8
3 1/2	6 3/8	4	9	4	8	1	7 1/4
4	7	4 1/2	10	4 1/2	8	1	7 7/8
5	8 3/8	5 9/16	11	5 9/16	8	1	9 1/4
6	9 3/4	6 5/8	12 1/2	6 5/8	12	1	10 5/8
8	12	8 5/8	15	8 5/8	12	1 1/8	13
10	14 1/8	10 3/4	17 1/2	10 3/4	16	1 1/4	15 1/4
12	16 1/2	12 3/4	20 1/2	12 3/4	16	1 3/8	17 3/4
14	19	14	23	14	20	1 3/8	20 1/4
16	21 1/8	16	25 1/2	16	20	1 1/2	22 1/2
18	23 3/8	18	28	18	24	1 1/2	24 3/4
20	25 1/2	20	30 1/2	20	24	1 5/8	27
24	30 1/4	24	36	24	24	1 7/8	32

B.C.D. – Bolt Circle Diameter

Standard 600# Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 1/8	27/32	3 3/4	27/32	4	5/8	2 5/8
3/4	2 5/8	1 1/32	4 5/8	1 1/16	4	3/4	3 1/4
1	2 7/8	1 5/16	4 7/8	1 5/16	4	3/4	3 1/2
1 1/4	3 1/4	1 21/32	5 1/4	1 21/32	4	3/4	3 7/8
1 1/2	3 3/4	1 29/32	6 1/8	1 29/32	4	7/8	4 1/2
2	4 3/8	2 3/8	6 1/2	2 3/8	8	3/4	5
2 1/2	5 1/8	2 7/8	7 1/2	2 7/8	8	7/8	5 7/8
3	5 7/8	3 1/2	8 1/4	3 1/2	8	7/8	6 5/8
3 1/2	6 3/8	4	9	4	8	1	7 1/4
4	7 5/8	4 1/2	10 3/4	4 1/2	8	1	8 1/2
5	9 1/2	5 9/16	13	5 9/16	8	1 1/8	10 1/2
6	10 1/2	6 5/8	14	6 5/8	12	1 1/8	11 1/2
8	12 5/8	8 5/8	16 1/2	8 5/8	12	1 1/4	13 3/4
10	15 3/4	10 3/4	20	10 3/4	16	1 3/8	17
12	18	12 3/4	22	12 3/4	20	1 3/8	19 1/4
14	19 3/8	14	23 3/4	14	20	1 1/2	20 3/4
16	22 1/4	16	27	16	20	1 5/8	23 3/4
18	24 1/8	18	29 1/4	18	20	1 3/4	25 3/4
20	26 7/8	20	32	20	24	1 3/4	28 1/2
24	31 1/8	24	37	24	24	2	33

Standard 900# Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 1/2	27/32	4 3/4	27/32	4	7/8	3 1/4
3/4	2 3/4	1 1/16	5 1/8	1 1/16	4	7/8	3 1/2
1	3 1/8	1 5/16	5 7/8	1 5/16	4	1	4
1 1/4	3 1/2	1 21/32	6 1/4	1 21/32	4	1	4 3/8
1 1/2	3 7/8	1 29/32	7	1 29/32	4	1 1/8	4 7/8
2	5 5/8	2 3/8	8 1/2	2 3/8	8	1	6 1/2
2 1/2	6 1/2	2 7/8	9 5/8	2 7/8	8	1 1/8	7 1/2
3	6 5/8	3 1/2	9 1/2	3 1/2	8	1	7 1/2
3 1/2	–	–	–	–	–	–	–
4	8 1/8	4 1/2	11 1/2	4 1/2	8	1 1/4	9 1/4
5	9 3/4	5 9/16	13 3/4	5 9/16	8	1 3/8	11
6	11 3/8	6 5/8	15	6 5/8	12	1 1/4	12 1/2
8	14 1/8	8 5/8	18 1/2	8 5/8	12	1 1/2	15 1/2
10	17 1/8	10 3/4	21 1/2	10 3/4	16	1 1/2	18 1/2
12	19 5/8	12 3/4	24	12 3/4	20	1 1/2	21
14	20 1/2	14	25 1/4	14	20	1 5/8	22
16	22 5/8	16	27 3/4	16	20	1 3/4	24 1/4
18	25 1/8	18	31	18	20	2	27
20	27 1/2	20	33 3/4	20	20	2 1/8	29 1/2
24	33	24	41	24	20	2 5/8	35 1/2

B.C.D. – Bolt Circle Diameter

Pipe Flange Gaskets

Standard 1500# Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 1/2	27/32	4 3/4	27/32	4	7/8	3 1/4
3/4	2 3/4	1 1/16	5 1/8	1 1/16	4	7/8	3 1/2
1	3 1/8	1 5/16	5 7/8	1 5/16	4	1	4
1 1/4	3 1/2	1 21/32	6 1/4	1 21/32	4	1	4 3/8
1 1/2	3 7/8	1 29/32	7	1 29/32	4	1 1/8	4 7/8
2	5 5/8	2 3/8	8 1/2	2 3/8	8	1	6 1/2
2 1/2	6 1/2	2 7/8	9 5/8	2 7/8	8	1 1/8	7 1/2
3	6 7/8	3 1/2	10 1/2	3 1/2	8	1 1/4	8
3 1/2	–	–	–	–	–	–	–
4	8 1/8	4 1/2	12 1/4	4 1/2	8	1 3/8	9 1/2
5	10	5 9/16	14 3/4	5 9/16	8	1 5/8	11 1/2
6	11 1/8	6 5/8	15 1/2	6 5/8	12	1 1/2	12 1/2
8	13 7/8	8 5/8	19	8 5/8	12	1 3/4	15 1/2
10	17 1/8	10 3/4	23	10 3/4	12	2	19
12	20 1/2	12 3/4	26 1/2	12 3/4	16	2 1/8	22 1/2
14	22 3/4	14	29 1/2	14	16	2 3/8	25
16	25 1/4	16	32 1/2	16	16	2 5/8	27 3/4
18	27 3/4	18	36	18	16	2 7/8	30 1/2
20	29 3/4	20	38 3/4	20	16	3 1/8	32 3/4
24	35 1/2	24	46	24	16	3 5/8	39

Standard 2500# Pipe Flange Gasket Dimensions

	Raised Face Gasket		Full Face Gasket				
Nominal Size	O.D.	I.D.	O.D.	I.D.	# of Bolts	Hole Diameter	B.C.D.
1/2	2 3/4	27/32	5 1/4	27/32	4	7/8	3 1/2
3/4	3	1 1/16	5 1/2	1 1/16	4	7/8	3 3/4
1	3 3/8	1 5/16	6 1/4	1 5/16	4	1	4 1/4
1 1/4	4 1/4	1 21/32	7 1/4	1 21/32	4	1	5 1/8
1 1/2	4 5/8	1 29/32	8	1 29/32	4	1 1/4	5 3/4
2	5 3/4	2 3/8	9 1/4	2 3/8	8	1 1/8	6 3/4
2 1/2	6 5/8	2 7/8	10 1/2	2 7/8	8	1 1/4	7 3/4
3	7 3/4	3 1/2	12	3 1/2	8	1 3/8	9
3 1/2	–	–	–	–	–	–	–
4	9 1/4	4 1/2	14	4 1/2	8	1 5/8	10 3/4
5	11	5 9/16	16 1/2	5 9/16	8	1 7/8	12 3/4
6	12 1/2	6 5/8	19	6 5/8	8	2 1/8	14 1/2
8	15 1/4	8 5/8	21 3/4	8 5/8	12	2 1/8	17 1/4
10	18 3/4	10 3/4	26 1/2	10 3/4	12	2 5/8	21 1/4
12	21 5/8	12 3/4	30	12 3/4	12	2 7/8	24 3/8
14	–	–	–	–	–	–	–
16	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–
20	–	–	–	–	–	–	–
24	–	–	–	–	–	–	–

B.C.D. – Bolt Circle Diameter

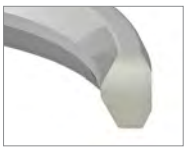
Ring Type Joint Gaskets

Materials	Temp. Range		
Stainless Steel 304	-200°C	to	460°C
Stainless Steel 316	-200°C	to	420°C
Low Carbon Steel	-100°C	to	500°C
Soft Iron	-100°C	to	500°C

** Stainless steel 316 and 304 can exceed their continuous operating temperatures, up to 760°C, for short-term intervals. However, this may result in intergranular corrosion.*

R Oval

R Octagonal



RX

BX

Product Description

Hi-Tech Seals stocks ring type joint gaskets in R oval, R octagonal, RX, and BX styles. Dimensions for ring type joint gaskets are in accordance to ASTM B16.20, API 6A, and ASME B16.5/B16.20.

Part Numbers:

RTJ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

- Style
- Dash No.
- Materials:
  - 316 – Stainless Steel 316
  - 304 – Stainless Steel 304
  - S – Low Carbon Steel
  - D – Soft Iron
- If R-Style:
  - OCT – Octagonal
  - OVAL – Oval

Example: RTJ R20 316 OVAL – Ring Type Joint Gasket, R Style, Size 20, Stainless Steel 316, Oval profile

Ring Type Joint Gaskets

R Series

R Oval

R Octagonal

R-series ring type joint gaskets are available in oval and octagonal designs. The oval design can be used in older round-bottom gland designs, while both can be used in a flat-bottom design. R-series operates up to 5,000 PSI.

	Ring Number at Pressure Rating						
Pipe Size	**150**	**300**	**400**	**600**	**900**	**1500**	**2500**
1/2	–	R11	–	R11	R12	R12	R13
3/4	–	R13	–	R13	R14	R14	R16
1	R15	R16	–	R16	R16	R16	R18
1 1/4	R17	R18	–	R18	R18	R18	R21
1 1/2	R19	R/RX20	–	R/RX20	R/RX20	R/RX20	R/RX23
2	R22	R/RX23	–	R/RX23	R/RX24	R/RX24	R/RX26
2 1/2	R/RX25	R/RX26	–	R/RX26	R/RX27	R/RX27	R28
3	R29	R/RX31	–	R/RX31	R/RX31	R/RX35	R32
3 1/2	R33	R34	–	R34	–	–	–
4	R36	R/RX37	R/RX37	R/RX37	R/RX37	R/RX39	R38
5	R40	R/RX41	R/RX41	R/RX41	R/RX41	R/RX44	R42
6	R43	R/RX45	R/RX45	R/RX45	R/RX45	R/RX46	R/RX47
8	R48	R/RX49	R/RX49	R/RX49	R/RX49	R/RX50	R51
10	R52	R/RX53	R/RX53	R/RX53	R/RX53	R/RX54	R55
12	R56	R/RX57	R/RX57	R/RX57	R/RX57	R58	R60
14	R59	R61	R61	R61	R62	R/RX63	–
16	R64	R/RX65	R/RX65	R/RX65	R/RX66	R67	–
18	R68	R/RX69	R/RX69	R/RX69	R/RX70	R71	–
20	R72	R/RX73	R/RX73	R/RX73	R/RX74	R75	–
24	R76	R77	R77	R77	R78	R79	–

Ring Type Joint Gaskets

RX Series

RX

RX-series are interchangeable with R-series octagonal gaskets designed for API 6B flanges. RX outperforms the R-series in situations with higher pressures and more intense vibrations. RX gaskets operate up to 5,000 PSI.

R and RX *(For flanges in accordance with API spec 6A, model 6B)*

	Ring Number at Class Rating		
Pipe Size	**2000**	**3000**	**5000**
2 1/6	R/RX23	R/RX24	R/RX24
2 9/16	R/RX26	R/RX27	R/RX27
3 1/8	R/RX31	R/RX31	R/RX35
4 1/16	R/RX37	R/RX37	R/RX39
5 1/8	R/RX41	R/RX41	R/RX44
7 1/16	R/RX45	R/RX45	R/RX46
9	R/RX49	R/RX49	R/RX50
11	R/RX53	R/RX53	R/RX54
13 5/8	R/RX57	R/RX57	–
16 3/4	R/RX65	R/RX66	–
20 3/4	–	R/RX74	–
21 1/4	R/RX73	–	–

R or RX *(For flanges in accordance with ASME B16.47 series A (MSS-SP44))*

	Ring Number at Class Rating	
Pipe Size	**300-600**	**900**
26	R93	R100
28	R94	R101
30	R95	R102
32	R96	R103
34	R97	R104
36	R98	R105

Ring Type Joint Gaskets

BX Series

BX

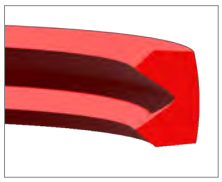
BX-series ring type joint gaskets feature a pressure relief vent and are designed for API 6BX flanges reaching pressures up to 20,000 PSI.

	Ring Number at Pressure Rating (PSI)					
Pipe Size	**2000**	**3000**	**5000**	**10000**	**15000**	**20000**
1 11/16	–	–	–	BX150	BX150	–
1 13/16	–	–	–	BX151	BX151	BX151
2 1/16	–	–	–	BX152	BX152	BX152
2 9/16	–	–	–	BX153	BX153	BX153
3 1/16	–	–	–	BX154	BX154	BX154
4 1/16	–	–	–	BX155	BX155	BX155
5 1/8	–	–	–	BX169	BX169	-
7 1/16	–	–	–	BX156	BX156	BX156
9	–	–	–	BX157	BX157	BX157
11	–	–	–	BX158	BX158	BX158
13 5/8	–	–	BX160	BX159	BX159	BX159
16 3/4	–	–	BX162	BX162	–	–
18 3/4	–	–	BX163	BX164	BX164	–
21 1/4	–	–	BX165	BX166	–	–
26 3/4	BX167	BX168	–	–	–	–
30	BX303	BX303	–	–	–	–

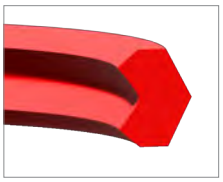
Urethane Test Gaskets

Materials	Temp. Range
Bokure™ Urethane	-30°C to 110°C

Bokure™ Urethane



R Style



BX Style

Product Description

Urethane ring joint test gaskets (RTJU) are a non-damaging method to test and recertify ring type joint flanges. The uniquely shaped profile energizes the seal in the groove under pressure, retrofitting into R or BX ring type joint gasket grooves.

Under ideal flange, installation, and test conditions, our Bokure™ urethane test gaskets achieve more than a hundred tests with our R style and dozens of tests with our BX style. Available for classes 150#, 300#, 400#, 600#, 900#, 1500#, and 2500#.

- Re-usable
- Cost-effective alternatives for flange testing
- Non-damaging method for testing flanges
- Suitable for water and nitrogen pressure tests

The bolt up procedure does not change when testing and recertifying flanges with RTJUs. Rubber-coated test gaskets are available upon request.

Part Numbers:

RTJ ___ ___ ___ ___ ___ U

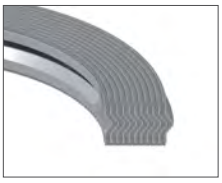
Style Dash No.

Example: RTJ R169U – Urethane Test Gasket, R Style, Size 169

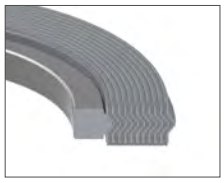
Spiral Wound Gaskets

Winding Materials	Temp. Range		
Stainless Steel 304	-200°C	to	420°C
Stainless Steel 316L	-200°C	to	460°C
Filler Materials			
Graphite	Up	to	523°C
PTFE	Up	to	260°C
Centering Ring			
Carbon Steel	Up	to	538°C
Inner Ring Materials			
Stainless Steel 304	-200°C	to	420°C
Stainless Steel 316	-200°C	to	460°C

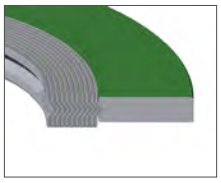
** Stainless steel 316 and 304 can exceed their continuous operating temperatures, up to 760°C, for short-term intervals. However, this may result in intergranular corrosion.*



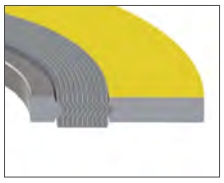
Winding



Winding w/ Inner Ring



Winding w/ Centering Ring



Winding w/ Inner & Centering Ring

Product Description

We supply precision-engineered spiral wound gaskets that are approved by Shell, Valero, Chevron, Phillips 66, and MRC. They are designed as per ASME B16.20 to suit flange standards ASME B16.5 and are available for classes 150 to 2500. Our spiral wound gaskets are made with a superior-grade graphite filler that is in accordance with Shell specifications, MESC SPE 85/203 SEPTEMBER 2012. Custom filler, winding strip, guide rings, and inner ring materials are available upon request.

Part Numbers:

SWG ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

- Nom. Pipe Size
- Class Rating
- Winding Material
- Filler Material
- Centering Ring Material*
- Inner Ring Material*

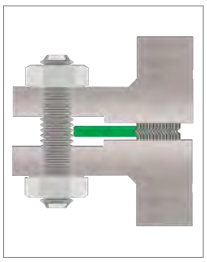
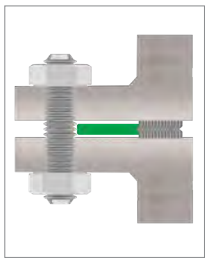
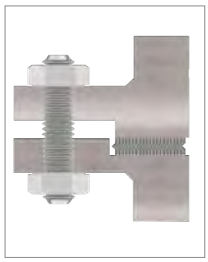
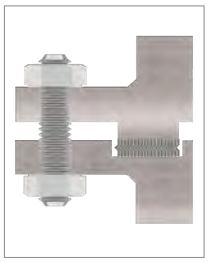
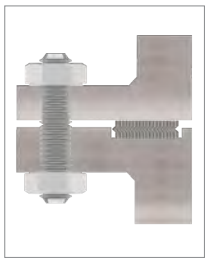
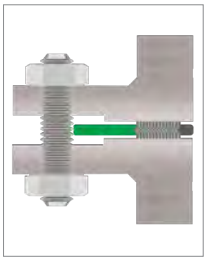
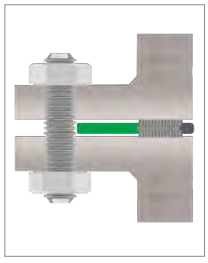
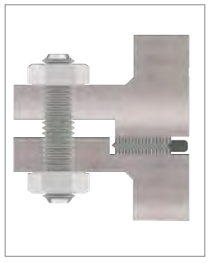
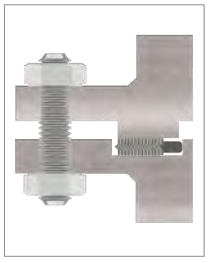
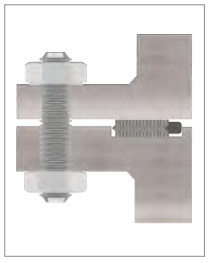
Example: SWG 26 150 316 G C I – Spiral Wound Gasket, 26" Nom. Pipe, 150#, Stainless Steel 316 Winding Material, Graphite Filler, Carbon Steel Centering Ring, Stainless Steel 316 Inner Ring

* If there is no internal ring, or centering ring then the respective materials will not be listed.

Spiral Wound Gaskets

Selecting A Spiral Wound Gasket

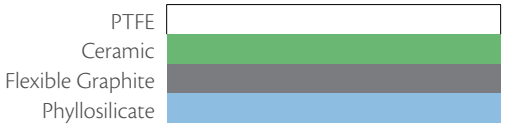
Applications

Service:	Raised Face	Flat Face	Male & Female	Tongue & Groove	Flat Face to Recessed
General Duty					
	Winding w/ Centering Ring	*Winding w/ Centering Ring*	*Winding*	*Winding*	*Winding*
High-Pressure High-Temperature Fluctuating Pressures SWG w/ PTFE Reinfocements					
	Winding w/ Inner & Centering Ring	*Winding w/ Inner & Centering Ring*	*Winding w/ Inner Ring*	*Winding w/ Inner Ring*	*Winding w/ Inner Ring*

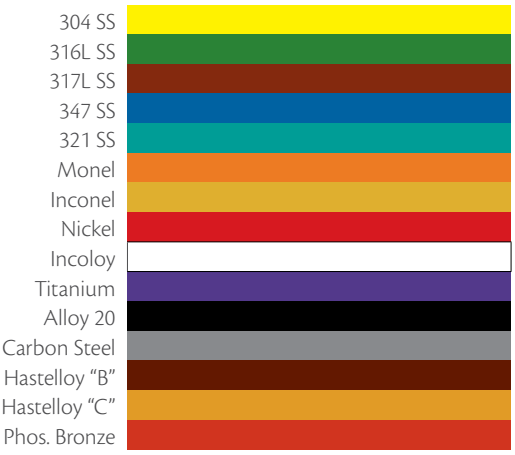
Colour Coding

Centering rings are painted in accordance with ASME B16. 20. The solid colour on the centering ring indicates the metallic winding material. The stripped colour indicates the non-metallic reinforcements used between the metal windings.

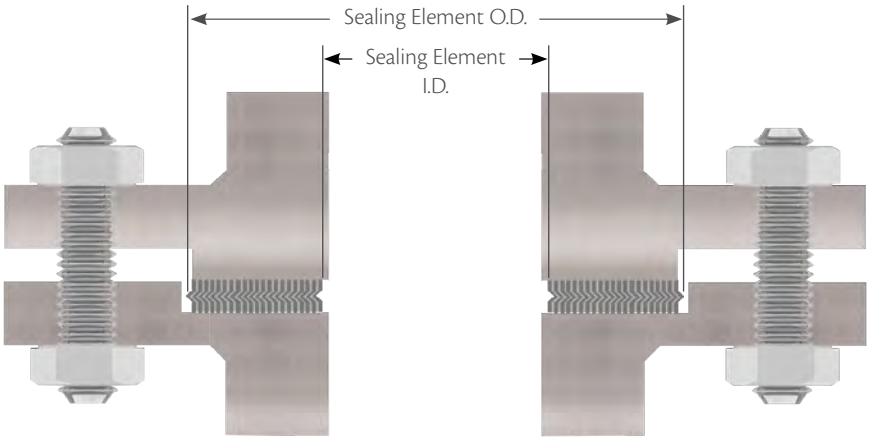
Non-Metallic Filler



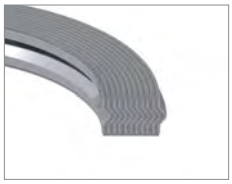
Winding Material



Spiral Wound Gaskets



Winding Pipes Under 24"



ASME B16.5 & BS 1560 Flanges

Nominal Pipe Size	Male and Female Sealing Element 150-1500 I.D.	Male and Female Sealing Element 150-1500 O.D.	Male and Female Sealing Element Class 2500 I.D.	Male and Female Sealing Element Class 2500 O.D.	Large Tongue Groove Sealing Element Class 150-2500 I.D.	Large Tongue Groove Sealing Element Class 150-2500 O.D.	Small Tongue and Groove Sealing Element 150-2500 I.D.	Small Tongue and Groove Sealing Element 150-2500 O.D.
1/4	1/2	1	–	–	1/2	1	–	–
1/2	1	1 3/8	13/16	1 3/8	1	1 3/8	1	1 3/8
3/4	1 5/16	1 11/16	1 1/16	1 11/16	1 5/16	1 11/16	1 5/16	1 11/16
1	1 1/2	2	1 1/4	2	1 1/2	2	1 1/2	1 7/8
1 1/4	1 7/8	2 1/2	1 5/8	2 1/2	1 7/8	2 1/2	1 7/8	2 1/4
1 1/2	2 1/8	2 7/8	1 7/8	2 7/8	2 1/8	2 7/8	2 1/8	2 1/2
2	2 7/8	3 5/8	2 3/8	3 5/8	2 7/8	3 5/8	2 7/8	3 1/4
2 1/2	3 3/8	4 1/8	3	4 1/8	3 3/8	4 1/8	3 3/8	3 3/4
3	4 1/4	5	3 3/4	5	4 1/8	5	4 1/4	4 5/8
3 1/2	4 3/4	5 1/2	–	–	4 3/4	5 1/2	4 3/4	5 1/8
4	5 3/16	6 3/16	4 3/4	6 3/16	5 3/16	6 3/16	5 3/16	5 11/16
4 1/2	5 11/16	6 3/4	–	–	5 11/16	6 3/4	–	–
5	6 5/16	7 5/16	5 3/4	7 5/16	6 5/16	7 5/16	6 5/16	6 13/16
6	7 1/2	8 1/2	6 3/4	8 1/2	7 1/2	8 1/2	7 1/2	8
8	9 3/8	10 5/8	8 3/4	10 5/8	9 3/8	10 5/8	9 3/8	10
10	11 1/4	12 3/4	10 3/4	12 3/4	11 1/4	12 3/4	11 1/4	12
12	13 1/2	15	13	15	13 1/2	15	13 1/2	14 1/4
14	14 3/4	16 1/4	–	–	14 3/4	16 1/4	14 3/4	15 1/2
16	17	18 1/2	–	–	17	18 1/2	16 3/4	17 5/8
18	19 1/4	21	–	–	19 1/4	21	19 1/4	20 1/8
20	21	23	–	–	21	23	21	22
24	25 1/4	27 1/4	–	–	25 1/4	27 1/4	25 1/4	26 1/4

Large Tongue and Groove Flanges:

- 1/2" sizes in class 150, 300, 400, 600, 900, 1500 and 2500 are interchangeable.

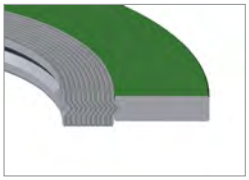
Male & Female and Large Tongue & Groove Flanges:

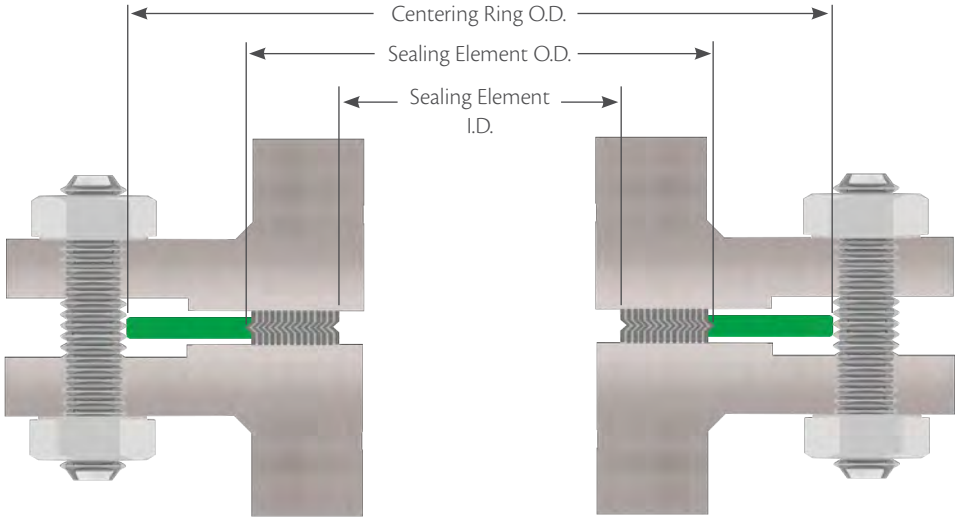
- Class 300, 400, 600 are interchangeable within their size category.
- Class 900 and 1500 are interchangeable within their size category.
- 1/4" sizes in class 150 are interchangeable.

Small Tongue and Groove Flanges:

- Classes 300 through 2500 are interchangeable within their specific size category.
- 3/4" sizes are interchangeable with large male & female and large tongue and groove gaskets within their specific pressure rating.
- 1/2" sizes are interchangeable within large male & female and large tongue and groove gaskets within their specific pressure rating.

Winding With Centering Ring
Pipes Under 24"

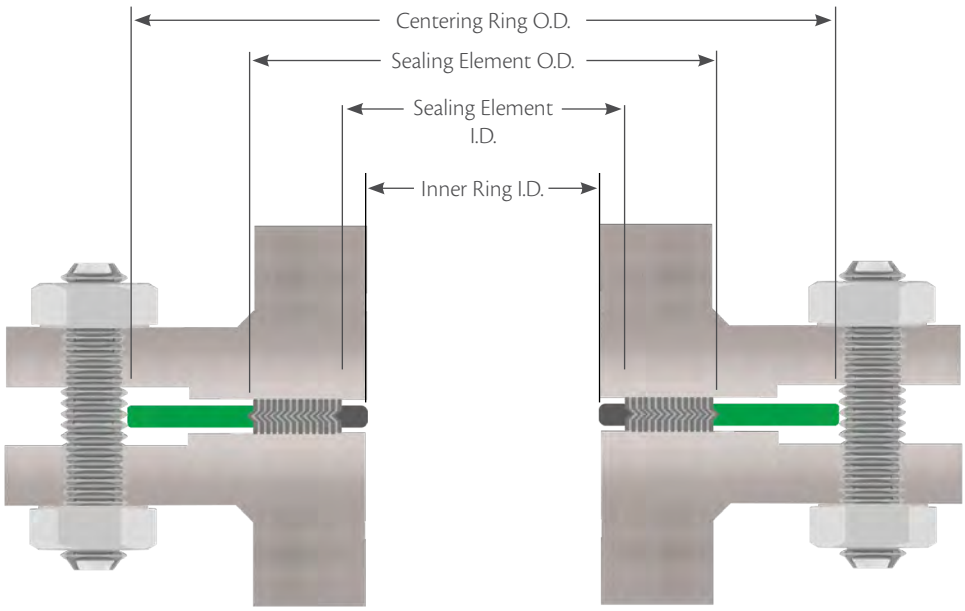




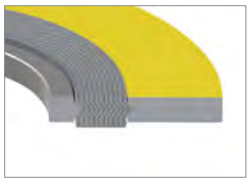
ASME B16.20 for ASME B16.5 Flanges

Nom. Pipe Size	I.D of Sealing Element							O.D. of Sealing Element		O.D. of Centering Ring						
	150	300	400	600	900	1500	2500	150,300 400,600	900,1500 2500	150	300	400	600	900	1500	2500
1/4	1/2	1/2	1/2	1/2	–	–	–	7/8	–	1 3/4	1 3/4	1 3/4	1 3/4	–	–	–
1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1 1/4	1 1/4	1 7/8	2 1/8	2 1/8	2 1/8	2 1/2	2 1/2	2 3/4
3/4	1	1	1	1	1	1	1	1 9/16	1 9/16	2 1/4	2 5/8	2 5/8	2 5/8	2 3/4	2 3/4	3
1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 7/8	1 7/8	2 5/8	2 7/8	2 7/8	2 7/8	3 1/8	3 1/8	3 3/8
1 1/4	1 7/8	1 7/8	1 7/8	1 7/8	1 9/16	1 9/16	1 9/16	2 3/8	2 3/8	3	3 1/4	3 1/4	3 1/4	3 1/2	3 1/2	4 1/8
1 1/2	2 1/8	2 1/8	2 1/8	2 1/8	1 7/8	1 7/8	1 7/8	2 3/4	2 3/4	3 3/8	3 3/4	3 3/4	3 3/4	3 7/8	3 7/8	4 5/8
2	2 3/4	2 3/4	2 3/4	2 3/4	2 5/16	2 5/16	2 5/16	3 3/8	3 3/8	4 1/8	4 3/8	4 3/8	4 3/8	5 5/8	5 5/8	5 3/4
2 1/2	3 1/4	3 1/4	3 1/4	3 1/4	2 3/4	2 3/4	2 3/4	3 7/8	3 7/8	4 7/8	5 1/8	5 1/8	5 1/8	6 1/2	6 1/2	6 5/8
3	4	4	4	4	3 3/4	3 5/8	3 5/8	4 3/4	4 3/4	5 3/8	5 7/8	5 7/8	5 7/8	6 5/8	6 7/8	7 3/4
3 1/2	4 1/2	4 1/2	4 1/8	4 1/8	4 1/8	4 1/8	–	5 1/4	5 1/4	6 3/8	6 1/2	6 3/8	6 3/8	7 1/2	7 3/8	–
4	5	5	4 3/4	4 3/4	4 3/4	4 5/8	4 5/8	5 7/8	5 7/8	6 7/8	7 1/8	7	7 5/8	8 1/8	8 1/4	9 1/4
4 1/2	5 1/2	5 1/2	5 5/16	5 5/16	5 5/16	5 5/16	–	6 1/2	6 1/2	7	7 3/4	7 5/8	8 1/4	9 3/8	9 1/8	–
5	6 1/8	6 1/8	5 13/16	5 13/16	5 13/16	5 5/8	5 5/8	7	7	7 3/4	8 1/2	8 3/8	9 1/2	9 3/4	10	11
6	7 3/16	7 3/16	6 7/8	6 7/8	6 7/8	6 3/4	6 3/4	8 1/4	8 1/4	8 3/4	9 7/8	9 3/4	10 1/2	11 3/8	11 1/8	12 1/2
8	9 3/16	9 3/16	8 7/8	8 7/8	8 3/4	8 1/2	8 1/2	10 3/8	10 1/8	11	12 1/8	12	12 5/8	14 1/8	13 7/8	15 1/4
10	11 5/16	11 5/16	10 13/16	10 13/16	10 7/8	10 1/2	10 5/8	12 1/2	12 1/4	13 3/8	14 1/4	14 1/8	15 3/4	17 1/8	17 1/8	18 3/4
12	13 3/8	13 3/8	12 7/8	12 7/8	12 3/4	12 3/4	12 1/2	14 3/4	14 1/2	16 1/8	16 5/8	16 1/2	18	19 5/8	20 1/2	21 5/8
14	14 5/8	14 5/8	14 1/4	14 1/4	14	14 1/4	–	16	15 3/4	17 3/4	19 1/8	19	19 3/8	20 1/2	22 3/4	–
16	16 5/8	16 5/8	16 1/4	16 1/4	16 1/4	16	–	18 1/4	18	20 1/4	21 1/4	21 1/8	22 1/4	22 5/8	25 1/4	–
18	18 11/16	18 11/16	18 1/2	18 1/2	18 1/4	18 1/4	–	20 3/4	20 1/2	21 5/8	23 1/2	23 3/8	24 1/8	25 1/8	27 3/4	–
20	20 11/16	20 11/16	20 1/2	20 1/2	20 1/2	20 1/4	–	22 3/4	22 1/2	23 7/8	25 3/4	25 1/2	26 7/8	27 1/2	29 3/4	–
24	24 3/4	24 3/4	24 3/4	24 3/4	24 3/4	24 1/4	–	27	26 3/4	28 1/4	30 1/2	30 1/4	31 1/8	33	35 1/2	–

Spiral Wound Gaskets



Inner Ring Dimensions Pipes Under 24"



Standard I.D. of Inner Rings

Nom. Pipe Size	Pressure Class 150	300	400	600	900	1500	2500
1/2	0.56	0.56	0.56	0.56	0.56	0.56	0.56
3/4	0.81	0.81	0.81	0.81	0.81	0.81	0.81
1	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1 1/4	1.50	1.50	1.50	1.50	1.31	1.31	1.31
1 1/2	1.75	1.75	1.75	1.75	1.63	1.63	1.63
2	2.19	2.19	2.19	2.19	2.06	2.06	2.06
2 1/2	2.62	2.62	2.62	2.62	2.50	2.50	2.50
3	3.19	3.19	3.19	3.19	3.10	3.10	3.10
4	4.19	4.19	4.04	4.04	4.04	3.85	3.85
5	5.19	5.19	5.05	5.05	5.05	4.90	4.90
6	6.19	6.19	6.10	6.10	6.10	5.80	5.80
8	8.50	8.50	8.10	8.10	7.75	7.75	7.75
10	10.56	10.56	10.05	10.05	9.69	9.69	9.69
12	12.50	12.50	12.10	12.10	11.50	11.50	11.50
14	13.75	13.75	13.50	13.50	12.63	12.63	–
16	15.75	15.75	15.35	15.35	14.75	14.50	–
18	17.69	17.69	17.25	17.25	16.75	16.75	–
20	19.69	19.69	19.25	19.25	19.00	18.75	–
24	23.75	23.75	23.25	23.25	23.25	22.75	–

Series A Flanges 22" and Over

Nom. Pipe Size	Class 150				Class 300				Class 400			
	Inner Ring I.D.	Sealing Element I.D.	Sealing Element O.D.	Centering Ring O.D.	Inner Ring I.D.	Sealing Element I.D.	Sealing Element O.D.	Centering Ring O.D.	Inner Ring I.D.	Sealing Element I.D.	Sealing Element O.D.	Centering Ring O.D.
22	–	22 3/4	24	26	–	22 3/4	24 3/4	27 3/4	–	22 3/4	24 3/4	27 5/8
26	25 3/4	26 1/2	27 3/4	30 1/2	25 3/4	27	29	32 7/8	26	27	29	32 3/4
28	27 3/4	28 1/2	29 3/4	32 3/4	27 3/4	29	31	35 3/8	28	29	31	35 1/8
30	29 3/4	30 1/2	31 3/4	34 3/4	29 3/4	31 1/4	33 1/4	37 1/2	29 3/4	31 1/4	33 1/4	37 1/4
32	31 3/4	32 1/2	33 7/8	37	31 3/4	33 1/2	35 1/2	39 5/8	32	33 1/2	35 1/2	39 1/2
34	33 3/4	34 1/2	35 7/8	39	33 3/4	35 1/2	37 1/2	41 5/8	34	35 1/2	37 1/2	41 1/2
36	35 3/4	36 1/2	38 1/8	41 1/4	35 3/4	37 5/8	39 5/8	44	36 1/8	37 5/8	39 5/8	44
38	37 3/4	38 1/2	40 1/8	43 3/4	37 1/2	38 1/2	40	41 1/2	37 1/2	38 1/4	40 1/4	42 1/4
40	39 3/4	40 1/2	42 1/8	45 3/4	39 1/2	40 1/4	42 1/8	43 7/8	39 3/8	40 3/8	42 3/8	44 3/8
42	41 3/4	42 1/2	44 1/4	48	41 1/2	42 1/4	44 1/8	45 7/8	41 3/8	42 3/8	44 3/8	46 3/8
44	43 3/4	44 1/2	46 3/8	50 1/4	43 1/2	44 1/2	46 1/2	48	43 1/2	44 1/2	46 1/2	48 1/2
46	45 3/4	46 1/2	48 3/8	52 1/4	45 3/8	46 3/8	48 3/8	50 1/8	46	47	49	50 3/4
48	47 3/4	48 1/2	50 3/8	54 1/2	47 5/8	48 5/8	50 5/8	52 1/8	47 1/2	49	51	53
50	49 3/4	50 1/2	52 1/2	56 1/2	49	51	53	54 1/4	49 1/2	51	53	55 1/4
52	51 3/4	52 1/2	54 1/2	58 3/8	52	53	55	56 1/4	51 1/2	53	55	57 1/4
54	53 1/2	54 1/2	56 1/2	61	53 1/4	55 1/4	57 1/4	58 3/4	53 1/4	55 1/4	57 1/4	59 3/4
56	55 1/2	56 1/2	58 1/2	63 1/4	55 1/4	57 1/4	59 1/4	60 3/4	55 1/4	57 1/4	59 1/4	61 3/4
58	57 1/2	58 1/2	60 1/2	65 1/2	57	59 1/2	61 1/2	62 3/4	57 1/4	59 1/4	61 1/4	63 3/4
60	59 1/2	60 1/2	62 1/2	67 1/2	60	61 1/2	63 1/2	64 3/4	59 3/4	61 3/4	63 3/4	66 1/4

Nom. Pipe Size	Class 600				Class 900			
	Inner Ring I.D.	Sealing Element I.D.	Sealing Element O.D.	Centering Ring O.D.	Inner Ring I.D.	Sealing Element I.D.	Sealing Element O.D.	Centering Ring O.D.
22	–	22 3/4	24 3/4	28 7/8	–	–	–	–
26	25 1/2	27	29	34 1/8	26	27	29	34 3/4
28	27 1/2	29	31	36	28	29	31	37 1/4
30	29 3/4	31 1/4	33 1/4	38 1/4	30 1/4	31 1/4	33 1/4	39 3/4
32	32	33 1/2	35 1/2	40 1/4	32	33 1/2	35 1/2	42 1/4
34	34	35 1/2	37 1/2	42 1/4	34	35 1/2	37 1/2	44 3/4
36	36 1/8	37 5/8	39 5/8	44 1/2	36 1/4	37 3/4	39 3/4	47 1/4
38	37 1/2	39	41	43 1/2	39 3/4	40 3/4	42 3/4	47 1/4
40	39 3/4	41 1/4	43 1/4	45 1/2	41 3/4	43 1/4	45 1/4	49 1/4
42	42	43 1/2	45 1/2	48	43 3/4	45 1/4	47 1/2	51 1/4
44	43 3/4	45 3/4	47 3/4	50	45 1/2	47 1/2	49 1/2	53 7/8
46	45 3/4	47 3/4	49 3/4	52 1/4	48	50	52	56 1/2
48	48	50	52	54 3/4	50	52	54	58 1/2
50	50	52	54	57	–	–	–	–
52	52	54	56	59	–	–	–	–
54	54 1/4	56 1/4	58 1/4	61 1/4	–	–	–	–
56	56 1/4	58 1/4	60 1/4	63 1/2	–	–	–	–
58	58	60 1/2	62 1/2	65 1/2	–	–	–	–
60	60 1/4	62 3/4	64 3/4	68 1/4	–	–	–	–

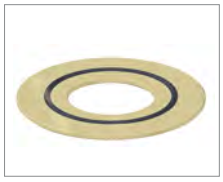
Spiral Wound Gaskets

Series B Flanges 26" and Over

Nom. Pipe Size	Class 75			Class 150				Class 300			
	Sealing Element		Centering Ring O.D.	Inner Ring I.D.	Sealing Element		Centering Ring O.D.	Inner Ring I.D.	Sealing Element		Centering Ring O.D.
	I.D.	O.D.			I.D.	O.D.			I.D.	O.D.	
26	26 1/4	27	27 7/8	25 3/4	26 1/2	27 1/2	28 9/16	25 3/4	26 1/2	28	30 3/8
28	28 1/4	29 1/8	29 7/8	27 3/4	28 1/2	29 1/2	30 9/16	27 3/4	28 1/2	30	32 1/2
30	30 1/4	31 1/8	31 7/8	29 3/4	30 1/2	31 1/2	32 9/16	29 3/4	30 1/2	32	34 7/8
32	32 1/4	33 1/8	33 7/8	31 3/4	32 1/2	33 1/2	34 11/16	31 3/4	32 1/2	34	37
34	34 1/4	35 1/8	35 7/8	33 3/4	34 1/2	35 3/4	36 13/16	33 3/4	34 1/2	36	39 1/8
36	36 1/4	37 1/4	38 5/16	35 3/4	36 1/2	37 3/4	38 7/8	35 3/4	36 1/2	38	41 1/4
38	–	–	–	37 3/4	38 3/8	39 3/4	41 1/8	38 1/4	39 3/4	41 1/4	43 1/4
40	–	–	–	39 3/4	40 1/4	41 7/8	43 1/8	40 1/4	41 3/4	43 1/4	45 1/4
42	42 1/4	43 1/4	44 5/16	41 3/4	42 1/2	43 7/8	45 1/8	42 3/4	43 3/4	45 1/4	47 1/4
44	–	–	–	43 3/4	44 1/4	45 7/8	47 1/8	44 1/4	45 3/4	47 1/4	49 1/4
46	–	–	–	45 3/4	46 1/2	48 3/16	49 7/16	46 3/8	47 7/8	49 3/8	51 7/8
48	48 3/8	49 1/2	50 1/2	47 3/4	48 1/2	50	51 7/16	48 1/2	49 3/4	51 5/8	53 7/8
50	–	–	–	49 3/4	50 1/2	52 3/16	53 7/16	49 7/8	51 7/8	53 3/8	55 7/8
52	–	–	–	51 3/4	52 1/2	54 3/16	55 7/16	51 7/8	53 7/8	55 3/8	57 7/8
54	54 3/8	55 5/8	56 5/8	53 3/4	54 1/2	56	57 5/8	53 3/4	55 1/4	57 1/4	60 1/4
56	–	–	–	56	56 7/8	58 3/16	59 5/8	56 1/4	58 1/4	60	62 3/4
58	–	–	–	58 3/16	59 1/16	60 3/16	62 3/16	58 7/16	60 7/16	61 15/16	65 3/16
60	60 1/2	61 3/4	62 7/8	60 7/16	61 5/16	62 7/16	64 3/16	61 5/16	62 9/16	64 3/16	67 3/16

Nom. Pipe Size	Class 400				Class 600				Class 900			
	Inner Ring I.D.	Sealing Element		Centering Ring O.D.	Inner Ring I.D.	Sealing Element		Centering Ring O.D.	Inner Ring I.D.	Sealing Element		Centering Ring O.D.
		I.D.	O.D.			I.D.	O.D.			I.D.	O.D.	
26	25 3/4	26 1/4	27 1/2	29 3/8	25 3/8	26 1/8	28 1/8	30 1/8	26 1/4	27 1/4	29 1/2	33
28	27 5/8	28 1/8	29 1/2	31 1/2	27	27 3/4	29 3/4	32 1/4	28 1/4	29 1/4	31 1/2	35 1/2
30	29 5/8	30 1/8	31 3/4	33 3/4	29 5/8	30 5/8	32 5/8	34 5/8	30 3/4	31 3/4	33 3/4	37 3/4
32	31 1/2	32	33 7/8	35 7/8	31 1/4	32 3/4	34 3/4	36 3/4	33	34	36	40
34	33 1/2	34 1/8	35 7/8	37 7/8	33 1/2	35	37	39 1/4	35 1/4	36 1/4	38 1/4	42 1/4
36	35 3/8	36 1/8	38	40 1/4	35 1/2	37	39	41 1/4	36 1/4	37 1/4	39 1/4	44 1/4
38	37 1/2	38 1/4	40 1/4	42 1/4	37 1/2	39	41	43 1/2	39 3/4	40 3/4	42 3/4	47 1/4
40	39 3/8	40 3/8	42 3/8	44 3/8	39 3/4	41 1/4	43 1/4	45 1/2	41 3/4	43 1/4	45 1/4	49 1/4
42	41 3/8	42 3/8	44 3/8	46 3/8	42	43 1/2	45 1/2	48	43 3/4	45 1/4	47 1/4	51 1/4
44	43 1/2	44 1/2	46 1/2	48 1/2	43 3/4	45 3/4	47 3/4	50	45 1/2	47 1/2	49 1/2	53 7/8
46	46	47	49	50 3/4	45 3/4	47 3/4	49 3/4	52 1/4	48	50	52	56 1/2
48	47 1/2	49	51	53	48	50	52	54 3/4	50	52	54	58 1/2
50	49 1/2	51	53	55 1/4	50	52	54	57	–	–	–	–
52	51 1/2	53	55	57 1/4	52	54	56	59	–	–	–	–
54	53 1/4	55 1/4	57 1/4	59 3/8	54 1/4	56 1/4	58 1/4	61 1/4	–	–	–	–
56	55 1/4	57 1/4	59 1/4	61 3/4	56 1/4	58 1/4	60 1/4	63 1/2	–	–	–	–
58	57 1/4	59 3/4	61 1/4	63 3/4	58	60 1/2	62 1/2	65 1/2	–	–	–	–
60	59 3/4	61 3/4	63 3/4	66 1/4	60 1/4	62 3/4	64 3/4	68 1/4	–	–	–	–

Materials	Temp. Range		
G10	Up	to	140°C
Viton™/Fluorocarbon	-26°C	to	204°C
Nitrile	-40°C	to	120°C
PTFE	-260°C	to	260°C
Minlon	Up	to	121°C



Raised Face Trojan® Gasket

Full Face Trojan® Gasket

Washer

Sleeve-Washer

Sleeve

Product Description

Isolation kits provide near-zero leakage while protecting a flange against corrosion caused by the transfer of electricity. Isolation gaskets are manufactured in accordance with ANSI B16.5 specifications for sizes up to 24". Kits are available with a Trojan® high-performance gasket, isolating sleeves, washers, or one-piece sleeve-washer units.

Part Numbers:

APS ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

- Pipe Size
- Class #
- K-Kit
- Gasket Type:
  - F – Raised Face
  - E – Full Face
- Gasket Style:
  - TRO – Trojan®
  - N – Nitrile/Phenolic
  - * – Other
- Gasket Sealing Element:
  - V – Viton™
  - T – PTFE
- Washer:
  - SW – Single Set
  - DW – Double Set
  - SI – Single One-Piece
  - DI – Double One-Piece

Example: APS 10000 900 F TRO V SW K – Trojan® Isolation Kit, 10.000 Nom. Pipe Size, Class 900#, Raised Face Gasket, Trojan® with a Viton™ Sealing Element, Single Washer Set, and Sleeves

Anodes & Pigtails

Anodes

Materials	Max Temp.
Zinc*	60°C
Aluminium**	50°C
Magnesium	–

** When using aluminium anodes, if temperatures exceed 60°C, a reversal of the anode will occur, and the vessel may experience high rates of corrosion.*

*** Caution should be taken when temperatures exceed 50°C when using magnesium anodes, as protection from the anode is reduced.*

Product Description

Anodes are used in a variety of cathodic protection solutions. They are highly active metals that are used to prevent a less active material's surface from corroding. We offer both heater-treater anodes and packaged anodes.

Heater treater anodes commonly come in three different materials: aluminium, zinc, and magnesium. They are called “heater treater” anodes as they are commonly used in oilfield vessels, although they can be used in various other applications and industries.

Packaged anodes consist of an inner magnesium or zinc bar that is surrounded by a powdered backfill material inside a cloth bag. The powder used is a nonhazardous, electrically conductive earth backfill. Packaged anodes are used for underground cathodic protection, including pipelines, fuel lines, natural gas distribution systems, etc.

Pigtails

Product Description

Pigtails are a coiled 12-gauge coated copper wire with connectors on both ends. One connector is attached to the insulating head, the other to an electrical source. This allows the pigtail to carry a current and electrically charge the anode.

Sanitary Clamp Gaskets

Materials	Temp. Range		
Nitrile**	-40°C	to	120°C
Viton™/Fluorocarbon**	-26°C	to	204°C
EPDM**	-54°C	to	150°C
PTFE	-260°C	to	260°C
Silicone*	-65°C	to	232°C

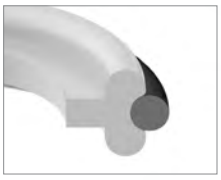
** Also available in clear*
*** Also available in white*

Standard Clamp Gasket (40MP)(40MO)

Mini Clamp Gasket (42MP)

Flanged Clamp Gasket (40MPF) (40MOF)

Envelope Clamp Gasket (A40MP)



Envelope Mini Clamp Gasket (A42MP)

Product Description

Sanitary clamp gaskets are widely used in the food and beverage, dairy, pharmaceutical, and various other sanitary process industries. These gaskets fit securely within the grooved connection between two sanitary fittings, ensuring a proper seal.

We offer sanitary clamp gaskets in a variety of materials to meet chemical compatibility and temperature requirements. Materials include nitrile, silicone, EPDM, Viton™, PTFE, as well as specialty materials. All compounds are made with FDA-compliant materials. Contact us to learn more about our FDA-compliant, USDA-accepted and certified, and USP Class VI certification materials.

Part Numbers:

Sanitary clamp gaskets are colour coded with dots based on common industry standards to help easily identify the material.

SAN ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

Clamp Size

Suffix:
- 40MP (1"- 4")
- 40MO (6"-12")
- 42MP
- 40MPF (1"- 4")
- 40MOF (6"-12")
- A40MP
- A42MP

Material:
- U – Nitrile
- UW – White Nitrile
- E – EPDM
- XW – Silicone
- G – PTFE
- GR – PTFE Envelope
- SFY – Viton™/Fluorocarbon
- SFYW - White Viton™/Fluorocarbon
- PX – Clear Platinum Cured Silicone

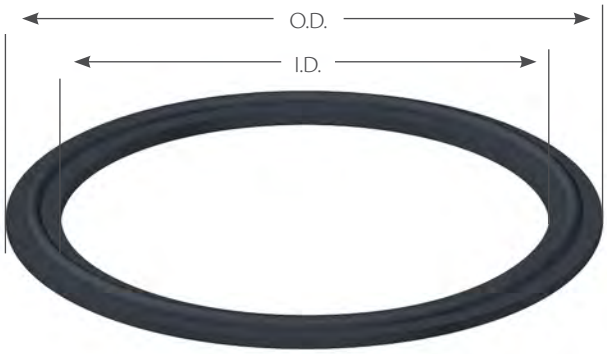
Colour Code

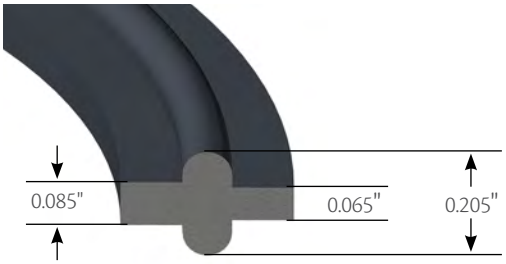
	None
	None
	None
	None

Example: SAN 3000 40MP UW – Sanitary Gaskets, 3" Standard Clamp Gasket, White Nitrile

Sanitary Clamp Gaskets

Standard Clamp Gaskets





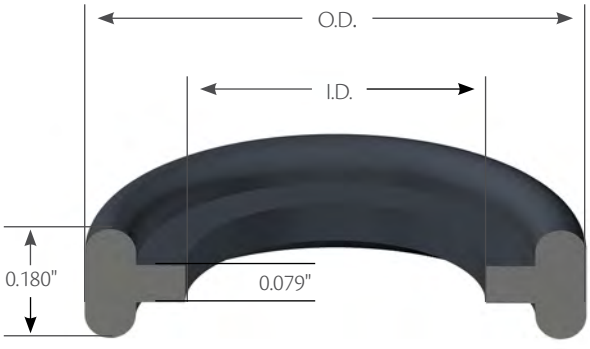
Part Number	Clamp Size	ID	OD
SAN 050040MPU	1/2	3/8	1
SAN 075040MPU	3/4	5/8	1
SAN 100040MPU	1	7/8	2
SAN 150040MPU	1 1/2	1 3/8	2
SAN 200040MPU	2	1 7/8	2 1/2
SAN 250040MPU	2 1/2	2 3/8	3
SAN 300040MPU	3	2 7/8	3 1/2
SAN 400040MPU	4	3 7/8	4 1/2
SAN 500040MPU	5	4 3/4	5 1/2
SAN 600040MOU	6	5 3/4	6 1/2
SAN 800040MOU	8	7 3/4	8 1/2
SAN 1000040MOU	10	9 11/16	10 1/2
SAN 120040MOU	12	11 11/16	12 1/2

Approximate dimensions of standard clamp style gasket listed above.

Mini Clamp Gaskets

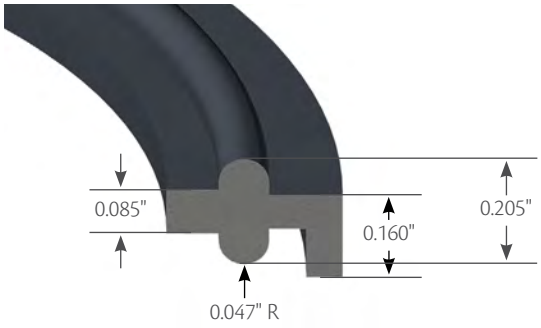
Part Number	Clamp Size	ID	OD
SAN 050042MPU	1/2	3/8	1
SAN 075042MPU	3/4	5/8	1

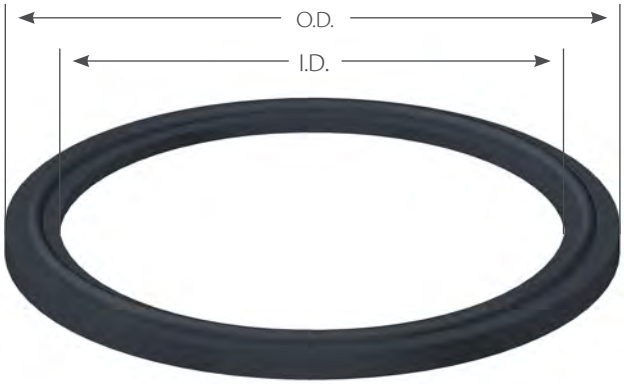
Approximate dimensions of mini clamp style gasket listed above.



Sanitary Clamp Gaskets

Flanged Clamp Gaskets



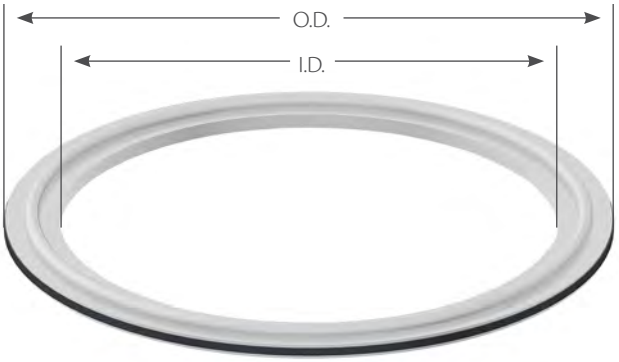


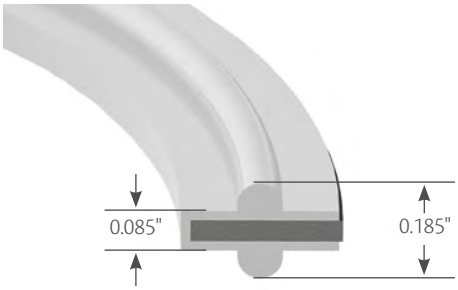
Part Number	Clamp Size	ID	OD
SAN 100040MPFU	1	7/8	2
SAN 150040MPFU	1 1/2	1 3/8	2
SAN 200040MPFU	2	1 7/8	2 1/2
SAN 250040MPFU	2 1/2	2 3/8	3
SAN 300040MPFU	3	2 7/8	3 1/2
SAN 400040MPFU	4	3 7/8	4 1/2
SAN 500040MPFU	5	4 3/4	5 1/2
SAN 600040MOFU	6	5 3/4	6 1/2
SAN 800040MOFU	8	7 3/4	8 1/2
SAN 1000040MOFU	10	9 11/16	10 1/2
SAN 1200040MOFU	12	11 11/16	12 1/2

Approximate dimensions of flanged clamp style gasket listed above.

Sanitary Clamp Gaskets

Envelope Clamp Gaskets





Filler thickness: 3/64"

Standard filler material is EPDM. It is also available in Viton™.

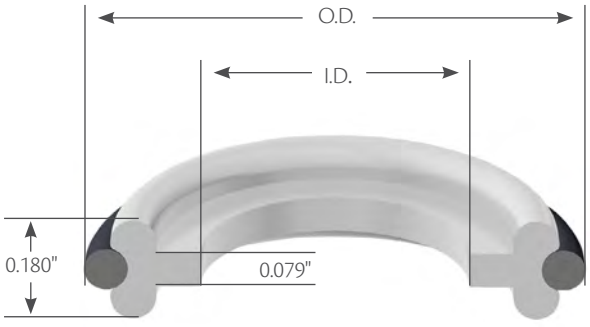
Part Number	Clamp Size	ID	OD
SAN 1000A40MPGR	1	7/8	2
SAN 1500A40MPGR	1 1/2	1 3/8	2
SAN 2000A40MPGR	2	1 7/8	2 1/2
SAN 2500A40MPGR	2 1/2	2 3/8	3
SAN 3000A40MPGR	3	2 7/8	3 1/2
SAN 4000A40MPGR	4	3 7/8	4 1/2
SAN 6000A40MPGR	6	5 3/4	6 1/2
SAN 8000A40MPGR	8	7 3/4	8 1/2
SAN 10000A40MPGR	10	9 11/16	10 1/2
SAN 12000A40MPGR	12	11 11/16	12 1/2

Approximate dimensions of PTFE envelope clamp style gasket listed above.

Envelope Mini Clamp Gaskets

Part Number	Clamp size	ID	OD
SAN 0500A40MPGR	1/2	3/8	7/8
SAN 0750A40MPGR	3/4	5/8	7/8

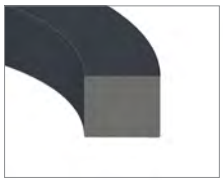
Approximate dimensions of PTFE envelope mini clamp style gasket listed above.



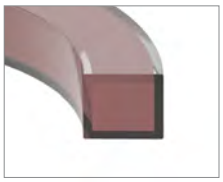
Standard reinforced material is ethylene propylene (EPDM). It is also available in Viton™.

Materials	Temp. Range		
Nitrile*	-40°C	to	120°C
Viton™/Fluorocarbon	-26°C	to	204°C
EPDM	-54°C	to	150°C
Clear FEP Red Silicone	-60°C	to	205°C
Clear FEP White Silicone	-60°C	to	205°C
Clear FEP Black Viton™	-60°C	to	205°C

** Avaiable in white nitrile upon special request.*



Camlock Gasket



Encapsulated Camlock Gasket

Product Description

Hi-Tech Seals offers standard and encapsulated camlock gaskets. Camlock gaskets are used in cam and groove couplings or fittings in a variety of different industries.

FEP encapsulated gaskets replace nitrile, Viton™, and EPDM gaskets in demanding applications. The FEP encapsulation eliminates premature seal failures as it resists chemical attacks. The silicone and fluoroelastomer core energizer provides a continuous, intensive contact with the sealing surface. FEP's low coefficient of friction provides anti-adhesion properties for easy installation and clean-up.

Part Numbers:

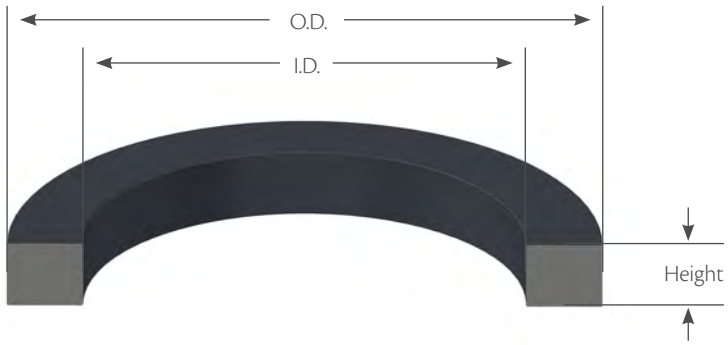
CML ____ ____ ____ ____ ____ ____ ____

Size — Material

N – Nitrile
EPDM – EPDM
V – Viton™/Fluorocarbon
TES – Clear FEP Red Silicone
TESW – Clear FEP White Silicone
TEV – Clear FEP Black Viton™

Example: CML 1250TESW – 1 1/4" Encapsulated Camlock Gaskets, Clear FEP White Silicone

Camlock Gaskets



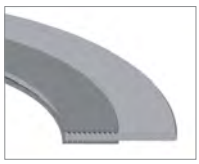
Part Number	Size	ID	OD	Height
CML 0500N	1/2	11/16	1 1/32	0.156
CML 0750N	3/4	7/8	1 3/8	0.218
CML 1000N	1	1 1/16	1 9/16	0.250
CML 1250N	1 1/4	1 23/64	1 15/16	0.250
CML 1500N	1 1/2	1 5/8	2 3/16	0.250
CML 2000N	2	2	2 5/8	0.250
CML 2500N	2 1/2	2 3/8	3 1/8	0.250
CML 3000N	3	3	3 23/32	0.250
CML 4000N	4	4	4 7/8	0.250
CML 5000N	5	4 7/8	5 15/16	0.250
CML 6000N	6	6	7 1/16	0.250
CML 8000N	8	8 1/8	9 5/16	0.343

Please note that both non-encapsulated and encapsulated camlock gaskets use the same dimensions.

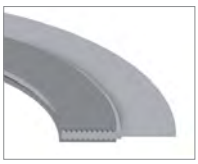
Metal Core Materials*	Temp. Range		
Stainless Steel 304	-200°C	to	420°C
Stainless Steel 316	-200°C	to	460°C
Sealing Materials			
Flexible Graphite	Up	to	510°C
PTFE	Up	to	260°C

** Stainless steel 316 and 304 can exceed their continuous operating temperatures, up to 760°C, for short-term intervals. However, this may result in intergranular corrosion.*

No Guide Ring



Integral Guide Ring



Loose Fit Guide Ring

Product Description

The Kammprofile™ is designed with a metal core featuring a serrated surface. Flexible graphite, or PTFE, is bonded to the serrated surface, which forms the sealing element. The serrated surface prevents movement of the seal within the flange, while the malleable sealing element conforms to deformations. The Kammprofile™ features excellent compressibility and recovery characteristics.

Profile for Flange

	Flange Type			
	Male / Female	Tongue / Groove	Flat Face	Full Face
No Guide Ring	√	√		
Integral Guide Ring			√	√
Loose Fit Guide Ring			√	√

Graphoil Ribbon

Working Temperature Range			
Oxidizing Atmosphere (such as air)	-240 °C	to	510 °C
Mild Oxidizing Atmosphere of most gasket applications	-240 °C	to	850 °C
Non-Oxidizing Atmosphere	-240 °C	to	3000 °C

Product Description

Graphoil ribbon is slit and corrugated (crinkled) from industrial-grade GR99 graphite material. Most flexible graphites have a carbon content of 95%–98%. We provide a high purity content of 99% carbon. This allows for better chemical resistance, thermal conductivity, and sealing. Graphoil ribbon can be used as a valve stem package, gasket, or seal. It can also be used to make die-formed rings. Standard tapes are supplied without special treatments.

We offer graphite crinkle ribbon in standard thicknesses of 0.015" by 50' lengths. The available widths are 1/2" and 3/4".

Properties	Value
Thermal Conductivity	
Parallel to Sheet Surface, BTU. in/ft	960
Through Thickness, BTU. in/ft	36
Coefficient of Friction (Against Steel), psi (Mpa)	0.018 @ 4 (0.03)
Coefficient of Friction (Against Steel), psi (Mpa)	0.157 @ 12 (0.08)
Compressibility (ASTM F-36), %	44
Recovery (ASTM F-36), %	15
Creep Relaxation (ASTM F-38), %	Less than 5
Sealability (ASTM F-37), fluid ounce/hr (ml/hr)	0.017 (0.5)

Technical Data	Value
Bulk Density, lbs/cu.ft. (g/cc)	70 (1.1)
Tensile Strength, psi (Mpa)	650 (4.4)
Carbon Content, %	99 (min)
Ash Content, %	1 (max)
Sulfur Content, ppm	900 (max)
Leachable Chloride Content, ppm	50 (ax)

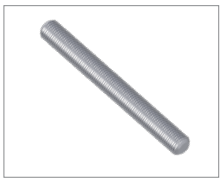
Part Numbers:

PKG ___ ___ ___ ___ GRARIBBON

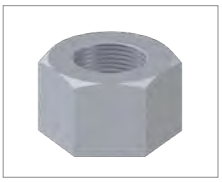
Width

Example: PKG 0500GRARIBBON – 1/2" wide, Crinkled, Graphoil Ribbon

Stud Materials	Application
A193, Grade B7 Chromium-Molybdenum	Sweet
A193, Grade B7M Chromium-Molybdenum	Sour
A193, Grade B8 Chromium-Nickel	-
A193, Grade B8M Chromium-Nickel Molybdenum	-
SAE Grade 8	-
Nut Materials	
A194, Grade 2H Carbon and Alloy Steel	Sweet
A194, Grade 2HM Carbon and Alloy Steel	Sour
A194, Grade 8 Stainless steel	-
A193, Grade B8M Chromium-Nickel Molybdenum	-
SAE Grade 5	-
SAE Gr 8	-



Studs

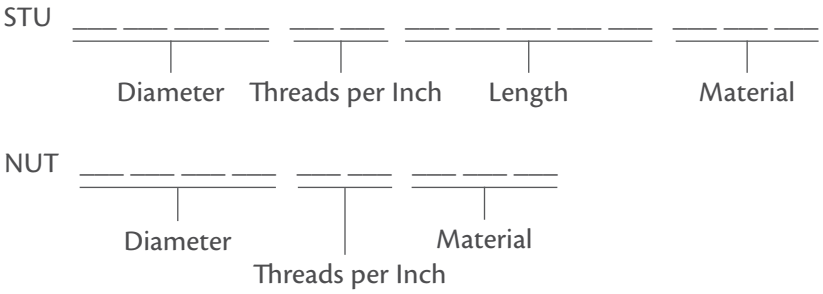


Heavy Hex Nuts

Product Description

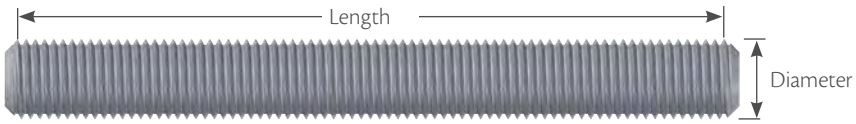
We offer finished studs and heavy hex nuts in diameters ranging from 1/2" to 3". B7 grade studs and 2H grade nuts are designed for sweet gas applications, whereas B7M grade studs and 2HM grade nuts are designed for sour gas applications. The threads of standard stocked studs and nuts comply with UN thread shape and dimensions.

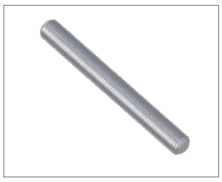
Part Numbers:



Example: STU 0750 10 3250 B7M – Stud, 3/4" Diameter, 10 Threads per Inch, 3 ¼" in Length, B7M Material

Example: NUT 0750 10 2HM – Nut, 3/4" I.D., 10 Threads per Inch, 2HM Material





Stud Length Tolerances

All studs are measured from the first full thread t.o the last full thread, excluding flat chamfer points. The actual length tolerances are as follows:

Length	Tolerances
Up to 12"	±1/16"
12" to 18"	±1/8
Over 18"	±1/8

Part Number	Diameter	Threads per Inch	Length
STU 0500133000	1/2	13	3
STU 0500133250	1/2	13	3 1/4
STU 0500133500	1/2	13	3 1/2
STU 0500133750	1/2	13	3 3/4
STU 0500134000	1/2	13	4
STU 0500134250	1/2	13	4 1/4
STU 0500134500	1/2	13	4 1/2
STU 0500134750	1/2	13	4 3/4
STU 0500135000	1/2	13	5
STU 0500135250	1/2	13	5 1/4
STU 0500135500	1/2	13	5 1/2
STU 0500135750	1/2	13	5 3/4
STU 0500136000	1/2	13	6
STU 0500136250	1/2	13	6 1/4
STU 0500136500	1/2	13	6 1/2
STU 0500136750	1/2	13	6 3/4
STU 0500137000	1/2	13	7
STU 0500137250	1/2	13	7 1/4
STU 0500137500	1/2	13	7 1/2
STU 0500137750	1/2	13	7 3/4
STU 0500138000	1/2	13	8
STU 0500138250	1/2	13	8 1/4
STU 0500138500	1/2	13	8 1/2
STU 0500138750	1/2	13	8 3/4
STU 0500139000	1/2	13	9
STU 0625113000	5/8	11	3
STU 0625113250	5/8	11	3 1/4
STU 0625113500	5/8	11	3 1/2
STU 0625113750	5/8	11	3 3/4
STU 0625114000	5/8	11	4
STU 0625114250	5/8	11	4 1/4
STU 0625114500	5/8	11	4 1/2
STU 0625114750	5/8	11	4 3/4
STU 0625115000	5/8	11	5
STU 0625115250	5/8	11	5 1/4
STU 0625115500	5/8	11	5 1/2
STU 0625115750	5/8	11	5 3/4
STU 0625116000	5/8	11	6
STU 0625116250	5/8	11	6 1/4
STU 0625116500	5/8	11	6 1/2

Part Number	Diameter	Threads per Inch	Length
STU 0625116750	5/8	11	6 3/4
STU 0625117000	5/8	11	7
STU 0625117250	5/8	11	7 1/4
STU 0625117500	5/8	11	7 1/2
STU 0625117750	5/8	11	7 3/4
STU 0625118000	5/8	11	8
STU 0625118250	5/8	11	8 1/4
STU 0625118500	5/8	11	8 1/2
STU 0625118750	5/8	11	8 3/4
STU 0625119000	5/8	11	9
STU 0750103000	3/4	10	3
STU 0750103250	3/4	10	3 1/4
STU 0750103500	3/4	10	3 1/2
STU 0750103750	3/4	10	3 3/4
STU 0750104000	3/4	10	4
STU 0750104250	3/4	10	4 1/4
STU 0750104500	3/4	10	4 1/2
STU 0750104750	3/4	10	4 3/4
STU 0750105000	3/4	10	5
STU 0750105250	3/4	10	5 1/4
STU 0750105500	3/4	10	5 1/2
STU 0750105750	3/4	10	5 3/4
STU 0750106000	3/4	10	6
STU 0750106250	3/4	10	6 1/4
STU 0750106500	3/4	10	6 1/2
STU 0750106750	3/4	10	6 3/4
STU 0750107000	3/4	10	7
STU 0750107250	3/4	10	7 1/4
STU 0750107500	3/4	10	7 1/2
STU 0750107750	3/4	10	7 3/4
STU 0750108000	3/4	10	8
STU 0750108250	3/4	10	8 1/4
STU 0750108500	3/4	10	8 1/2
STU 0750108750	3/4	10	8 3/4
STU 0750109000	3/4	10	9
STU 0750109250	3/4	10	9 1/4
STU 0750109500	3/4	10	9 1/2
STU 0750109750	3/4	10	9 3/4
STU 07501010000	3/4	10	10
STU 087593000	7/8	9	3

Studs

Part Number	Diameter	Threads per Inch	Length
STU 087593250	7/8	9	3 1/4
STU 087593500	7/8	9	3 1/2
STU 087593750	7/8	9	3 3/4
STU 087594000	7/8	9	4
STU 087594250	7/8	9	4 1/4
STU 087594500	7/8	9	4 1/2
STU 087594750	7/8	9	4 3/4
STU 087595000	7/8	9	5
STU 087595250	7/8	9	5 1/4
STU 087595500	7/8	9	5 1/2
STU 087595750	7/8	9	5 3/4
STU 087596000	7/8	9	6
STU 087596250	7/8	9	6 1/4
STU 087596500	7/8	9	6 1/2
STU 087596750	7/8	9	6 3/4
STU 087597000	7/8	9	7
STU 087597250	7/8	9	7 1/4
STU 087597500	7/8	9	7 1/2
STU 087597750	7/8	9	7 3/4
STU 087598000	7/8	9	8
STU 087598250	7/8	9	8 1/4
STU 087598500	7/8	9	8 1/2
STU 087598750	7/8	9	8 3/4
STU 087599000	7/8	9	9
STU 087599250	7/8	9	9 1/4
STU 087599500	7/8	9	9 1/2
STU 087599750	7/8	9	9 3/4
STU 0875910000	7/8	9	10
STU 100083000	1	8	3
STU 100083250	1	8	3 1/4
STU 100083500	1	8	3 1/2
STU 100083750	1	8	3 3/4
STU 100084000	1	8	4
STU 100084250	1	8	4 1/4
STU 100084500	1	8	4 1/2
STU 100084750	1	8	4 3/4
STU 100085000	1	8	5
STU 100085250	1	8	5 1/4
STU 100085500	1	8	5 1/2
STU 100085750	1	8	5 3/4
STU 100086000	1	8	6
STU 100086250	1	8	6 1/4
STU 100086500	1	8	6 1/2
STU 100086750	1	8	6 3/4
STU 100087000	1	8	7
STU 100087250	1	8	7 1/4
STU 100087500	1	8	7 1/2
STU 100087750	1	8	7 3/4
STU 100088000	1	8	8
STU 100088250	1	8	8 1/4
STU 100088500	1	8	8 1/2
STU 100088750	1	8	8 3/4
STU 100089000	1	8	9
STU 100089250	1	8	9 1/4
STU 100089500	1	8	9 1/2
STU 100089750	1	8	9 3/4
STU 1000810000	1	8	10
STU 1000810250	1	8	10 1/4

Part Number	Diameter	Threads per Inch	Length
STU 1000810500	1	8	10 1/2
STU 1000810750	1	8	10 3/4
STU 1000811000	1	8	11
STU 1000811250	1	8	11 1/4
STU 1000811500	1	8	11 1/2
STU 1000811750	1	8	11 3/4
STU 1000812000	1	8	12
STU 112583000	1 1/8	8	3
STU 112583250	1 1/8	8	3 1/4
STU 112583500	1 1/8	8	3 1/2
STU 112583750	1 1/8	8	3 3/4
STU 112584000	1 1/8	8	4
STU 112584250	1 1/8	8	4 1/4
STU 112584500	1 1/8	8	4 1/2
STU 112584750	1 1/8	8	4 3/4
STU 112585000	1 1/8	8	5
STU 112585250	1 1/8	8	5 1/4
STU 112585500	1 1/8	8	5 1/2
STU 112585750	1 1/8	8	5 3/4
STU 112586000	1 1/8	8	6
STU 112586250	1 1/8	8	6 1/4
STU 112586500	1 1/8	8	6 1/2
STU 112586750	1 1/8	8	6 3/4
STU 112587000	1 1/8	8	7
STU 112587250	1 1/8	8	7 1/4
STU 112587500	1 1/8	8	7 1/2
STU 112587750	1 1/8	8	7 3/4
STU 112588000	1 1/8	8	8
STU 112588250	1 1/8	8	8 1/4
STU 112588500	1 1/8	8	8 1/2
STU 112588750	1 1/8	8	8 3/4
STU 112589000	1 1/8	8	9
STU 112589250	1 1/8	8	9 1/4
STU 112589500	1 1/8	8	9 1/2
STU 112589750	1 1/8	8	9 3/4
STU 1125810000	1 1/8	8	10
STU 1125810250	1 1/8	8	10 1/4
STU 1125810500	1 1/8	8	10 1/2
STU 1125810750	1 1/8	8	10 3/4
STU 1125811000	1 1/8	8	11
STU 1125811250	1 1/8	8	11 1/4
STU 1125811500	1 1/8	8	11 1/2
STU 1125811750	1 1/8	8	11 3/4
STU 1125812000	1 1/8	8	12
STU 125083000	1 1/4	8	3
STU 125083250	1 1/4	8	3 1/4
STU 125083500	1 1/4	8	3 1/2
STU 125083750	1 1/4	8	3 3/4
STU 125084000	1 1/4	8	4
STU 125084250	1 1/4	8	4 1/4
STU 125084500	1 1/4	8	4 1/2
STU 125084750	1 1/4	8	4 3/4
STU 125085000	1 1/4	8	5
STU 125085250	1 1/4	8	5 1/4
STU 125085500	1 1/4	8	5 1/2
STU 125085750	1 1/4	8	5 3/4
STU 125086000	1 1/4	8	6
STU 125086250	1 1/4	8	6 1/4

Studs & Nuts

Studs

Part Number	Diameter	Threads per Inch	Length
STU 125086500	1 1/4	8	6 1/2
STU 125086750	1 1/4	8	6 3/4
STU 125087000	1 1/4	8	7
STU 125087250	1 1/4	8	7 1/4
STU 125087500	1 1/4	8	7 1/2
STU 125087750	1 1/4	8	7 3/4
STU 125088000	1 1/4	8	8
STU 125088250	1 1/4	8	8 1/4
STU 125088500	1 1/4	8	8 1/2
STU 125088750	1 1/4	8	8 3/4
STU 125089000	1 1/4	8	9
STU 125089250	1 1/4	8	9 1/4
STU 125089500	1 1/4	8	9 1/2
STU 125089750	1 1/4	8	9 3/4
STU 1250810000	1 1/4	8	10
STU 1250810250	1 1/4	8	10 1/4
STU 1250810500	1 1/4	8	10 1/2
STU 1250810750	1 1/4	8	10 3/4
STU 1250811000	1 1/4	8	11
STU 1250811250	1 1/4	8	11 1/4
STU 1250811500	1 1/4	8	11 1/2
STU 1250811750	1 1/4	8	11 3/4
STU 1250812000	1 1/4	8	12
STU 137585000	1 3/8	8	5
STU 137585250	1 3/8	8	5 1/4
STU 137585500	1 3/8	8	5 1/2
STU 137585750	1 3/8	8	5 3/4
STU 137586000	1 3/8	8	6
STU 137586250	1 3/8	8	6 1/4
STU 137586500	1 3/8	8	6 1/2
STU 137586750	1 3/8	8	6 3/4
STU 137587000	1 3/8	8	7
STU 137587250	1 3/8	8	7 1/4
STU 137587500	1 3/8	8	7 1/2
STU 137587750	1 3/8	8	7 3/4
STU 137588000	1 3/8	8	8
STU 137588250	1 3/8	8	8 1/4
STU 137588500	1 3/8	8	8 1/2
STU 137588750	1 3/8	8	8 3/4
STU 137589000	1 3/8	8	9
STU 137589250	1 3/8	8	9 1/4
STU 137589500	1 3/8	8	9 1/2
STU 137589750	1 3/8	8	9 3/4
STU 1375810000	1 3/8	8	10
STU 1375810250	1 3/8	8	10 1/4
STU 1375810500	1 3/8	8	10 1/2
STU 1375810750	1 3/8	8	10 3/4
STU 1375811000	1 3/8	8	11
STU 1375811250	1 3/8	8	11 1/4
STU 1375811500	1 3/8	8	11 1/2
STU 1375811750	1 3/8	8	11 3/4
STU 1375812000	1 3/8	8	12
STU 150085000	1 1/2	8	5
STU 150085250	1 1/2	8	5 1/4
STU 150085500	1 1/2	8	5 1/2
STU 150085750	1 1/2	8	5 3/4
STU 150086000	1 1/2	8	6
STU 150086250	1 1/2	8	6 1/4

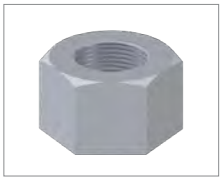
Part Number	Diameter	Threads per Inch	Length
STU 150086500	1 1/2	8	6 1/2
STU 150086750	1 1/2	8	6 3/4
STU 150087000	1 1/2	8	7
STU 150087250	1 1/2	8	7 1/4
STU 150087500	1 1/2	8	7 1/2
STU 150087750	1 1/2	8	7 3/4
STU 150088000	1 1/2	8	8
STU 150088250	1 1/2	8	8 1/4
STU 150088500	1 1/2	8	8 1/2
STU 150088750	1 1/2	8	8 3/4
STU 150089000	1 1/2	8	9
STU 150089250	1 1/2	8	9 1/4
STU 150089500	1 1/2	8	9 1/2
STU 150089750	1 1/2	8	9 3/4
STU 1500810000	1 1/2	8	10
STU 1500810250	1 1/2	8	10 1/4
STU 1500810500	1 1/2	8	10 1/2
STU 1500810750	1 1/2	8	10 3/4
STU 1500811000	1 1/2	8	11
STU 1500811250	1 1/2	8	11 1/4
STU 1500811500	1 1/2	8	11 1/2
STU 1500811750	1 1/2	8	11 3/4
STU 1500812000	1 1/2	8	12
STU 162585000	1 5/8	8	5
STU 162585250	1 5/8	8	5 1/4
STU 162585500	1 5/8	8	5 1/2
STU 162585750	1 5/8	8	5 3/4
STU 162586000	1 5/8	8	6
STU 162586250	1 5/8	8	6 1/4
STU 162586500	1 5/8	8	6 1/2
STU 162586750	1 5/8	8	6 3/4
STU 162587000	1 5/8	8	7
STU 162587250	1 5/8	8	7 1/4
STU 162587500	1 5/8	8	7 1/2
STU 162587750	1 5/8	8	7 3/4
STU 162588000	1 5/8	8	8
STU 162588250	1 5/8	8	8 1/4
STU 162588500	1 5/8	8	8 1/2
STU 162588750	1 5/8	8	8 3/4
STU 162589000	1 5/8	8	9
STU 162589250	1 5/8	8	9 1/4
STU 162589500	1 5/8	8	9 1/2
STU 162589750	1 5/8	8	9 3/4
STU 1625810000	1 5/8	8	10
STU 1625810250	1 5/8	8	10 1/4
STU 1625810500	1 5/8	8	10 1/2
STU 1625810750	1 5/8	8	10 3/4
STU 1625811000	1 5/8	8	11
STU 1625811250	1 5/8	8	11 1/4
STU 1625811500	1 5/8	8	11 1/2
STU 1625811750	1 5/8	8	11 3/4
STU 1625812000	1 5/8	8	12
STU 175085000	1 3/4	8	5
STU 175085250	1 3/4	8	5 1/4
STU 175085500	1 3/4	8	5 1/2
STU 175085750	1 3/4	8	5 3/4
STU 175086000	1 3/4	8	6
STU 175086250	1 3/4	8	6 1/4

Studs & Nuts

Studs and Heavy Hex Nuts

Part Number	Diameter	Threads per Inch	Length
STU 175086500	1 3/4	8	6 1/2
STU 175086750	1 3/4	8	6 3/4
STU 175087000	1 3/4	8	7
STU 175087250	1 3/4	8	7 1/4
STU 175087500	1 3/4	8	7 1/2
STU 175087750	1 3/4	8	7 3/4
STU 175088000	1 3/4	8	8
STU 175088250	1 3/4	8	8 1/4
STU 175088500	1 3/4	8	8 1/2
STU 175088750	1 3/4	8	8 3/4
STU 175089000	1 3/4	8	9
STU 175089250	1 3/4	8	9 1/4
STU 175089500	1 3/4	8	9 1/2
STU 175089750	1 3/4	8	9 3/4
STU 1750810000	1 3/4	8	10
STU 1750810250	1 3/4	8	10 1/4
STU 1750810500	1 3/4	8	10 1/2
STU 1750810750	1 3/4	8	10 3/4
STU 1750811000	1 3/4	8	11
STU 1750811250	1 3/4	8	11 1/4
STU 1750811500	1 3/4	8	11 1/2
STU 1750811750	1 3/4	8	11 3/4
STU 1750812000	1 3/4	8	12
STU 187585000	1 7/8	8	5
STU 187585250	1 7/8	8	5 1/4
STU 187585500	1 7/8	8	5 1/2
STU 187585750	1 7/8	8	5 3/4
STU 187586000	1 7/8	8	6
STU 187586250	1 7/8	8	6 1/4
STU 187586500	1 7/8	8	6 1/2
STU 187586750	1 7/8	8	6 3/4
STU 187587000	1 7/8	8	7
STU 187587250	1 7/8	8	7 1/4
STU 187587500	1 7/8	8	7 1/2
STU 187587750	1 7/8	8	7 3/4
STU 187588000	1 7/8	8	8
STU 187588250	1 7/8	8	8 1/4
STU 187588500	1 7/8	8	8 1/2
STU 187588750	1 7/8	8	8 3/4
STU 187589000	1 7/8	8	9
STU 187589250	1 7/8	8	9 1/4
STU 187589500	1 7/8	8	9 1/2
STU 187589750	1 7/8	8	9 3/4
STU 1875810000	1 7/8	8	10
STU 1875810250	1 7/8	8	10 1/4
STU 1875810500	1 7/8	8	10 1/2
STU 1875810750	1 7/8	8	10 3/4
STU 1875811000	1 7/8	8	11
STU 1875811250	1 7/8	8	11 1/4
STU 1875811500	1 7/8	8	11 1/2
STU 1875811750	1 7/8	8	11 3/4
STU 1875812000	1 7/8	8	12
STU 200085000	2	8	5
STU 200085250	2	8	5 1/4
STU 200085500	2	8	5 1/2
STU 200085750	2	8	5 3/4
STU 200086000	2	8	6
STU 200086250	2	8	6 1/4

Part Number	Diameter	Threads per Inch	Length
STU 200086500	2	8	6 1/2
STU 200086750	2	8	6 3/4
STU 200087000	2	8	7
STU 200087250	2	8	7 1/4
STU 200087500	2	8	7 1/2
STU 200087750	2	8	7 3/4
STU 200088000	2	8	8
STU 200088250	2	8	8 1/4
STU 200088500	2	8	8 1/2
STU 200088750	2	8	8 3/4
STU 200089000	2	8	9
STU 200089250	2	8	9 1/4
STU 200089500	2	8	9 1/2
STU 200089750	2	8	9 3/4
STU 2000810000	2	8	10
STU 2000810250	2	8	10 1/4
STU 2000810500	2	8	10 1/2
STU 2000810750	2	8	10 3/4
STU 2000811000	2	8	11
STU 2000811250	2	8	11 1/4
STU 2000811500	2	8	11 1/2
STU 2000811750	2	8	11 3/4
STU 2000812000	2	8	12



Heavy Hex Nuts

Part Number	Thread Diameter	Threads per Inch
NUT 050013	1/2	13
NUT 062511	5/8	11
NUT 075010	3/4	10
NUT 087059	7/8	9
NUT 10008	1	8
NUT 11258	1 1/8	8
NUT 12508	1 1/4	8
NUT 13758	1 3/8	8
NUT 15008	1 1/2	8
NUT 16258	1 5/8	8
NUT 17508	1 3/4	8
NUT 18758	1 7/8	8
NUT 20008	2	8

Bolts

Materials
A193, B7, Chromium-Molybdenum Alloy Steel
SAE J429, Grade 8 Medium Carbon Alloy Steel

B7

Grade 8

Product Description

We offer a variety of finished bolts in various head types, lengths, and threads per inch. B7 chromium-molybdenum alloy steel bolts are well-suited for high-temperature and high-pressure applications. Common applications include oil and gas pressure vessels and valves, chemical and petroleum facilities, and pipe flange connections.

Grade 8 bolts offer outstanding tensile strength, making them suitable for use in applications where high loads or forces are present. These bolts find wide spread use in industries such as automotive, construction, oil and gas, renewable energy, manufacturing, and aerospace.

Part Numbers:

BLT ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

Diameter Length Material

Example: BLT 0500 1750 GR8 – Bolt, 1/2” Diameter, 1.75” Length, GR8 Material

Metallic

Non-Metallic

Product Description

Washers are used to distribute the load of bolts or nuts over a large area or to help prevent loosening under vibration. They can also function as spacers and locking devices.

We can manufacture non-metallic washers in-house from our extensive inventory of rubber, plastic, or composite sheet materials using our flashcutter. Whether you require standard or custom-sized washers, we have the expertise to cut them with precision. Our selection includes washers made of both metallic and non-metallic materials.

Metallic Flat Washers

- Aluminum
- Brass
- Copper
- Bronze
- Stainless Steel
- Lead
- Berylium
- Zinc
- Hardened
- Through Hardened

Non-Metallic Flat Washers

- Nitrile
- Hydrogenated Nitrile
- Fluorocarbon/Viton™
- RyFlor™
- Chloroprene
- KasPex™ PEEK
- BoKure™ Urethane
- UHMW-PE
- Nylon
- Phenolic
- Acetal

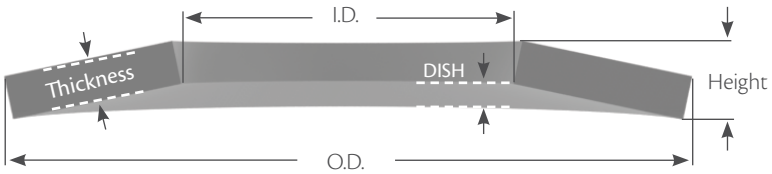
Part Numbers:

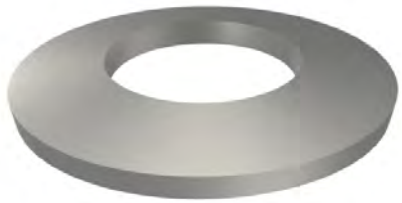
WSH ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

I.D. O.D Height

Example: WSH 0250 0425 0040 – Washer, 0.250” I.D., 0.425” O.D., 0.040” Height

Belleville Disc Springs





Product Description

Belleville Disc Springs, also referred to as Belleville washers, feature a distinctive conical shape with a center hole, used in both static and dynamic applications. Their unique shape allows them to support high loads within compact spaces with relatively minor deflections. Belleville Disc Springs are commonly used to secure bolted connections, stabilize valve assemblies, absorb shocks, improve vibration damping, and endure load cycling across various industries including:

- Oil and Gas
- Industrial Heavy Equipment
- Construction
- Automotive
- Mining
- Electrical
- Transportation
- Machinery
- Aerospace

Stacking

Belleville Disc Springs can be stacked in parallel, series, or a combination of both to increase load capacity or deflection. Parallel stacking increases load while maintaining deflection. Series stacking increases deflection while maintaining load. Combining parallel and series increases both load and deflection.

Parallel

Series

Parallel and Series

Part Numbers:

BDS ____ ____ ____ ____

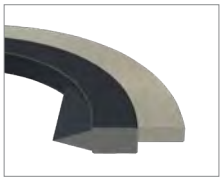
O.D.	I.D	Thickness	DISH (Deflection) Height

Example: BDS 3930 2855 155 060 – Belleville Disc Springs, 3.930” O.D., 2.855” I.D., 0.155” Thick, 0.060” DISH (Deflection) Height

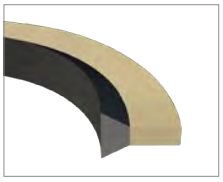
Elastomer Materials	Temp. Range		
Nitrile	-40°C	to	120°C
Viton™/Fluorocarbon	-26°C	to	204°C
Hydrogenated Nitrile	-40°C	to	160°C
Metal Materials			
Brass			
Carbon Steel			

** Temperature ranges are limited by the elastomer's performance range. Other materials are available, upon request.*

Fastener Seal
600 Series (ST)



Thread Seal
750 Series (TS)



Bonded Seal
400 Series (BS)

Product Description

Bonded washers, or sealing washers, are a modification of the standard washer design. Standard washers are used to help evenly distribute the load of the bolt. The benefit of a sealing washer is a moulded elastomer lining, which helps prevent fluids from leaking through bolt holes.

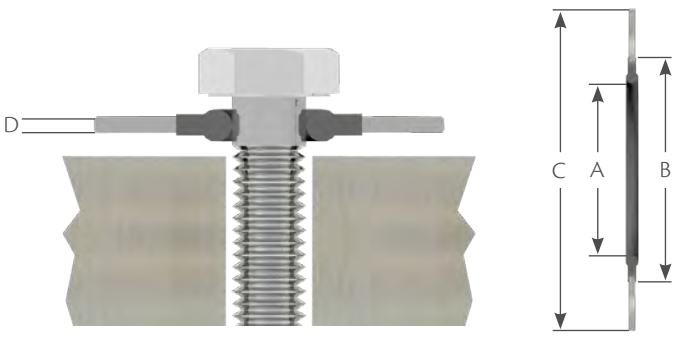
Part Numbers:

ST – Fastener Seal
TS – Threaded Seal
BS – Bonded Seal

Example: ST 1000 – Fastener Seal, Intended for a 1.000" Thread Diameter, 0.988" Seal I.D., 1.760" O.D.

Bonded Washers

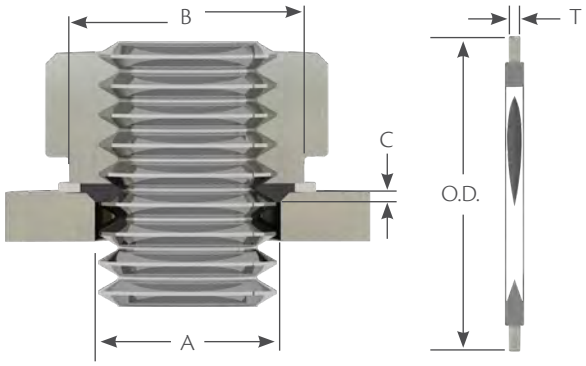
Fastener Seal – 600 Series



Part Number	Fastener Size	Thread Diameter	A I.D. ± 0.010	B Diameter Max.	C O.D. ± 0.010	D Retainer Thickness
ST 138	#6	0.138	0.130	0.229	0.385	0.040 ± 0.004
ST 164	#8	0.164	0.156	0.255	0.385	0.040 ± 0.004
ST 190	#10	0.190	0.180	0.317	0.443	0.050 ± 0.005
ST 190OS	#10 OS	0.190	0.186	0.365	0.468	0.050 ± 0.005
ST 250	1/4	0.250	0.240	0.381	0.505	0.050 ± 0.005
ST 250OS	1/4 OS	0.250	0.245	0.422	0.531	0.050 ± 0.005
ST 312	5/16	0.312	0.301	0.488	0.603	0.050 ± 0.005
ST 375	3/8	0.375	0.364	0.546	0.666	0.050 ± 0.005
ST 437	7/16	0.438	0.427	0.618	0.760	0.050 ± 0.005
ST 500	1/2	0.500	0.490	0.696	0.880	0.050 ± 0.005
ST 562	9/16	0.562	0.552	0.759	1.067	0.050 ± 0.005
ST 625	5/8	0.625	0.615	0.818	1.193	0.050 ± 0.005
ST 688	11/16	0.688	0.674	0.898	1.260	0.050 ± 0.005
ST 750	3/4	0.750	0.740	0.982	1.322	0.064 ± 0.005
ST 812	13/16	0.812	0.798	1.048	1.416	0.064 ± 0.005
ST 875	7/8	0.875	0.864	1.105	1.510	0.064 ± 0.005
ST 938	15/16	0.938	0.921	1.172	1.635	0.064 ± 0.005
ST 1000	1	1.000	0.988	1.234	1.760	0.064 ± 0.005
ST 1062	1 1/16	1.063	1.050	1.290	1.822	0.064 ± 0.005
ST 1125	1 1/8	1.125	1.106	1.351	1.885	0.064 ± 0.005
ST 1188	1 3/16	1.188	1.167	1.442	1.947	0.064 ± 0.005
ST 1250	1 1/4	1.250	1.229	1.474	2.010	0.064 ± 0.005
ST 1312	1 5/16	1.313	1.290	1.567	2.072	0.064 ± 0.005
ST 1375	1 3/8	1.375	1.352	1.631	2.135	0.064 ± 0.005
ST 1438	1 7/16	1.438	1.413	1.693	2.197	0.064 ± 0.005
ST 1500	1 1/2	1.500	1.475	1.817	2.260	0.091 ± 0.005
ST 1625	1 5/8	1.625	1.600	1.942	2.385	0.091 ± 0.005
ST 1750	1 3/4	1.750	1.725	2.067	2.510	0.091 ± 0.005
ST 1875	1 7/8	1.875	1.850	2.192	2.635	0.091 ± 0.005
ST 2000	2	2.000	1.975	2.317	2.760	0.091 ± 0.005
ST 3000	3	3.000	2.975	3.430	5.500	0.120 ± 0.005

Bonded Washers

Thread Seal – 750 Series



Part Number	UNC (Coarse)	UNF (Fine)	O.D. ± 0.010	T Retainer Thickness ± 0.005	A Clearance Diameter	B Min. Dia. of Mating Surface	C Bore Depth
TS 006	32	40	0.406	0.050	0.143/0.149	3/8	3/64
TS 008	32	36	0.406	0.050	0.170/0.177	3/8	3/64
TS 010	24	32	0.469	0.050	0.198/0.206	3/8	1/16
TS 012	24	28	0.562	0.050	0.224/0.234	7/16	1/16
TS 250	20	28	0.562	0.050	0.260/0.271	7/16	1/16
TS 312	18	24	0.687	0.064	0.327/0.339	1/2	1/16
TS 375	16	24	0.750	0.064	0.392/0.406	5/8	1/16
TS 437	14	20	0.906	0.078	0.458/0.474	11/16	1/16
TS 500	13	20	1.000	0.078	0.523/0.541	3/4	1/16
TS 562	12	18	1.094	0.094	0.589/0.609	7/8	1/16
TS 625	11	18	1.187	0.094	0.654/0.676	1	1/16
TS 750	10	16	1.375	0.109	0.788/0.812	1 1/8	3/32
TS 875	9	14	1.562	0.109	0.921/0.947	1 1/4	3/32
TS 1000	8	12	1.750	0.120	1.054/1.082	1 7/16	3/32
TS 1125	8*	12	1.875	0.120	1.187/1.217	1 9/16	3/16
TS 1250	8*	12	2.000	0.120	1.321/1.353	1 11/16	3/16
TS 1375	8*	12	2.125	0.120	1.454/1.488	1 13/16	3/16
TS 1500	8*	12	2.250	0.120	1.587/1.623	1 15/16	3/16
TS 1750	5	N/A	3.375	0.179	1.865/1.920	2 7/16	3/8

** Size 1 ⅛ to 1 ½ are not designed for standard coarse threads.*

Bonded Washers

Bonded Seals – 400 Series

Part Number	Bolt Size	A OD +0.005 -0.000	B ID ± 0.004	C Metal Thickness	D Total Height
BS 250	1/4	0.520	0.270	0.051	0.074
BS 312	5/16	0.560	0.340	0.051	0.074
BS 375	3/8	0.625	0.408	0.083	0.113
BS 437	7/16	0.750	0.460	0.083	0.113
BS 500	1/2	0.810	0.541	0.083	0.113
BS 562	9/16	0.875	0.585	0.083	0.113
BS 625	5/8	1.000	0.650	0.083	0.113
BS 687	11/16	1.000	0.715	0.097	0.127
BS 750	3/4	1.060	0.775	0.097	0.127
BS 812	13/16	1.125	0.848	0.097	0.127
BS 875	7/8	1.250	0.925	0.097	0.127
BS 1000	1	1.375	1.065	0.097	0.127
BS 1062	1 1/16	1.520	1.095	0.097	0.127
BS 1187	1 3/16	1.500	1.213	0.097	0.127
BS 1312	1 5/16	1.685	1.334	0.133	0.163
BS 1375	1 3/8	1.750	1.415	0.133	0.163
BS 1500	1 1/2	1.880	1.534	0.133	0.163
BS 1625	1 5/8	2.062	1.690	0.133	0.163
BS 1750	1 3/4	2.250	1.905	0.133	0.163
BS 1875	1 7/8	2.307	1.907	0.133	0.163
BS 2125	2 1/8	2.750	2.161	0.133	0.163
BS 2250	2 1/4	2.770	2.285	0.133	0.163

Additional sizes and torque information available..

Materials	Temperature		
Nitrile	Up	to	107°C
Ethylene Propylene (EPR)	Up	to	149°C
Fluorocarbon/Viton™	Up	to	204°C
Neoprene	Up	to	121°C

Head Type

Type A

Type B

Type C

Type D

Type E

Type T

Seat Type

Seat 1

Seat 3

Product Description

Mechanical seals are leakage-control devices. They are found on rotating equipment to prevent the leakage of liquids and gases into the environment. They create a seal when the two flat seal faces are pushed together by axial force from the closing mechanism. When the seal is in operation, the pumped fluid product lubricates the two seal faces.

We offer a wide variety of rubber bellow seals and industrial mechanical seals for all industries using pumps, mixers, and compressors.

Material Codes

Elastomers	Washers	Metal Parts	Seats	Spring
B. Nitrile	C. Carbon	D. Brass	J. Ceramic	E. Monel
E. Ethylene Propylene (EPR)	X. Silicone Carbide	E. Monel	R. 316 Stainless Steel	F. Stainless Steel
V. Fluorocarbon/Viton™	Z. Tungsten Carbide	F. Stainless Steel	X. Silicone Carbide	R. 316 Stainless Steel
N. Neoprene		R. 316 Stainless Steel	Z. Tungsten Carbide	

Head Type Reference

Head Type	Equivalent
 Type A	John Crane Type 6
	Sealol® Type A
	Pac-Seal Type 16
 Type B	John Crane Type 6A
	Sealol® Type B
	Pac-Seal Type 68
 Type C	John Crane Type 21
	Sealol® Type 43
	Pac-Seal Type 21
 Type D	John Crane Type 2
 Type E	John Crane Type1
	Sealol® Type 43
	Pac-Seal Type 51

Pressure Limitation

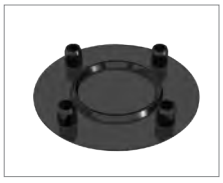
Head Types	Pressure Limitation
Type A	75 PSI
Type B	75 PSI
Type C	200 PSI
Type D	200 PSI
Type E	200 PSI

Protector Products

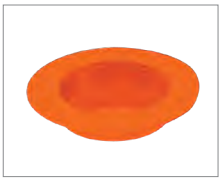
Material	Temp. Range		
Low-Density Polyethylene	-70°C	to	80°C
High-Density Polyethylene	-70°C	to	80°C

Bolted Flange Protector (BFP)

Stud Hole Flange Protector (FC)



Stud Hole Flange Protector (FC)



Valve Flange Protector (FP)

Locking Cap (SW)

Wedge Cap (KSW)

Telescopic Cap (TSW)

Bolt Cap (BM)

Bolt Thread Cap (B)

Caps & Plugs (CP)

Hydraulic Fitting Plugs (HF)

Tool Joint Protector (TJP)

Sucker Rod Caps (SR) & Plugs (FPS)

EUE

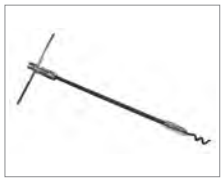
Sleeve Mesh (SM)

Product Description

Hi-Tech Seals offers an extensive range of protector products. Our protectors offer excellent defence against damage, dirt, and moisture that can occur during storage or shipping. They are made from low- or high-density materials such as polyethylene and urethane. Our specialty low-density polyethylene compound contains volatile corrosion inhibitors (VCI), which provide improved corrosion resistance.

Braided Packing

Braided Packing



Braided Packing Extractors

Product Description

Braided packing, also referred to as compression or rope packing, is a highly versatile sealing solution for pumps, valves, agitators, and other rotary equipment. Braided packing offers a cost-effective, long-lasting, and dependable leakage control system. Once the packing is installed, the axial compression force generated by tightening the adjustable gland produces radial pressure against the sealing surface. Since the packing expands radially when compressed, gland tolerances and surface finishes can be more flexible than some other sealing and packing products.

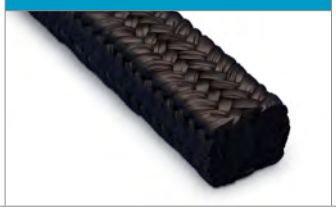
Braided packing is available in many styles and materials to suit a wide array of application conditions. Hi-Tech Seals distributes braided packing based on weight, measured in pounds. To request a quote, contact one of our sealing professionals today.

Part Numbers:

PKG ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

C/S — Material — Weight:
Blank – 1 lb
5LB – 5 lbs
10LB – 10 lbs

Example: PKG 375 530L 10LB – 3/8" C/S, Braided Packing style # 530L, 10lbs package.

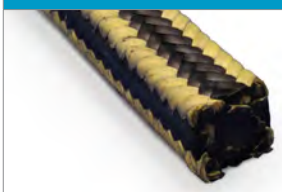
	Style #		Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
PTFE	100B		Braided from 100% PTFE filament and impregnated with a PTFE suspensoidal blocking agent. 100B offers a long service life, good chemical resistance, minimal water absorption, and an extremely low coefficient of friction. 100B is recommended for static conditions and is ideal for chemical processing applications.	260 (500)	0 - 14	N/A	2000 (static)
	100BL		Braided from 100% PTFE filament and impregnated with a PTFE suspensoidal blocking agent and break in lubricant. 100BL is ideal for high-speed rotary shaft services. This soft, yet dense and stable packing offers good chemical resistance and very low shaft friction. Can be used in reciprocating applications and various pump services.	260 (500)	0 - 14	1500	300
	100F		Manufactured from 100% PTFE yarn that complies with all FDA requirements. This packing is designed for use in the food and beverage, chemical, and pharmaceutical industries, or in critical applications where contamination is a concern.	260 (500)	0 - 14	1500	300
	100FL		Made from white hybrid PTFE yarn with a lubricant that complies with FDA requirements. 100FL offers extended service life and minimal shaft friction and scoring. High-speed PTFE packing for food service, pharmaceutical, pulp and paper, and chemical industries.	260 (500)	0 - 14	3000	300
	102B		Composed of PTFE filament and reinforced with aramid corners. This style is non-staining, non-contaminating and offers excellent abrasion resistance. 102B packing is a durable and resilient solution for abrasive slurry applications in centrifugal, rotary, reciprocating pumps, and valves.	260 (500)	2-12	2500	500
	130L		Composed of lubricated PTFE and graphite filaments with self-lubricating properties. 130L offers low friction, high heat dissipation, and good chemical resistance. Suited for most general service rotating equipment applications.	288 (550)	0 - 14	4000	300 - Pump 2000 - Valve

Braided Packing

	Style #		Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
PTFE	132L		Composed of PTFE and graphite filament yarn, encapsulated in a PTFE matrix; the matrix helps eliminate graphite migration, while the aramid reinforced corners increase abrasion resistance. Suited for valves, pumps, corrosive media, and abrasive environments.	260 (500)	2 - 12	2500	500
Aramid Fiber	210L		Composed from continuous aramid fibers thoroughly impregnated with PTFE and an inert lubricant. 210L packing provides high tensile strength and good abrasion resistance, while also offering excellent braid retention. This packing is nonstaining and non-contaminating with good dimensional stability and extrusion resistance. Ideal for various abrasive and slurry services where aggressive media is present.	260 (500)	2 - 12	2500	500
	210LS		Made with high-strength spun aramid yarn and thoroughly impregnated with a PTFE dispersion along with a proprietary inert lubricant, for a fast break-in. Its combination of softness and conformability makes it easy to cut and install while exhibiting strength in handling demanding abrasive applications. 210LS is non-staining and non-contaminating, offering exceptional durability and sealing performance.	260 (500)	2-12	2500	500
	221L		Manufactured from continuous Meta-aramid filament and impregnated with PTFE and an inert break in lubricant. 221L offers good heat dissipation and abrasion resistance. This packing is nonstaining, non-glazing, and non-contaminating. Suited for applications where low leakage and high durability packing is required, such as agitators, mixers, and stock pumps.	260 (500)	1 - 12	2000	300
Graphite	300		Manufactured from high purity graphite, 300 offers maximum sealability under gland pressure and is essentially leak free. 300 is a self-lubricating packing that offers low friction and good heat dissipation. Often used in high-temperature pump and valve applications.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 3000 - Valve
	307		Made from expanded flexible graphite yarn and reinforced with high-strength carbon filaments. 307 is easy to install, durable, self-lubricating, and offers low leakage with increased extrusion resistance. This material blend allows for low shaft wear while maintaining excellent heat dissipation. Suited for high-temperature and high-pressure pump and valve applications.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 3000 - Valve

*Air **Steam ***Non-Oxidizing Atmosphere

Braided Packing

	Style #		Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
Graphite	310		Made from high purity graphite with a PTFE dispersion. 310 packing is easy to install, offers good extrusion resistance, and is self-lubricating. The material combination allows for low wear and good durability, while maintaining good heat dissipation. Suited for almost all pump and valve applications.	288 (550)	0 - 14	4000	500
	310L		Braided from high-quality graphite and PTFE filament yarn. A high-speed lubricant is added for quick break in and low friction during operation. 310L is easy to install, offers good extrusion, and chemical resistance. Suitable for valves, centrifugal pumps, high-speed rotary pumps, and reciprocating pumps.	288 (550)	0 - 14	4900	300
	312		Braided using a combination of graphite and PTFE fibre filament yarn and aramid reinforced corners. This packing offers extrusion and abrasion resistance that is ideal for an extensive range of abrasive and chemical services. 312 maintains good dimensional stability in various valve and pump applications.	260 (500)	2 - 12	2500	500
	330		Made from industrial grade graphite filament and coated with a graphite blend. 330 is an economical substitute for most carbon packings. It offers a low coefficient of friction and high thermal conductivity. Suited for application with aggressive media or high shaft speed. Ideal for valves, centrifugal pumps, rotary pumps, and reciprocating pumps.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 4000 - Valve
	330B		A high-performance graphite packing that is impregnated with a blocking agent. 330B has a low coefficient of friction and high thermal conductivity. In addition, it offers good chemical resistance and dimensional stability. This packing can withstand extreme pressure and temperatures in environments with aggressive media. Suitable for agitators, pumps, valves, filters, and more.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 2500 - Valve
	330N		Made from nuclear grade graphite filament and coated with a graphite blend. 330N is designed for nuclear applications, capable of withstanding extreme temperature and pressures while maintaining low friction. This style offers high thermal conductivity and fraying resistance when cut. Can be used in valves, centrifugal pumps, rotary pumps, and reciprocating pumps.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 4000 - Valve

*Air **Steam ***Non-Oxidizing Atmosphere

Braided Packing

	Style #		Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
Graphite	377		Composed of high purity expanded flexible graphite reinforced with high strength carbon filament. This material combination allows for low wear while maintaining good heat dissipation. 377 is highly durable, self-lubricating, and offers superior extrusion resistance. Often used in high-temperature, high-speed, and high-pressure applications.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4800	500 - Pump 5000 - Valve
	3X0		Braided from 98% purity flexible graphite and Inconel® reinforced. Meets API 589/607 fire test standards. Offers reduced stem friction with high heat extrusion resistance.	*455 (850) **649 (1200) ***1093 (2000)	0 - 14	N/A	4500
	3X0IE		Composed of an Inconel® jacketed, 98% purity flexible graphite. Meets API 589/607 fire test standards and far surpasses API 622 standard for emission requirements. 3X0IE is a certified low leakage and ultra-low fugitive emission packing. With unique corrosion inhibitors, self-lubricating, and non-scoring qualities, it is a great solution for high-temperature and high-pressure valve services and Leak Detection and Repair (LDAR) programs.	*455 (850) **649 (1200) ***1093 (2000)	0 - 14	N/A	6500
	410		Composed of a 100% GFO™ fibre within a PTFE matrix to eliminate graphite migration. 410 offers a long service life with a low coefficient of friction. This packing has good water efficiency, thermal conductivity, and great chemical resistance. Suitable for mixers, agitators, valves, centrifugal pumps, rotary pumps, and reciprocating pumps.	288 (550)	0 - 14	4300	300 - Pump 2000 - Valve
Acrylic	510		Composed of acrylic blend that is impregnated with PTFE. 510 is a cost-effective, durable, general-purpose packing that possesses good chemical resistance and excellent dimensional stability. Designed to withstand a range of fluids in various temperatures, pressures, and speeds. Often used in centrifugal pumps, rotary pumps, and reciprocating pumps.	260 (500)	0 - 12	2200	500
	510L		Composed of an acrylic blended fibre impregnated with PTFE and an inert lubricant for extremely low friction. 510L is durable, non-staining, and non-contaminating. This packing provides good chemical resistance and offers great heat dissipation. Designed to withstand a range of fluids in various temperatures, pressures, and speeds. Often used in valves, centrifugal pumps, rotary pumps, and reciprocating pumps.	260 (500)	0 - 12	2500	500

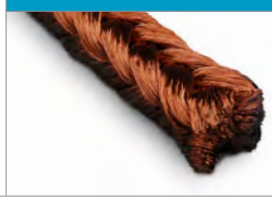
*Air **Steam ***Non-Oxidizing Atmosphere

Braided Packing

	Style #	Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
Acrylic	512L 	Made from acrylic blended fibre and reinforced with durable aramid corners. 512L is impregnated with PTFE and a lubricant. This packing offers a long service life and excellent abrasion resistance. Ideal for applications with abrasive slurry in valves and pumps.	260 (500)	2 - 12	2200	500
	530L 	Made from acrylic fibre; this packing is impregnated with graphite flakes and high-temperature lubricants. 530L is a cost-effective packing with low wear. This packing handles a wide range of fluids at various pressures and speeds. Used as a general service packing in steam, water, oil, and other mild environments.	260 (500)	4 - 10	1500	300
Phenolic/Fiberglass	610L 	610L is made from KYNOL™ filaments and is impregnated with PTFE and an inert break in lubricant. The phenolic fibres help reduce shaft wear and leakage. This packing is suitable for a range of purposes where durable packing is required.	260 (500)	1 - 13	2000	500
Carbon	700B 	Composed of carbon yarn and impregnated with a blocking agent. 700B offers a good service life and the ability to maintain good heat dissipation. This packing has good chemical resistance, low shaft wear, and offers low abrasion. Ideal for pumps or valves in caustic or corrosive media and is suitable for almost any high-speed and high-temperature pump or valve application.	315 (600)	0 - 14	3000	500 - Pump 3600 - Valve
	713L 	Fabricated using carbon filament impregnated with PTFE and graphite, it is excellent for demanding applications. The unique material combination offers high abrasion resistance, low friction, outstanding heat dissipation, and great performance at high speeds. The self-lubricating properties and other characteristics reduce shaft wear, water consumption, and lower maintenance.	*455 (850) **649 (1200)	0-14	4000	300 - Pump 4500 - Valve
	730B 	Composed of carbon yarn and impregnated with a blocking agent and high-purity graphite. 730B offers low shaft wear, low leakage, excellent heat dissipation, and good chemical resistance. Often used in caustic or corrosive environments and is suitable for almost any high-speed and high-temperature pump or valve application.	*455 (850) **649 (1200) ***3315 (6000)	0 - 14	4000	500 - Pump 4350 - Valve

*Air **Steam ***Non-Oxidizing Atmosphere

Braided Packing

	Style #		Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
Vegetable Fiber	800L		Braided from a long-lasting blend of flax and ramie fibres and thoroughly lubricated with a blend of tallow and wax. 800L packing provides an economical low friction solution for water pumps, stern tubes, and rudder posts. This packing offers good resistance to cold water, seawater, and cold oils. Often used in pulp and paper, marine, and wastewater markets.	104 (220)	5 - 9	1200	150
	810L		Composed of high-quality flax and ramie yarns which offer corrosion resistance, good braid retention, and long service life. 810L is impregnated with PTFE and an inert lubricant. Suited for most saltwater and freshwater applications.	121 (250)	5 - 9	1200	200
	830L		Braided from a blend of flax and ramie fibres, this packing is further enhanced with a tallow and wax blend lubricant and then coated with a high purity graphite to further reduce friction. 830L is resistant to cold water, seawater, and cold oils. Used in water pumps, rudder posts, marine applications, pulp and paper, and wastewater markets.	104 (220)	5 - 9	1200	150
Metallic	9A0L		Manufactured from aluminum alloy and lubricated with high viscosity light oil and high purity flake graphite. This packing is designed for services that require low friction and high-strength packing. Typically used in boiler feed pumps, heat transfer pumps, and oil charge pumps.	537 (1000)	4 - 10	2000	1000
	9A6L		High quality packing that is composed of aluminum alloy over a soft, high-temperature fibreglass core. 9A6L is lubricated with an oil and flake graphite blend for low friction. 9A6L is a high-strength, compressible packing that is available in coil form only. Often used in applications such as boiler pumps, heat transfer pumps, and oil charge pumps.	537 (1000)	4 - 10	2000	1000
	9C0		Made from soft annealed copper. This packing is dense yet flexible, which allows for easy installation. 9C0 is designed for use as an anti-extrusion ring.	816 (1500)	4 - 10	1000	1000

Braided Packing

	Style #	Description	Temp. Rating (°C (°F))	pH Rating	Speed Rating (FPM)	Pressure Rating (PSI)
Metallic	9X6I 	9X6I is composed of Inconel® wire inserted fibreglass wrapped over a core. The packing is further enhanced with corrosion inhibitors and a graphite blend coating. 9X6I is an economical solution compared to other more expensive steam packings. Used as a high-temperature and high-pressure valve stem or expansion joint packing.	649 (1200)	2 - 13	N/A	3000
	9L0L 	Composed of an anti-friction lead alloy and impregnated with low friction lubricant, which reduces shaft wear and increases heat dissipation. 9L0L is great for high-pressure applications and for use as end rings or anti-extrusion rings. These qualities make it well suited for high-pressure boiler feeders, reciprocating pumps, and rotating pumps.	232 (450)	4 - 10	3600	1000
	9L6L 	Composed from anti-friction lead alloy over a fibreglass core. The packing is impregnated with a low friction lubricant to help reduce shaft wear and increase heat dissipation. 9L6L is great for high-pressure applications and for use as end rings or anti-extrusion rings. These qualities make it well suited for high-pressure boiler feeders, reciprocating pumps, and rotating pumps.	232 (450)	4 - 10	3600	1000

Braided Packing

Hi-Tech Seals	American Braiding	Chemstar	A.W. Chesterton	John Crane	Garlock	SEPCO	Teadit	UTEX
100B	344	154	324/1724	C1045	5888/PM7	ML2254	2005	232
100BL	344BIL	154S	328/1728	C1050	5889/PM8	ML2235	2006	231
100F	344FDA	154FDA	1725	C1057	5904	ML2236	2006FDA	245
100FL	360	155	1765	-	-	ML2240	2020	-
102B	344K	154K	-	C1061	-	-	2003	-
130L	8200BIL	165LA	1750	C1065	PM6	ML3600	2007	244
132L	8100BIL-K	-	1740	C1064	PM6K	ML8004	2017	214
210L	300	170	1740	K1730	5200/PM5	ML4800	2004	212/213
210LS	300SA	182	-	K1760	8904/PM4	ML6225	2044	222
221L	310	2000	1730	K1771	1812	ML4700	2030	-
300	5000	1100TCP	1400	1656G/G58	1300	ML2001/ ML911	2000	686
307	5000CC	-	1400R	G58	1333G	-	-	-
310	5000T	-	-	-	-	GRAPHA-LUBE	-	688
310L	8100BIL	3165	1760	C1070	PM6	ML8002	2007	210
312	8000T-K	165-K	-	-	5100K	ML4004	-	-
330	8000LC	160	1-2	1635G/1626	G700	ML4444	2001	-
330B	8000G	-	375	1625G	G200	ML4500	-	229
330N	8000	-	-	-	G700	ML4444	-	-
377	5000-OCC	1100CR	GraphMax	G57	1306	ML2001CC	2202	687
3X0	5000I	1100I	-	-	1399	ML2001W	2001IC	689
3X0IE	5000IJ	-	1601/1622	G58I	1303FEP	622	2235/2236	691
410	8000T	165	-	-	5100	ML4002	-	-
510	3000N	-	-	1330	8922NL/PM1NL	ML2250	2018	238
510L	3000T	1152	412-W/1774	1335	8922/PM1	ML2225	2019	237
512L	3000T-K	1152K	-	C1061	8921K	ML2225A	-	241
530L	3000G	1398/1430	1315	1340	8913/PM2	ML402	2255	236
610L	320	1190	1727	-	1850	ML2400	2774/2777	248
700B	4000	50	1738	1655C	5000/105	ML4461	2103T	228
713L	8500	-	1830SSP	-	-	ML560	-	-
730B	4000G	90	370/477-1	1627/1650C	98/108	ML4460	2002	226
800L	921	528	80	863	18	2	2138	200
810L	345	525T	329	867	5413	219	2421	201
830L	921G	531	81	866	90	2GR	2177	204
9A0L	8013	-	-	124	634	-	-	632
9A6L	8011	-	666	100AL	633	184	-	631
9C0	895	49	420	550	344	-	-	-
9X6I	3030INA	1414	1800	287-I/387-I	127AFP	ML310	2214	683
9L0L	8012	-	-	100M	632	-	-	610
9L6L	8010	-	555	110G	631	180	-	616

Braided Packing

Hi-Tech Seals Style	American Braiding Style	Size									
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
100B	344	79	39	25	16	11.6	6.7	4.4	3.3	2.3	1.91
100BL	344BIL	68	41	22	14.5	10.6	5.9	3.7	2.6	1.9	1.5
100F	344FDA	82	47	22	15.2	10.9	5.7	4	2.9	2.2	1.6
100FL	360	72	31.5	17.4	12.5	8.9	4.7	3.3	2.3	1.7	1.2
102B	344K	89	43.5	25.5	16.5	11.9	6.7	4.4	3.2	2.2	1.8
130L	8200BIL	82	42	23	15.6	11.7	6.3	4.1	2.9	2.1	1.75
132L	8100BIL-K	-	-	23	14.5	10.1	5.7	3.8	2.6	2.2	1.57
210L	300	99	48	26	17	12.2	6.6	4.4	3.1	2.1	1.7
210LS	300SA	81	37	24	14.4	10.2	5.6	3.7	2.9	2.3	1.58
221L	310	90	40	21	15.9	11.9	6.7	4.3	3.3	2.3	1.81
300	5000	106	51	33	19	14.1	9.1	5.6	4.3	3.2	2.3
307	5000CC	106	51	33	19	14.1	9.1	5.6	4.3	3.2	2.3
310	5000T	77	41	25	16.6	12.6	7	4.4	2.8	2.4	1.8
310L	8100BIL	81	39	20	12.2	8.9	5.2	3.3	2.3	1.75	1.4
312	8000T-K	-	-	23	15	10.4	5.8	3.9	2.7	2.1	1.57
330	8000LC	135	67	35	24	14.8	9	6	3.9	3	2.3
330B	8000G	120	60	30	19.2	13.7	8.3	5.3	3.3	2.5	2
330N	8000	135	67	35	24	14.8	9	6	3.9	3	2.3
377	5000-OCC	-	-	29	19.3	13.9	7.6	5.1	3.5	2.6	2
3X0	5000I	106	51	33	19	14.1	9.1	5.6	4.3	3.2	2.3
3X0IE	5000IJ	82.7	36.8	20.7	13.1	9.2	5.5	3.7	2.7	2	1.5
410	8000T	65	42	20	14.3	10	5.6	3.8	2.6	2.1	1.56
510	3000N	107	48	28	18.4	13.2	7.4	4.9	3.6	2.6	2.1
510L	3000T	97	43	25	16.5	11.8	6.6	4.4	3.1	2.3	1.85
512L	3000T-K	-	-	26	18	13	6.6	4.7	3.3	2.5	1.8
530L	3000G	105	60	38	25	17.5	8.6	5.9	4.2	3.3	2.3
610L	320	130	57	27	16.4	12.8	7.6	4.9	3.4	2.5	2.2
700B	4000	89	42	22	15.3	10.6	6.2	4.1	2.9	1.98	1.4
713L	8500	100	45	25	16.2	11.3	6.5	4.2	3.0	2.2	1.7
730B	4000G	102	49	28	19.5	13.4	7.8	5.1	3.5	2.6	2.1
800L	921	100	54	28	20	14.1	8.6	5.8	3.9	2.9	2.3
810L	345	71	39	23	16.8	12.6	7.1	5	3.7	2.8	2.2
830L	921G	100	54	28	20	14.1	8.6	5.8	3.9	2.9	2.3
9A0L	8013	119	53	29	19	13.1	7.4	4.7	3.3	2.4	-
9A6L	8011	100	45	25	16.2	11.2	6.3	5.2	3.6	2.7	-
9C0	895	29	15.5	7.4	5.1	3.7	1.98	1.3	0.82	0.64	0.46
9X6I	3030INA	92	43	25	17.9	12.7	6.8	4.7	3.2	2.4	1.85
9L0L	8012	19.8	8.8	4.9	3.2	2.2	1.24	0.89	0.62	0.47	-
9L6L	8010	26	11.6	6.5	4.2	2.9	1.63	1.29	0.9	0.68	-

Yields are subject to deviation due to indusrty accepted tolerance and density variations.

Joint Sealant

Material	Temp. Range
RyFlor™	-268°C to 316°C

Product Description

RyFlor™ joint sealant is our versatile, malleable, and highly compressible gasket. It's commonly used to seal flanges, joints, and tank doors. Under pressure, it fills surface irregularities, deformations, and deflections, providing a tight, leak-free seal. It has a peelable adhesive tape backing that allows for easy installation and removal.

Joint sealant is distributed on spools in various cross-sections and lengths.

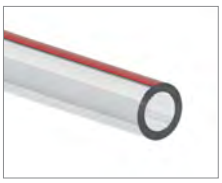
Nominal Width	Thickness	Feet/Spool	Flange Size		
1/8"	0.059"	100, 1000	1/2"	to	3/4"
3/16"	0.079"	100, 1000	1"	to	1-1/2"
1/4"	0.098"	50, 100, 500	2"	to	3-1/2"
3/8"	0.12"	25, 50, 250	4"	to	6"
1/2"	0.20"	15, 30, 150	8"	to	16"
5/8"	0.24"	15, 30, 150	17"	to	20"
3/4"	0.28"	15, 30, 50, 100	24"	to	36"
1"	0.39"	15, 30, 75	36"	to	60"
2"	0.39"	39	60"	and	up

Part Numbers:

PKG TJS ____ ____ ____ ____ ____ ____ ____ ____

Nominal Width | Feet

Example: PKG TJS 0250 0050 – RyFlor™ Joint Sealant, 1/4" Nominal Width, 50 Ft. Spool



Redline Gauge Glass

Cleaning Brushes

Product Description

Redline gauge glass is typically used in low-pressure boilers, reservoirs, and tank applications. Redline gauge glass features a red stripe and a white stripe. In the presence of a colourless fluid, the red and white lines magnify and highlight the fluid level.

Pressure ratings vary depending on diameter, thickness, and environment.

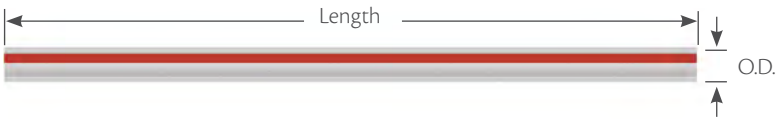
Part Numbers:

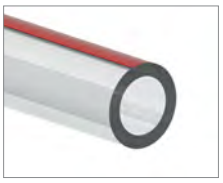
SGP __ __ × __ __ __ __ __ __ __ __ __ __ __

O.D. Length REDLINE – Gauge Glass
BRUSH – Cleaning Brush

Example: SGP 12 × 18 REDLINE – Redline Gauge Glass, 1/2" O.D., 18" Length

Redline Gauge Glass





Part Number	O.D.	Wall Thickness	Length	Max. Recommended Working Pressure (PSI) Temp. Up to 66°C No Corrosion	Max. Recommended Working Pressure (PSI) Temp. Up to 218°C Steam Boiler Service
SGP 12×8REDLINE	1/2 +0, -1/32	5/64 +/- 1/64	8	390	300
SGP 12×10REDLINE			10	370	295
SGP 12×12REDLINE			12	360	295
SGP 12×14REDLINE			14	345	290
SGP 12×18REDLINE			18	325	280
SGP 12×20REDLINE			20	310	280
SGP 12×24REDLINE			24	280	270
SGP 12×30REDLINE			30	250	N/R
SGP 12×36REDLINE			36	215	N/R
SGP 12×48REDLINE			48	175	N/R
SGP 12×60REDLINE			60	135	N/R
SGP 12×72REDLINE			72	100	N/R
SGP 58×8REDLINE	5/8 +0, -1/32	3/32 +/- 1/64	8	370	285
SGP 58×10REDLINE			10	345	280
SGP 58×12REDLINE			12	335	280
SGP 58×14REDLINE			14	325	275
SGP 58×16REDLINE			16	315	270
SGP 58×18REDLINE			18	305	265
SGP 58×20REDLINE			20	290	265
SGP 58×24REDLINE			24	265	255
SGP 58×30REDLINE			30	235	N/R
SGP 58×36REDLINE			36	205	N/R
SGP 58×48REDLINE			48	165	N/R
SGP 58×60REDLINE			60	125	N/R
SGP 58×72REDLINE			72	90	N/R
SGP 34×8REDLINE	3/4 +0, -1/32	7/64 +/- 1/64	8	360	280
SGP 34×10REDLINE			10	340	275
SGP 34×12REDLINE			12	330	275
SGP 34×14REDLINE			14	320	270
SGP 34×16REDLINE			16	310	265
SGP 34×18REDLINE			18	300	260
SGP 34×20REDLINE			20	285	260
SGP 34×22REDLINE			22	270	250
SGP 34×24REDLINE			24	260	250
SGP 34×30REDLINE			30	230	N/R
SGP 34×36REDLINE			36	200	N/R
SGP 34×48REDLINE			48	160	N/R
SGP 34×60REDLINE			60	125	N/R
SGP 34×72REDLINE			72	90	N/R
SGP 78×30REDLINE	7/8 +0, -1/32	1/8 +/- 1/32	30	240	N/R
SGP 78×48REDLINE			48	185	N/R
SGP 78×72REDLINE			72	100	N/R
SGP 1×24REDLINE	1 +0, -1/32	1/8 +/- 1/32	24	230	N/R
SGP 1×30REDLINE			30	210	N/R
SGP 1×36REDLINE			36	195	N/R

N/R – Not Recommended

Additional Products

Rubber Extrusions

Rubber extrusions are soft-sealing continuous profiles specifically designed to fill voids or isolate fluids in various applications. These versatile components find widespread use as seals, gaskets, weatherstrips, connectors, trims, bushings, tubes, hoses, pipes, and bumpers. The profiles can range from simple to intricate designs and from solid to hollow.

We assist customers in selecting the appropriate extruded profile configuration and material, whether they need standard or custom solutions. Our extruded profiles are available in a range of materials, including but not limited to:

- Nitrile
- Silicone
- Viton™/Fluorocarbon
- Neoprene/Chloroprene
- EPDM
- Natural Rubber
- Vinyl

Toolbox Gasket Packs

Our toolbox gasket packs are made up of different sheet materials and thicknesses. Whether in the shop or on the job site, the materials can be hand cut to make replacement gaskets for a wide variety of applications. They are available in 6” x 6” and 12” x 12” sheet material pieces. Custom packs are available upon request.

Materials	Thickness	Qty
BA-U Non-Asbestos	1/8" and 1/16"	2
Cork/Neoprene Blend	1/16"	2
Vegetable Fibre	1/16"	2
Neoprene, 60 Duro.	1/8" and 1/16"	2
Red Rubber	1/8" and 1/16"	2

Tank Stripping

Tank stripping is used to seal between bolted panels on tanks. The stripping comes with 1/2" bolt holes spaced 2" apart from the bolt centre. The material is 1-3/4” wide by 75 feet and available in various thicknesses. Common materials include RyFlor™ and neoprene.

Fillet Strip

Fillet strips, also known as Radii gaskets, are sold in strips or cut to length. Fillet strips are available in nitrile and EPDM.

Chime Lap Gaskets

Chime lap gaskets are used for sealing the area between the first and second doors of a double tank door. This should only be used for storage tank doors. Our chime lap gasket is available in nitrile and EPDM.

Additional Products

Boiler Gaskets

We offer specialty boiler gaskets in BLUE-MAX® and BLACK-MAX® styles in oval, obround, rectangular, round, and square shapes.

BLUE-MAX® boiler gaskets were developed as a substitute for asbestos gaskets. They are composed of a tacky cloth of glass, synthetic fibres, brass wire, and impregnated with a blue elastomer compound. The product is then coated in a PTFE material.

BLACK-MAX® boiler gaskets are composed of graphite with multiple layers of stainless steel 316 foil inserts. The gaskets are fit for service from -240°C to 454°C in oxidizing atmospheres and up to 650°C in steam service.

Screw Packing

We provide four primary styles of screw packing:

- Hydrogenated nitrile
- Individual graphoil rings
- Stacked graphoil rings with tops and bottoms preformed from graphoil rope packing
- Bonded stack of graphoil rings, with tops and bottoms made of stainless steel 316

Hammer Union Seals

Hammer union seals are integral to hammer union-style pipe connections, facilitating seamless flow and preventing leakage. They are designed as heavy-duty, high-pressure flow line connectors and are commonly used in the oil and gas industry, steel mills, chemical plants, strip mining, and marine dredging. Our hammer union seal materials include:

- Nitrile
- Viton™/Fluorocarbon
- Hydrogenated Nitrile
- Virgin PTFE
- Low-Temperature alternatives

Hammer Union Protectors

Hammer union protectors are designed to protect the machined threads and sealing surfaces of hammer union joint connections. Made from a high-durometer vinyl, our protectors provide increased durability and impact resistance over traditional covers. Their ergonomic handle allows for easy installation and removal without the need for additional tools.

Protectors are made to fit pipe sizes 1", 1-1/2", 2", 3", 4", 5", 6", and 8". They can withstand working pressure ratings from 1,000 to 15,000 psi.

Additional Products

Super Hi-Glyde Lubricant

Super Hi-Glyde is our silicone-based lubricant with a low coefficient of friction. It meets FDA 21 CFR 175.300 requirements. It is suitable for lubrication as well as water resistance improvement related to food industry equipment, sanitary equipment, brewing equipment, and beverage equipment where required.

Super Hi-Glyde helps protect O-rings and seals from ozone degradation, cracking, abrasion, cutting, and pinching. It exhibits excellent adhesion to metal, rubber, and plastic materials, which prevents the lubricating film from being wasted away due to fluid action in the system. It is ideal for use in automotive, industrial, and commercial applications.

Fibreglass Tape

Fibreglass tape offers excellent resistance to heat and abrasion, while also insulating from electricity. It's available in 1/4" to 2". It can be used in various applications, including pipe wrap, boilers and furnaces, ovens, flange gasketing, thermal insulation, fireproof-safe applications, and more.

Mud Plug Kits – Environmentally Friendly

Our eco-friendly mud plug kits offer reusable and recyclable components, including a high-quality mixing pail, mixing stick, and gloves. While the rags can be washed and reused, we recommend not reusing the mask for hygiene purposes.

These kits are essential for hot tie-ins during field or plant shutdowns. Our biodegradable fluid, MPF-1990, forms a gas-migration-preventing mud mixture in pipelines. After use, it can be easily and safely washed away.

- 16 lbs bag of MPP-1991
- 2 × 3.78 L of MPF-1990
- Mask
- Gloves
- Mixing stick
- Rags
- SDS & Instructions
- Pail

Pipe Rollers

Our BoKure™ urethane compounds provide pipe rollers with excellent wear resistance and load-bearing ability. When manufacturing pipe rollers, our cast urethane division can supply metal hardware or use custom-supplied rollers.

Tools & Accessories

O-Ring Cone and Pi Tape

O-ring cones are ideal for measuring standard AS-568 O-rings. It measures 184 widely used O-ring sizes with inside diameters from 1/4" thru 5-5/8" in five standard cross-sections. Pi Tape determines the imperial or metric size of an O-ring. The cross-section or series can be determined using the cross-section graph at the top of the tape. Then, unwind the Pi Tape on the inside diameter of the O-ring to determine the imperial or metric number.

Durometer Tester - Shore A & Shore D

Both hardness testers measure rubber and plastic hardness according to ASTM D2240, DIN 53505, ISO 868, and ISO 7619. Shore A tester measures very soft to exceedingly hard components with almost no flexibility. Semi-rigid thermoplastics can also be measured on the high end of the Shore A scale. Shore D tester is used to measure semi-rigid to hard rubbers and plastics.

Thickness Gauge

Our thickness gauge is designed for quick and efficient measurement of small dimensions. The gauge is able to measure components between 0 and 0.5” (12.7mm) within a tolerance of ± 0.0005” (0.01mm).

Braided Packing Extractor

Braided packing extractors use a cork screw hook to grip the compressed packing. Once gripped, simply pull on the handle to remove the packing. The extractor is sold in a three-piece set.

PTFE Tape

PTFE tape is an ultra-thin material typically used to seal pipe threads. The material provides near-universal chemical resistance. It is also known as plumber's tape, thread seal tape, pipe tape, and polytetrafluoroethylene film. We carry various sizes, including 1/4”, 1/2”, 3/4”, 1”, and 2” tape.

Brass O-Ring Pick Sets

Our brass O-ring pick set is an ideal method to remove O-rings without damaging the seal or the associated components. The brass tips prevent scoring and scratching of critical material surfaces. This two-piece set offers four different pick-end styles.

O–Rings

O-rings are a simplistic, low-cost, and easy-to-install seal that are suitable for both static and dynamic applications. We stock an extensive inventory of imperial and metric size O-rings. To cater to diverse application needs, we provide O-rings in various materials:

- Nitrile
- Hydrogenated Nitrile
- Viton™/Fluorocarbon
- Kalrez®
- EPDM
- Neoprene/Chloroprene
- PTFE
- Silicone
- BoKure™ Urethane
- Aflas® FEPM
- Fluorosilicone

Rod & Piston Seals

Our rod and piston seals are designed to improve mating surface contact and stability, preventing fluid leakage and external contamination. We offer a broad array of single-acting and double-acting piston seals. They are available in a variety of profiles and are manufactured from materials that withstand harsh environments. Common rod and piston seals include:

- U-Cups
- T-Seals
- Spring Energized Seals
- Fluid Seals
- Wipers
- Buffer Seals
- Crown Seals
- DZ Seals
- AQ Seals
- Piston Rings

Symmetrical Seals

Symmetrical seal designs can be pressurized from both sides, allowing for the seal to be used interchangeably in rod and piston applications. They are centred within the gland and maintain sealing contact through the lips. Common symmetrical seal configurations include:

- O-ring Loaded U-Cups
- Symmetrical U-Cups
- Homogeneous U-Cups
- DZ Seals
- Vee Packing
- Wear Rings
- Plastic Balls

Sealing Solutions

Rotary Seals

Rotary seals are used in components with oscillating or rotating parts to maintain lubrication and prevent contamination. There are two main types of rotary seals; high pressure / low velocity, and low pressure / high velocity. Common rotary seals include:

- Braided Packing
- Mechanical Seals
- Oil Seals
- V-Seals
- Large Bore Oil Seals
- Metal Cased Rotary Seals
- Swivel Seals
- Spring Energized Seals

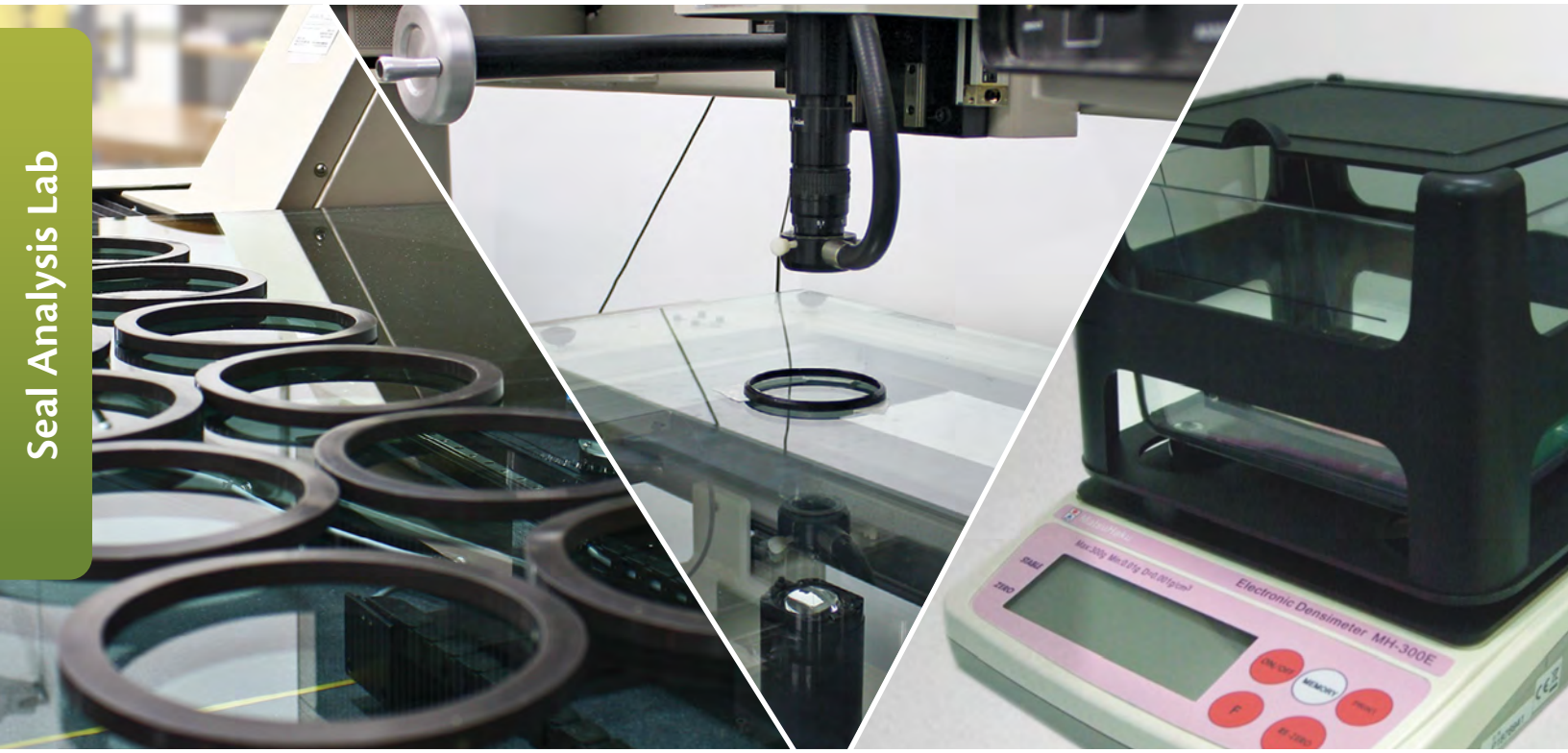
Custom Moulded Products

We collaborate with customers from design to the production of superior moulded components. With our experience and extensive range of capabilities, we provide high-performance materials and finished products for our customers' unique applications. Our moulding capabilities extend to creating a strong and reliable rubber-to-metal and rubber-to-PTFE bond.

Metal Parts

We offer an array of high-quality metal components. By procuring metal components from Hi-Tech Seals, customers can consolidate their orders, eliminating the need for sourcing from multiple companies. Common metal parts include:

- WolCar™ Carbide components
- Dry Slide Bearings
- Metal Balls
- Retaining Rings
- Spherical Plain Bearings
- Ball Bearings
- Bonded Washers
- Brass Filters, Shear Pins, Plugs



Seal Analysis Lab

ENGINEERING & QUALITY INSPECTION

Our Seal Analysis Lab plays an important role in the engineering services we offer. It is a step forward in the continual advancement of our quality control program and unique services. The lab contains a variety of state-of-the-art equipment that allows our engineers, drafting technicians, and quality control staff to perform various seal related testing.

Detailed Inspection Report

Our lab employs two optical comparator machines, a Micro-Vu Matrix and Micro-Vu Excel. This inspection equipment allows us to quickly and reliably measure components to a high level of accuracy. The Matrix is a manually operated system used to inspect smaller quantities or more intricate parts. The Excel is an automated system, capable of consecutively measuring multiple components and inspection of parts approximately two times larger than what the Matrix can measure.

Our staff uses both devices to perform detailed inspections of products to determine if they meet the provided specifications. This information is often turned into a report for our customers use.

Seal Analysis Lab

Mid-Infrared FT-IR Spectrometer

Failure Analysis Report

Our failure analysis report (FAR) examines and analyzes seals or gaskets and the environment in which they failed. This allows us to determine the most likely cause(s) of the failure. Once the cause(s) has been determined, suitable recommendations that will optimize future performance are presented.

We perform the analysis with a failed part sample and application information. If a sample cannot be provided, a picture and a detailed description of the part, application, and environment is needed.

Positive Material Identification

We perform positive material identification (PMI) on elastomeric, plastic, and metal materials. To identify elastomer and plastic materials, we utilize a mid-infrared FT-IR spectrometer. The FT-IR spectrometer analyzes the molecular structure of a material to determine the base polymer type. For the identification of metal components, we utilize our XRF gun, which allows for non-destructive testing. Contact us for sample size requirements or other PMI information.

Tensile Tester

Additional Testing and Analysis

Our Seal Analysis Lab can perform a variety of additional tests and general analyses using our state-of-the-art equipment, including;

- Tensile Strength
- Tensile Modulus
- Specific Gravity
- Face Flatness
- Elongation
- Heat Ageing Testing
- Hardness Testing
- Compression Set

XRF Gun

Rapid Seal

Rapid Seal is our in-house elastomer and plastic machining service. Our team of sealing professionals can quickly design and manufacture new, replacement, and prototype components that meet our customers' needs. Customers can select from standard pre-programmed profiles or collaborate with our professionals to design a custom component. Machined parts can save companies time, money, and the inconvenience of searching for difficult-to-find parts.

Rapid Seal advantages:

- Quick turnaround times
- No minimum quantities
- Extensive stock of elastomer & plastic billets and tubes
- Over 150 pre-programmed profiles
- Custom-designed solutions to customer specifications
- Access to engineering and drafting services
- Strict quality control and inspection procedures

Rapid Prototyping

During the development stage of new components, typically multiple design revisions are required. Rapid Seal allows us to quickly machine prototype parts for our customers without the costly tooling associated with moulded prototypes.

For lower durometer parts, we carry billet and tube stock of select materials as soft as 70 Shore A durometer. The softer material enables our customers to receive a prototype that more closely simulates the final product. While working with us, customers gain access to our experienced engineering, drafting, and machining professionals for additional design support.

Capabilities

Rapid Seal employs a diverse range of cutting-edge machining equipment. We can machine standard and custom profiles with an ID as small as ¼" (6 mm) to an OD as large as 29" (737 mm)

We can maintain tight precision on elastomeric and thermoplastic machined components. Our machined elastomers are available in 70 to 95 Shore A durometer. Our tolerance capabilities vary depending on the parts' dimensions.

Rapid Seal

Profiles

Customers have access to over 150 pre-programmed Rapid Seal profiles. Our technical professionals can work with customers to modify standard profile designs to optimize seal performance. Possible design modifications include lip design, seal clearances, and various other key dimensions.

The material legends on the following pages represent the standard material used for a specific profile. For more information and a complete listing of available materials, reach out to a us today.

Rod Seals *PistonSeals* *Lip Seals* *Wipers* *Guide Rings* *Back-Up Rings* *Gaskets*

Materials

We stock an extensive range of elastomeric compounds and plastic materials. This allows us to provide superior machined solutions that optimize our customers' applications. Our materials are available in a range of tube and billet sizes, enabling us to reduce material waste and save our customers' money. Our machined elastomers are available in 70 to 95 durometers on the Shore A scale.

Plastics

- KasPex™ PEEK
  - Virgin
  - Carbon reinforced
  - Glass reinforced
- Nylon
- Acetal
- UHMW-PE
- Ekonol®
- Torlon®/Polyamide-imide
- Vespel®
- Ertalyte®/PET-P
- Polyphenylene Sulphide (PPS)
- PTFE
  - Virgin
  - Bronze reinforced
  - Carbon reinforced
  - Carbon/Graphite reinforced
  - Glass reinforced
  - Moly/Glass reinforced

Elastomers

- Nitrile
- Hydrogenated Nitrile
- BoKure™ Urethane
- BoKure™ GHOST
- Viton™/Fluorocarbon
- Ethylene Propylene (EPDM)
- Aflas® FEPM
- Neoprene/Chloroprene
- Hytrel®

Cast Urethane

We manufacture cast urethane products for applications across countless industries. Our knowledgeable team of urethane professionals can assist with the design, development, and manufacturing of simple or complex components.

Our BoKure™ urethane compounds offer excellent characteristics that help save customers money by increasing product longevity, equipment run time, and reducing costly maintenance. These compounds are commonly used as alternative replacements for rubber, plastic, or metal components. They are also beneficial where impact, corrosion, or wear is a concern. We are capable of manufacturing standard or custom components such as rollers, spacers, protector products, and bushing impact pads. If required, we can reverse engineer components with low tooling costs.

Design & Development

We aid in the design and development of cast urethane solutions. Our urethane professionals gather vital information about the component, its intended use, and the application's environment. Using this information, they determine what, if any, enhancements can be made to the initial design. From here, our drafting technicians generate detailed computerized 3D models of the component, which is then printed to create the mould cavity. This process gives us complete control over mould development and reduces expensive tooling costs for our customers. For components that exceed our 3D printing capabilities, our machining facility can create tools in-house.

Cast Urethane

Customizing Your Urethane Solution

BoKure™ urethane compounds are made using high-performance resins, curatives, and additives, with each possessing its own set of unique capabilities and advantages. We can assist with selecting the ideal compound for your application and environmental demands. When creating a urethane product there are two main types of urethanes: polyether and polyester.

Polyester advantages:

- Oil and fuel resistance
- High-shock absorption
- Great dynamic properties
- Increased resistance to heat aging

Polyether advantages:

- More flexibility over polyesters
- Remarkable hydrolysis resistance
- Good moisture resistance
- Excellent low-temperature performance

Durometers

Cast urethane components can span a broad range of hardness, from as soft as an eraser to as hard as a bowling ball. Hi-Tech Seals can maintain urethane's toughness and resilience while manufacturing components for Shore A and Shore D durometers. Our in-house capabilities allow us to manufacture dual-durometer urethane components.

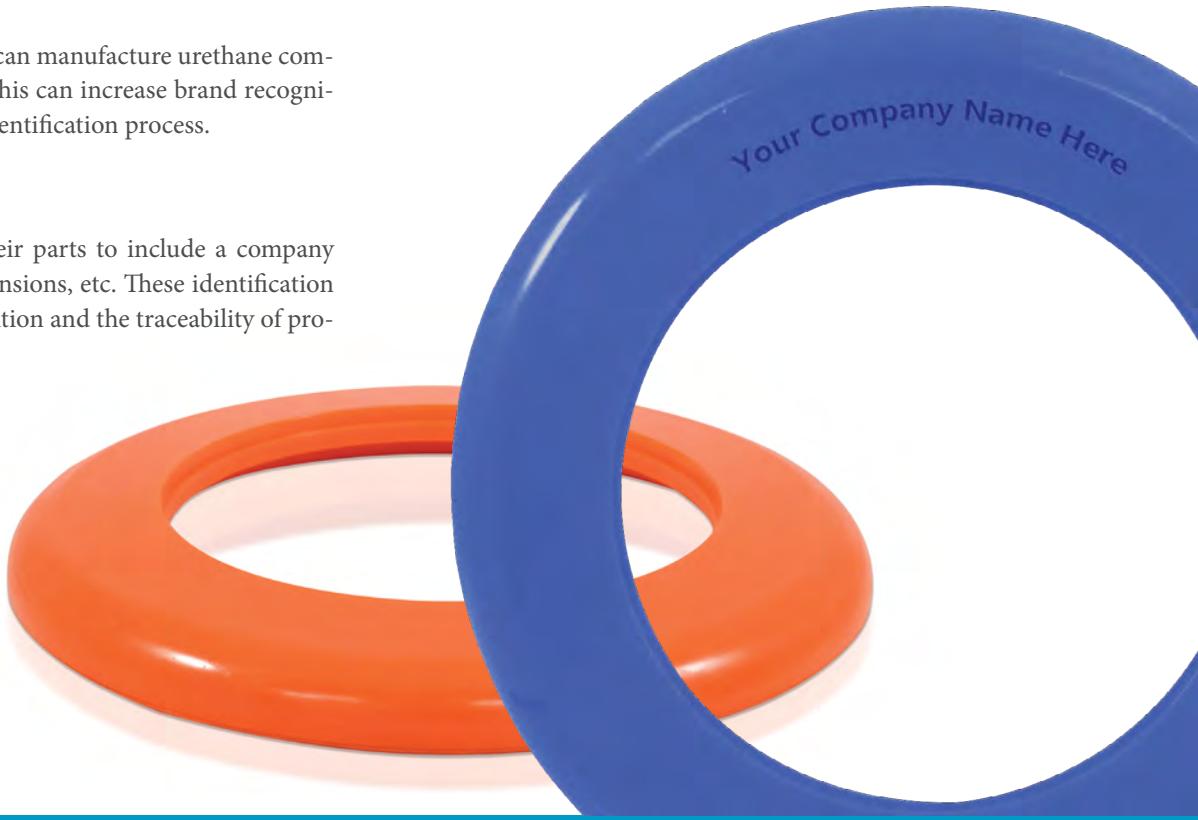
Shore A	30	35	40	45	50	55	60	65	70	75	80	85	90	95			
Shore D														65	70	75	87

Custom Colours

Upon request, Hi-Tech Seals can manufacture urethane components in custom colours. This can increase brand recognition and help with the part identification process.

Logo & Part Numbers

Our customers can tailor their parts to include a company logo, part number, part dimensions, etc. These identification marks aid with brand recognition and the traceability of proprietary parts.



KasPex™ PEEK

KasPex™ PEEK is Hi-Tech Seals' family of high-performance thermoplastic PEEK. These compounds provide durability in harsh chemical environments, excellent mechanical strength, and remarkable dimensional stability. This family of PEEK improves the performance and reliability of machined parts in numerous applications, with new end uses being discovered on a regular basis.

KasPex™ PEEK advantages:

- Outstanding chemical resistance
- Superior high temperature performance
- Exceptional wear & abrasion resistance
- High electrical integrity
- Excellent hydrolysis resistance

BoKure™ GHOST

Bokure™ GHOST is our degradable urethane compound, formulated to thrive in harsh, corrosive (aqueous, brine conditions) downhole oil and gas environments. As BoKure™ GHOST degrades, it breaks into small particles that wash away easily without creating any obstructions. This can minimize costly and time-consuming well intervention by reducing the need for auxiliary equipment to complete the well.

BoKure™ GHOST advantages:

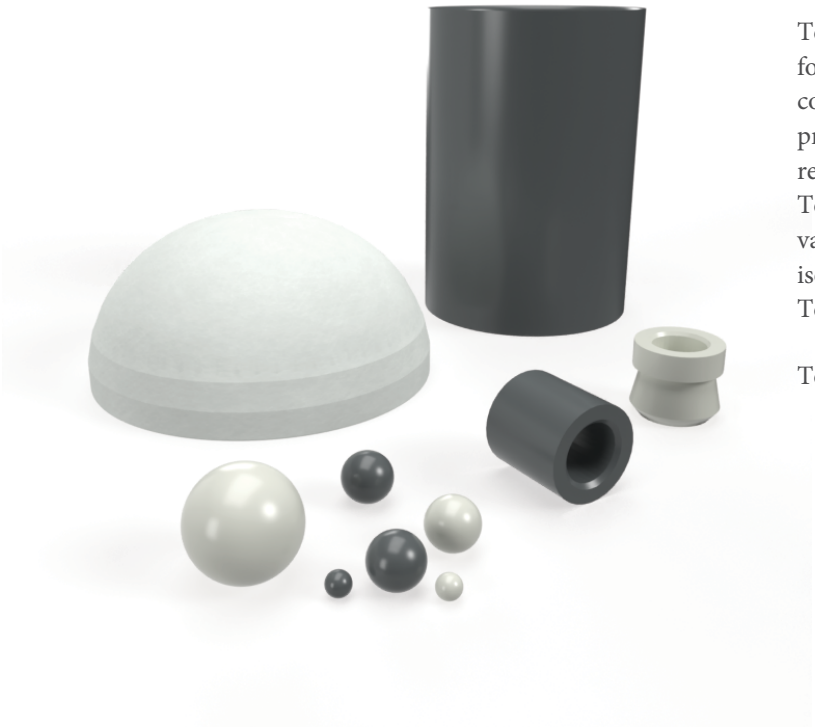
- Breaks down in fresh water or brine solutions
- Non-binding and non-clogging particles
- Reliable compound degradation allows for less or no additional well intervention
- Increase efficiencies by simplifying the well completion process

WolCar™ Carbide

WolCar™ carbide is Hi-Tech Seals' family of superior performing cemented tungsten carbide materials. Our tungsten carbide compounds offer extreme toughness, hardness, and remarkable wear resistance. Finished WolCar™ carbide materials can be manufactured into the desired shape and sizes. This allows us to provide our customers with precision components for a wide range of industrial and commercial applications.

WolCar™ carbide advantages:

- Superior strength and toughness
- Exceptional wear and abrasion resistance
- Outstanding high temperature performance
- Low coefficient of friction
- Excellent chemical resistance
- Highly resistant to deformation



TechCera™ Ceramic

TechCera™ ceramic is Hi-Tech Seals' family of superior performing advanced ceramic materials. Our ceramic components are lightwe-ight, exhibit excellent mechanical properties, and extreme hardness. They offer remarkable resistance to corrosion, wear, chemicals, and abrasion. TechCera™ ceramic compounds retain their properties in various extreme environments. Hi-Tech Seals offer both hot isostatic pressed (HIP'd) and cold isostatic pressed (CIP'd) TechCera™ ceramic compounds.

TechCera™ ceramic advantages:

- Extreme hardness
- Excellent insulating properties and non-conductive
- Great resistance to erosion and wash
- Exceptional mechanical properties
- Superior wear resistance
- Good thermal conductivity
- High mechanical strength
- Low coefficient of friction

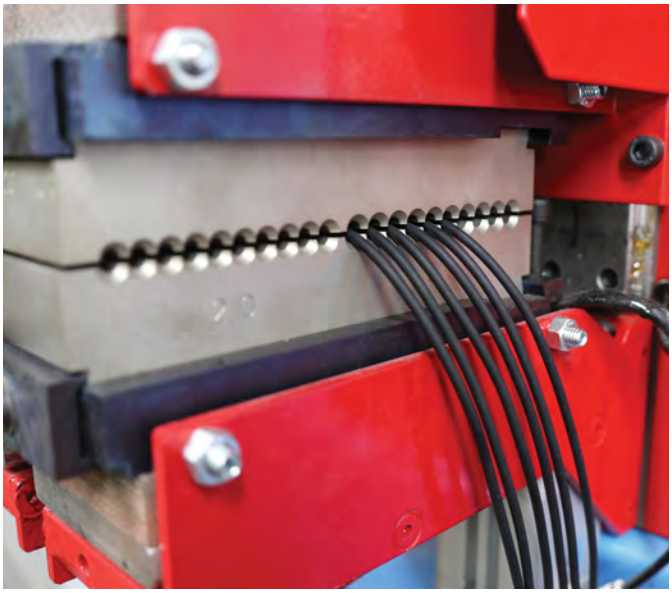
Spliced & Vulcanized O-Rings

Hi-Tech Seals offers spliced and vulcanized O-rings in standard and square profiles, multiple cross sections, and various materials. We also offer quad ring profiles upon request. Customers can purchase our O-ring cord in cut lengths, splicing kits or through our in-house splice and vulcanizing service.

Spliced and vulcanized O-rings are made by cutting extruded cord stock into lengths and then joining them together (splicing). The ends are spliced together by applying a heat-activated bonding agent and placing them in a die for a specific length of time. This process forms a molecular connection to achieve a strong bond.

Spliced and vulcanized O-rings are excellent replacements for any unique-sized static O-ring, withstanding up to approximately 1,200 psi. They are used when:

- A moulded O-ring can't be used due to size requirements or non-standard dimensions
- A small quantity of O-rings is needed
- The lead time for moulded O-rings is too long



Custom Labels

The bags and labels that products come in typically have important information on them. At Hi-Tech Seals, we can customize labels to include a company name, logo, part number, material, and other relevant information. This can save customers time and money from re-labelling products once received.

Custom labels can help staff and customers reduce installation and inventory errors with key information at their fingertips. They are also beneficial when the product needs to be reordered.

Custom label advantages:

- Increase brand exposure
- Company-specific part numbers
- Easier reordering process
- Labels can be specific to the application

Additional Services

Laser Engraving

More and more companies are looking to have specific information or identifying marks on their parts. These marks help with product identification, traceability, branding, and simplifies the re-ordering process.

Our laser engraving machine allows customers to engrave their company name, part number, application information, logo, and other important identifiers onto parts. We can engrave most plastic, rubber, and metal materials. The focused laser beam etches damage-free and easy-to-read marks along a surface as small as 1/8" tall.

Laser engraving advantages:

- Improve the reordering process for staff and customers
- Assists with product traceability
- Capable of engraving on flat and round surfaces without distorting the text or image
- Increases brand exposure
- Locks in proprietary part ordering

Canadian Branches

Canadian Headquarters | 9211 - 41 Ave NW | Edmonton, AB | T6E 6R5 | Ph: 780.438.6055 | Fax: 780.434.5866

Calgary | 6323 - 35 St. SE | Calgary, AB | T2C 1N1 | Ph: 403.720.2856 | Fax: 403.279.2662

Winnipeg | 445 Egesz St. | Winnipeg, MB | R2R 2V5 | Ph: 204.775.7881 | Fax: 204.775.7954

Newmarket | 1180 Kerrisdale Blvd; Unit #8 | Newmarket, ON | L3Y 8Z9 | Ph: 905.953.9666 | Fax: 905.953.8739

Ste-Julie | 2101 Rue Léonard-De Vinci | Ste-Julie, QC | J3E 1Z2 | Ph: 450.655.7325 | Fax: 450.655.7359

US Branches

Conroe | 12064 FM 3083 | Conroe, TX | 77301 | Ph: 936.206.3124 | Fax: 936.756.0538

Broussard | 909 Garber Rd. | Broussard, LA | 70518 | Ph: 337.347.8870 | Fax: 337.347.8871

A Proud Strategic Partner of Carco Group

CARCO-PRP | Via Ugo Foscolo, 2/4 | Basiano, MI | Italy | 20060 | Ph: +39.0295760331

Polymer Concepts Technologies PBY, Inc. | 13522 Manhasset St. | Apple Valley, CA | United States | 92308 | Ph: 760.240.4999

Polymer Concepts Technologies PBY, Inc. | 2571 E. Lindsay Privado | Ontario, CA | United States | 91761 | Ph: 909.930.6700

Microflex Technologies, Inc. | 430 W Collins Ave | Orange, CA | United States | 92867 | Ph: 714.937.1507

Polis SRL | Via Artigianale, 19 | Loc. Cignano Offlaga, BS | Italy | 25020 | Ph: +39.030979304

ROW, Inc. | 729 W. Winthrop Ave | Addison, IL | United States | 60101 | Ph: 630.628.9221

Novotema S.p.A. | Via S. Giovanni delle Formiche, 2 | Villongo, BG | Italy | 24060 | Ph: +39.035926530

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