



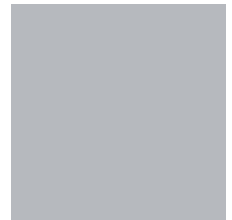
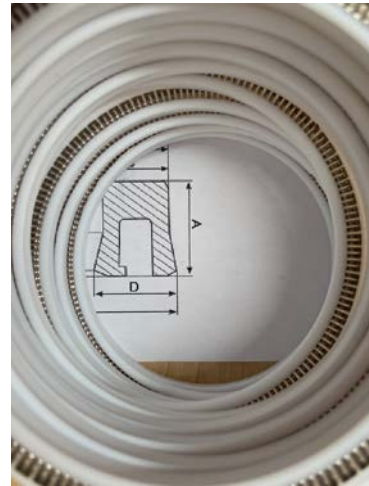
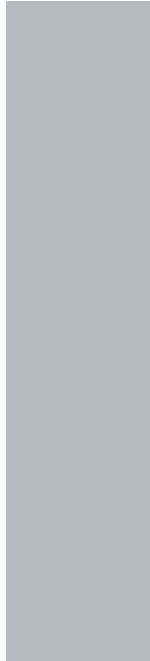
Seal & Gasket International (Pty) Ltd

Customised Quality Sealing Solutions. Fast.

HYDRAULIC & PNEUMATIC SEALS – Food & Beverage, Marine, Mining, Petrochemical, Oil & Gas, Pharmaceutical, Railway, Water & Waste, Aerodynamics, Defence.

CUSTOMISED SEALS. ORINGS. PUMP KITS. OIL/ROTARY SHAFT SEALS. GASKETS in various materials. **PTFE & NYLON PRODUCTS.**

RUBBER MOULDED PRODUCTS – Nitrile (NBR), Viton (FKM), Epdm, Silicone (MVQ), Natural, Food Grade, Kalrez (FFKM), & Special Compounds.





Seal & Gasket International (Pty) Ltd

Customised Quality Sealing Solutions. Fast.

Company Profile



Your One-Stop Sealing Solutions Provider, Since 1981

Seal & Gasket International offers superior sealing solutions with a focus on expertise, service, & quality. With decades of experience, we are a trusted name in the industry, providing a wide range of products & services tailored to various sectors & industries.

Why Choose Seal & Gasket International?

- **Decades of Expertise:** Over 40 years of industry experience ensures precision & efficiency.
- **Trusted Reputation:** Recognized for exceptional service & quality products.
- **Comprehensive Solutions:** Complete range of sealing products & customized kit compilations.
- **Product Range:** O-rings, Hydraulic & Pneumatic Seals, Engineering Plastics, & Rubber Moulded Items.
- **Diverse Industries:** Serving multiple sectors including Oil & Gas, Pharmaceutical, Aerospace, & more.
- **Swift Turnaround:** Short lead times ensuring uninterrupted operations.
- **B-BBEE Level 2 Certified**
- **Extensive Supply Chain:** Over the years, Seal & Gasket has nurtured & built relationships with key players in the industry, allowing us to provide our customers with a complete sealing solution, at a competitive price. Items can be manufactured or sourced through our South Africa & European Partnerships

Featured Products:

O-rings:

- **Extensive Inventory:** Choose from a wide range of standard O-ring sizes readily available for immediate use.
- **Custom O-rings:** Our CNC machine can create tailored O-rings to your exact specifications.
- **Material Versatility:** Select the ideal material from options such as Nitrile (NBR), Viton (FKM), Silicone, & more to suit your application needs.

Hydraulic & Pneumatic Seals:

- **Tailored Sealing Solutions:** Comprehensive range of seals, including Piston, Rod, Wiper, Wear Rings, Guide Rings, Backup Rings, Vee Packings, Cassette Seals, Rotary Shaft Seals, U-cups, Piston Cups, Pneumatic Seals, Hydraulic Seals, & Scrapers.
- **Materials Expertise:** Optimal material selection, offering Nitrile (NBR), Viton (FKM), Silicone, & more, ensuring peak performance in various applications.

CNC Machined Seals & Large Diameters:

- **Precision Profiles:** High-precision CNC machined seals for diverse applications.
- **Customization:** Tailored solutions with modified & custom profiles, including large diameter capabilities.

Flange Gaskets

- **Various Configurations, Standard or Customised:** Ring, Full Face, IRR & Sheetting
- **Material Variety & Expertise:** CNAF (Compressed Non-Asbestos Fibre), Cork, Vellumoid, Graphite, Wire, Acid, PTFE (Teflon), General Purpose, Insertion, EPDM, NBR (Nitrile), Neoprene, Silicone, Viton & more.
- **Gland Packing:** Compression Packings are the best choice for fluid sealing in the most diverse applications & requirements, with multiple styles & applications.

Engineering Plastics (CNC Machining & Moulding):

- **Diverse Engineering Plastics:** Explore CNC machined & injection/compression moulded products, including various grades of PTFE, & Nylon.
- **Exceptional Properties:** These materials offer superior chemical resistance, high-temperature tolerance, & mechanical strength for specialized applications.

Rubber Moulded Items:

- **Versatile Rubber Seals:** Extensive range of rubber sealing compounds, featuring NBR, Viton, Silicone, EPDM, Neoprene, & food-grade options.

Kit Compilations:

- **Streamlined Operations:** Customized kits with components designed to work seamlessly together for enhanced efficiency.

Customer Testimonials:

- "I've always received excellent services from them. It's just a pleasure working with a supplier such as them. Upon carrying out an audit on them i also noticed how happy their staff are to be working at this company - so it portrays a good image of how they treat their staff as well & hence the service is excellent."
- "Excellent service & great products."
- "Prompt service & problem-solving ability."
- "We've dealt with SG for years! We always receive the best service & support when we need it & product quality is brilliant."
- "Always deliver on time."
- "Outstanding service & exceptional product quality."
- "Friendly, knowledgeable staff."
- "Highly impressive product knowledge & customer support."
- "Keep the standard. Rare in SA today"
- "The service is par excellence. The sales team at Seal & Gasket is friendly, & their product knowledge is highly impressive."
- I don't have to run around chasing seals, Seal & Gasket will do it for me. & if they can't find it, they'll give me other ideas."

Our Services:

Deliveries:

- Timely and Reliable: Swift and dependable delivery of your sealing solutions to ensure uninterrupted operations.

Custom Solutions:

- Engineering Mastery: Collaborate with our experts to develop custom gaskets that match your requirements flawlessly.

Consultation:

- Technical Brilliance: Leverage decades of insights to choose the perfect products for your applications.
- Application Analysis: Receive guidance in selecting the right seals based on your operational demands.
- Troubleshooting: Expert advice and solutions for identifying and resolving sealing issues.

Be Part of the Legacy:

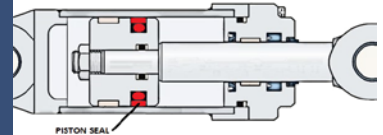
Elevate your sealing solutions with Seal & Gasket International. Contact us today for unmatched service & quality products to meet your specific needs.

Some of the Customers we Service:



Piston seals are crucial for separating the two pressure chambers within a cylinder by sealing the gap between the piston and the cylinder wall. They are classified into single-acting or double-acting systems depending on the sealing requirements. SGI's piston seals are designed for high performance and durability, available in various forms such as lip rings, piston sealing sets, or compact sealing systems, tailored to suit different operational needs.

Piston Seals

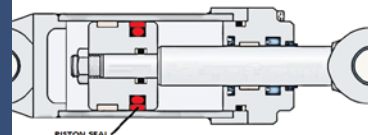


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DK101	HPU NBR	400/5800 160/2300	0.5 0.5	-30 to +100	Hydraulic. Single acting. Asymmetric design for standard applications. Provides stable fit in the housing & avoids extensive drag pressure. Use in a back-to-back arrangement with a wear-ring in-between for double-acting pistons or to separate different fluids.
	DK102	HPU +ACETAL/GSM NBR +PURE/BRONZE PTFE	700/10 000 250/3600	0.5 0.5	-30 to +100	Same as DK101, but with an active back-up ring. For higher pressure or larger extrusion gaps. Recommended for short housing.
	DK102R	HPU +ACETAL/GSM NBR +PURE/BRONZE PTFE	700/10 000 250/3600	0.5 0.5	-30 to +100	Same as DK102 but for standard housing designs.
	DK103	HPU +NBR ORING	100/1450	0.5 0.5	-30 to +100	Hydraulic. Single acting. O-Ring-activated piston seal. Interference-fit on the inside diameter maintains stable fit in the housing. Suitable for short stroke applications (e.g. spindle seals, coupling actuators).
	DK104	HPU +ACETAL/GSM +NBR ORING	700/10000	0.5 0.5	-30 to +100	Same as DK101, with an active back-up ring for larger extrusion gaps or higher pressure. Suitable for short housings.
	DK104R	HPU +ACETAL/GSM +NBR ORING	700/10000	0.5	-30 to +100	Same as DK104 but for standard housing designs.
	DK105	HPU	400/5800	0.5	-30 to +100	Pneumatic & Hydraulic (light to medium). Same as DK101 but with round sealing lip for easier sliding movement.
	DK106	HPU NBR	400/5800 160/2300	0.5	-30 to +100	Hydraulic. Single acting. Piston seal for simple standard applications. Not recommended for new designs (profile DK101 is preferred). Also suitable for larger cross sections (easier to install).
	DK107	HPU +NBR ORING	400/5800	0.5	-30 to +100	Hydraulic. Single acting. O-Ring-activated piston seal for simple standard applications, not recommended for new designs (profile DK103 is preferred).
	DK108	GSM/BRONZE/ CARBON PTFE +NBR ORING	400/5800	5	-30 to +100	Hydraulic. Double-acting. O-Ring-activated PTFE piston seal, low friction & extremely low or high speeds. For positioning facilities & applications such as mobile hydraulics, machine tools, injection moulding machines, heavy hydraulics.
	DK109	HPU +GSM +NBR	700/10000	0.5	-30 to +100	Hydraulic. Double-acting. Compact PTFE Piston Seal with integrated guiding elements, low friction. Good chemical & thermal resistance.
	DK109D	HPU +GSM +NBR	700/10000	0.5	-30 to +100	Hydraulic. Double-acting. Compact piston seal with integrated guiding elements. Excellent static & dynamic sealing capacity.
	DK109H	HPU +GSM +NBR	700/10000	0.3	-30 to +100	Hydraulic. Double acting. Compact piston seal with integrated guiding elements. Designed for high pressure ranges. Excellent static sealing capacity. Mainly used in mining & tunnelling industries.
	DK109N	HPU +GSM +NBR	400/5800	0.5	-30 to +100	Hydraulic. Double acting. Compact piston seal with integrated guiding elements. Excellent static sealing capacity. Commonly used in standard cylinders.
	DK111	ACETAL/GSM +HPU	500/7250	0.5	-30 to +100	Hydraulic. Single acting. Chevron sealing set with flexible sealing lips. In back-to-back arrangement with one intermediate chevron for double sided pressure activation (more intermediate chevrons are possible for prolonged life). Suitable for use in heavy industry hydraulics.
	DK116	NBR HPU	500/7250	0.5	-30 to +100	Hydraulic/Pneumatic. Single acting. Cup seal, usually fixed on the piston by means of a clamping plate. Mainly used for replacement in old hydraulic & pneumatic cylinders or for low-grade secondary applications. Also used for food filling/portioning equipment.
	DK117	HPU +GSM/ACETAL	250/3600	0.5	-30 to +100	Hydraulic. Double acting. Space-saving, compact piston seal with integrated guiding elements. Excellent static sealing capacity. Suitable for small housings.
	DK118	HPU NBR +NBR ORING	400/5800	0.5	-30 to +100	Hydraulic. Single acting. O-Ring-activated piston seal with sharp-edged sealing lips. Good sealing effect for high viscosity fluids. Not recommended for new designs (profile DK103 is preferred).

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Piston seals are crucial for separating the two pressure chambers within a cylinder by sealing the gap between the piston and the cylinder wall. They are classified into single-acting or double-acting systems depending on the sealing requirements. SGI's piston seals are designed for high performance and durability, available in various forms such as lip rings, piston sealing sets, or compact sealing systems, tailored to suit different operational needs.

Piston Seals

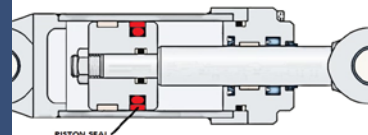


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DK119	CARBON/ PURE PTFE +V-SPRING	100/4300	5	-200 to 260	Variseal. Single acting. V-Spring activated, asymmetrical PTFE piston seal, low friction & good dry running properties. Excellent chemical & thermal resistance. Mainly used in chemical, pharmaceutical & food industries.
	DK120	HPU/NBR +ACETAL	700/10000	0.5	-30 to +100	Hydraulic. Double acting. Space-saving, compact piston seal, for standard O-Ring housings. Compared to an O-ring, has integrated active back-up rings for high pressure applications & to prevent twisting in dynamic applications due to the interference fit on the outside diameter.
	DK122	HPU +NBR +ACETAL/GSM	410/6000	0.5	-30 to +100	Hydraulic. Double acting 4-PC. Outstanding for extremely high pressure & vigorous applications, e.g. Construction. Excellent seal replacement for cylinder tubes that have been honed due to scoring & damage. Integrated anti-extrusion guide/back-up rings provide extrusion resistance & proper guidance. Very little piston modification needed when reusing old seal grooves.
	DK123	HPU +GSM/ACETAL NBR +GSM/ACETAL	600/8700 160/2300	0.5	-30 to +100	Hydraulic. Single acting. Support ring for simple applications & repairs. Not recommended for new designs (profile DK101 preferred). Retainer ring in an angled design is possible.
	DK123D	HPU +NBR +ACETAL/GSM	400/5800	0.5	-30 to +100	Hydraulic. Double acting. Compact piston seal with integrated back-up rings. Excellent static & dynamic sealing capacity.
	DK123H	HPU +NBR +ACETAL/GSM	500/7250	0.3	-30 to +100	Hydraulic. Double acting.Compact piston seal with integrated back-up rings for high pressure ranges. Excellent static sealing capacity. Mainly used in mining/tunnelling industries.
	DK123N	HPU +NBR +ACETAL/GSM	400/5800	0.5	-30 to +100	Hydraulic. Double acting. Compact piston seal with integrated back-up rings, excellent static sealing capacity.
	DK124	HPU NBR	500/7250	0.5	-30 to +100	Hydraulic. Single acting. Chevron ring with flexible lip design. Used as a replacement part for standard commercial housings.
	DK125	BRONZE/ CARBON PTFE +NBR ORING	400/5800	10	-30 to +100	Hydraulic. Single acting. O-Ring-activated asymmetric PTFE piston seal, low friction. Suitable for extremely low or high speeds. Step for positioning facilities.
	DK126	HPU NBR FKM EPDM VMQ	410/6000	0.5	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Hydraulic & Pneumatic. Double acting. 3-sided "Quad Ring." For static medium pressure applications, low speed dynamic services. Prevents spiral twist, distortion & extrusion to increase durability. For double acting pistons to separate different sealing media. Can be replaced with DFL111 seal or by a compact profile, depending on application.
	DK127	HPU NBR FKM EPDM VMQ	400/5800	0.4	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Hydraulic. Single & Double acting. Compact piston seal with almost no dead spots, as required for applications in the food & pharmaceutical industry. Used as an O-Ring replacement to prevent twisting in dynamic applications due to the interference fit on the outside diameter.
	DK128	BRONZE/ CARBON PTFE +NBR ORING	400/5800	10	-30 to +100	Same as DK108 but with notches in the slide ring edges for abrupt changes in pressure.
	DK129	BRONZE/ CARBON PTFE +NBR ORING	400/5800	10	-30 to +100	Slide ring with NBR energizer. For imperial O-ring housings; suitable for light to medium duty applications
	DK138	BRONZE/ CARBON PTFE +NBR +FKM +EPDM +VMQ	400/5800	10	-30 to +100 -15 to +200 -45 to +150 -60 to +200	Hydraulic. Double acting. PTFE piston seal, similar to DK108, but for heavy duty & specialised housing designs.
	DK139	CARBON/PURE PTFE +V-SPRING	100/4300	15	-200 to +260	Variseal. Single acting. V-Spring activated, asymmetrical PTFE piston seal, low friction & good dry running properties. Excellent chemical & thermal resistance. For use in FDA approved applications. Mainly used in chemical, pharmaceutical & food industries.
	DK140	HPU NBR +NBR ORING	400/5800	1	-30 to +100	Hydraulic. Double Acting. O-Ring-activated PU piston seal with excellent static & dynamic sealing capacity. Extremely wear resistant.
	DK141	HPU NBR	410/6000 350/5000	0.5 15	-30 to +100	Pneumatic & Hydraulic. Single acting. Dynamic lip (exterior) is shorter than the static lip (interior) to minimize friction. Interference fit on outside diameter maintains a stable fit in the housing while space saving allows for small seal housings. Can be used as a piston seal in low pressure hydraulic cylinders

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Piston seals are crucial for separating the two pressure chambers within a cylinder by sealing the gap between the piston and the cylinder wall. They are classified into single-acting or double-acting systems depending on the sealing requirements. SGI's piston seals are designed for high performance and durability, available in various forms such as lip rings, piston sealing sets, or compact sealing systems, tailored to suit different operational needs.

Piston Seals

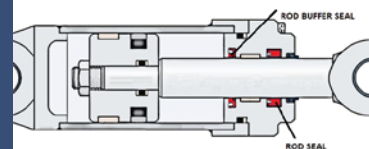


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DK142	PTFE +NBR ORING	350/5000	15	-30 to +200	Hydraulic. Double acting. Rubber energised seal combining the flexibility of O-Rings with the wear characteristics of PTFE. Thin radial section for pressure variations.
	DK143	HPU +NBR	400/5800	0.5	-30 to +100	Hydraulic. Double acting. Integrated back-up ring guide, designed to prevent leakage. Small groove on top of sealing surface holds oil for slight lubrication on start up.
	DK144	BRONZE PTFE +NBR ORINGS +NBR QUAD	600/8700	3	-45 to +200	Hydraulic. Double & Single Acting. Combines the benefits of a low-friction slipper seal with quad ring to optimize leakage control & separate different media types. Two O-Rings are used as energizing elements to optimize the pressure profile & to reduce the force of attack at gas permeability. For hydraulic components in mineral oils, gases or mediums with good lubricating performance, accumulators & positioning & holding cylinders.
	DK144B	BRONZE PTFE +NBR ORINGS +NBR QUAD	500/7250	3	-45 to +200	Same as DK144 but for larger-diameter heavy-duty systems.
	DK145	BRONZE PTFE +NBR ORINGS +NBR QUAD	400/5800	2	-45 to +200	Same as DK144 but with one oring for simple, small installation space/groove. For hydraulic components in mineral oils or mediums with good lubricating performance.
	DK150	PTFE COMPOUNDS +HELICOIL SPRING	450/6526	1	-150 to +250	Same as DK150B but with with a prolonged heel for higher pressures & anti-extrusion.
	DK150B	PTFE COMPOUNDS +HELICOIL SPRING	450/6526	1	-150 to +250	Single acting.Collar energized with a helical spring to maintain the circular geometry of the collar around its entire perimeter. At low pressure, the force of the metallic spring provides the closing of the joint while, as the pressure increases, the g&l is energized with own fluid pressure
	DK151	PTFE COMPOUNDS +HELICOIL SPRING	450/6526	15	-150 to +250	Single acting. Energized by a helical spring for greater closing tension than U or V springs to improve the tightness against liquids & gases. Designed with a prolonged heel for anti-extrusion. The bevel of the working lip has a scraping & cleaning effect on abrasive or viscous media.
	DK153	PTFE COMPOUNDS +U SPRING	400/5800	15	-150 to +250	Single acting. Spring-energized U-joint for static services or intermittent movements against gases & other fluids. Designed with a prolonged heel for anti-extrusion The ribbing on both lips secures the joint in its housing.
	DK154	PTFE COMPOUNDS +U SPRING	400/5800	15	-150 to +250	Single-acting. Dynamic. Energized with a U-spring. Prolonged heel for anti-extrusion. The beveled outer lip provides a scraping & cleaning effect in abrasive or viscous media. The ribbing on the inner diameter allows the part to be fixed in its housing.
	DK199	HPU NBR FKM EPDM VMQ	410/6000	0.5	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Heavy duty hydraulics & pneumatics. Single acting, static. Easily installed flange seal controls extrusions in surges & pressure fluctuations. Design prevents radial movements, avoids extensive drag pressure & is extremely adaptable.
	DK205	HPU NBR	250/3600	1	-30 to +100	Heavy duty pneumatics. Single acting. Asymmetric piston seal, extremely wear-resistant, for use in lubricated or dry pneumatic applications. Sealing lip allows retention of the initial lubricating film.
	DK216	HPU	600/8700	0.5	-30 to +100	Hydraulic & Pneumatic. Single acting. Cup seal, usually fixed on the piston by means of a clamping plate. Mainly used for replacement in old hydraulic & pneumatic cylinders or for secondary applications. Also used for food filling/portioning equipment.
	DK218	PTFE COMPOUNDS +HELICOIL SPRING	400/5800	15	-150 to +250	Single acting. Spring energized piston/rod seal with three sealing ridges. Low friction & no stick-slip effect, excellent chemical & thermal resistance. Mainly used in chemical, pharmaceutical & food industries, or for valves. For the sealing of gases or liquids of low viscosity, both in pneumatic & hydraulic services.
	DK222	GSM +NBR +ACETAL/GSM	500/7250	1.5	-30 to +100	Heavy duty hydraulics. Double acting. Profile-ring activated, compact PTFE Piston Seal with integrated back-up rings. Low friction, good chemical & thermal resistance. External guiding elements are required.
	DK238	BRONZE/ CARBON PTFE +NBR	400/5800	0.5	-30 to +100	Hydraulic. Single acting. Asymmetric PTFE piston seal, similar to DK108, but for heavy industry hydraulics or for special housing dimensions.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Rod seals are the most vital seals in a cylinder, tasked with preventing the escape of pressurized fluid by sealing the piston rod during extension and retraction. They also maintain a thin liquid film on the rod to protect against corrosion and ensure proper lubrication of the seal and wiper. SGI's rod seal systems are engineered for high efficiency and long lifespan, available as single-piece U-cups, lip seals, or multi-part compact systems made from advanced low-friction materials, customized for specific applications.

Rod Seals

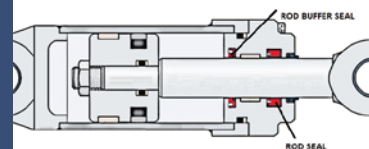


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DS101	HPU NBR	160/2300 400/5800	0.5 0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal for standard applications. Interference fit on outside diameter maintains a stable fit in the housing. Provides stable fit, good back-pumping ability, and low tendency to “stick-slip”. Also used as a secondary seal in combination with an O-ring activated PTFE-seal type DS109.
	DS102	HPU +ACETAL/GSM NBR +PURE/BRONZE PTFE	700/10000 250/3000	0.5 0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal for standard applications, but design with triangular back-up ring for shorter housings.
	DS102R	HPU +ACETAL/GSM NBR +PURE/BRONZE	700/10000 250/3000	0.5 0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal for standard applications. Active back-up ring, makes it suitable for larger extrusion gaps or higher pressures.
	DS103	HPU +NBR ORING	400/5800	0.5	-30 to +100	Hydraulic & Pneumatic (heavy duty). Single acting. Asymmetrical U-shaped lip seal with o-ring to energize the part (even when no pressure), while providing a high shock load capacity. Interference fit on OD maintains stable fit in the housing.
	DS104	HPU +ACETAL/GSM +NBR ORING	700/10000	0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal for standard applications. Design with triangular back-ring for short housings.
	DS104R	HPU +ACETAL/GSM +NBR ORING	700/10000	0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal for standard applications. Active back-up ring for larger extrusion gaps or higher pressure applications.
	DS105	HPU NBR FKM	400/5800 160/2300 160/2300	0.5	-30 to +100 -30 to +100 -30 to +200	Pneumatic. Single Acting. Same as DS101 but with rounded lip to aid in the lubrication & movement of the pneumatic application.
	DS106	HPU NBR	25/360 25/360	0.5	-30 to +100	Hydraulic. Single acting. Symmetric rod seal for simple standard applications. Not recommended for new designs (profile DS101 preferred).
	DS107	HPU +NBR ORING	400/5800	10	-30 to +100	Hydraulic. Single acting. O-Ring-activated rod seal for simple standard applications, not recommended for new designs (profile DS103 preferred).
	DS108	HPU	400/5800	0.3	-30 to +100	Hydraulic. Single acting. Asymmetric compact rod seal, interference-fit on outside diameter maintains stable fit in the housing. Compact design to seal high viscosity fluids or for extremely small housings. Not suitable for high speed applications.
	DS109	PTFE PURE/ GSM +NBR ORING	500/7250	1.5	-30 to +100	Hydraulic. Single acting. O-ring-activated asymmetric PTFE rod seal, low friction. Use together with double acting wipers for extreme low or high speed or positioning facilities. As a primary seal in combination with secondary seal DS101 provides good resistance to pressure shocks. Used in mobile hydraulics, machine tools, injection moulding machines, heavy hydraulics.
	DS111	ACETAL/GSM +HPU +NBR	500/7250 250/3600	0.5	-30 to +100	Hydraulic. Single acting. Chevron sealing set with flexible sealing lips. In back-to-back arrangement with one intermediate chevron for double sided pressure activation (more intermediate chevrons are possible for prolonged life). Suitable for use in heavy industry hydraulics.
	DS116	HPU	160/2300	0.5	-30 to +100	Hydraulic & Pneumatic. Single acting. Hat seal used as a heavy duty wiper. Usually fixed in housing with clamp flange.For replacement in old hydraulic & pneumatic cylinders or for secondary applications.
	DS117	+GSM/ACETAL	400/5800	0.5	-30 to +100	Hydraulic. Single acting. Asymmetric rod seal with stabilizing lip. Interference-fit on outside diameter maintains stable fit in the housing. Used for telescopic cylinders, mobile hydraulics or for special housing dimensions.
	DS117R	HPU GSM/ACETAL	600/8700	0.5	-150 to +260	Hydraulic. Single acting. Asymmetric rod seal as per DS117. Active back-ring for larger extrusion gaps or higher pressures.
	DS118	PURE PTFE +HELICOIL SPRING	100/1450	1	-150 to +260	Single acting. Helicoil spring activated, asymmetrical PTFE rod seal. Low friction & good dry running properties, excellent chemical & thermal resistance. Used in the chemical, pharmaceutical & food industries.
	DS119	PURE PTFE/ BRONZE +V-SPRING	100/1450 160/2300	1.5	-150 to +260	Single acting. V-Spring activated, asymmetrical PTFE rod seal. Low friction, good dry running properties, excellent chemical & thermal resistance. Used in chemical, pharmaceutical & food industries.
	DS120	NBR/HPU +ACETAL	700/10000	0.5	-30 to +100	Hydraulic. Double acting. Space-saving, compact rod seal, for standard O-Ring housings. Compared to an O-ring, has integrated active back-up rings for high pressure applications & to prevent twisting in dynamic applications due to the interference fit on the outside diameter.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Rod seals are the most vital seals in a cylinder, tasked with preventing the escape of pressurized fluid by sealing the piston rod during extension and retraction. They also maintain a thin liquid film on the rod to protect against corrosion and ensure proper lubrication of the seal and wiper. SGI's rod seal systems are engineered for high efficiency and long lifespan, available as single-piece U-cups, lip seals, or multi-part compact systems made from advanced low-friction materials, customized for specific applications.

Rod Seals

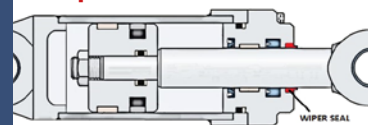


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DS121	PU NBR +NBR ORING	400/5800	0.5	-30 to +100	Hydraulic. Single acting. O-ring-activated rod seal with sharp-edged sealing lips. Good sealing effect for high viscosity fluids.Not recommended for new designs (Profile DS103 preferred).
	DS124	GSM/BRONZE/ CARBON PTFE +NBR ORING	400/5800	10	-30 to +100	Hydraulic. Double acting. O-ring-activated PTFE rod seal, low friction. Suitable for extreme low or high speed. Suitable for positioning functions.
	DS125	HPU +NBR ORING	400/5800	0.5	-30 to +100	Hydraulic. Single acting (medium/high pressure). O-ring exerts uniform stress on the lip (even in the absence of pressure) while increasing resistance to pressure spikes, The heel has a closing ridge that prevents dirt from entering the system, which makes this profile suitable for agricultural machinery cylinders, among others.
	DS125R	HPU +ACETAL/GSM +NBR ORING	700/10000	0.5	-30 to +100	Same as DS125 but with anti-extrusion ring for large extrusion gaps and high pressure.
	DS127	PURE PTFE/ GLASS FILLED PTFE	315/4550	1.5	-200 to +250	Chevron Sealing Set. Single-acting. Heavy duty. Gaps for lubrication. Equal-angled chevron design suitable for high pressure range. External spring pretension necessary. Mainly used in chemical, pharmaceutical & food industries.
	DS129	GSM/BRONZE/ CARBON PTFE +NBR ORING	400/5800	15	-30 to +100	Hydraulic & Pneumatic. Single acting. O-ring-activated asymmetric PTFE rod seal, low friction. Use with double acting wipers for extreme low or high speed or positioning facilities. Used as a primary seal in combination with secondary seal DS101 provides good resistance to pressure shocks. Used in mobile hydraulics, machine tools, injection moulding machines, heavy hydraulics.
	DS130	HPU NBR FKM EPDM VMQ	410/6000	0.5	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Hydraulic & Pneumatic (light to heavy). Double acting. Alternative to an oring. Prevents spiral twist because of the seal's four-lobed configuration, increasing the durability of the seal. Designed to withstand the distortion & extrusion caused by high or pulsating pressure. Can be used interchangeably with 3 -sided Quad ring (DK126).
	DS131	GSM/BRONZE/ CARBON PTFE NBR	400/5800	0.4	-30 to +100	Hydraulic. Double acting.Compact rod seal with almost no dead spots for applications in the food & pharmaceutical industries. Used as O-ring replacement to maintain non-twisting in dynamic applications.
	DS138	GSM/BRONZE/ CARBON PTFE +NBR	400/5800	10	-30 to +100	Hydraulic. Double acting. PTFE rod seal, similar to DS124, but for heavy industry hydraulics or for special housing dimensions.
	DS139	HPU NBR FKM	400/6000	0.5	-30 to +100 -30 to +100 -20 to +200	Hydraulic & Pneumatic. Single acting scraper for medium/heavy duty applications. Outer lip keeps contaminants from entering the system from outside of the wiper groove. Radial function, low friction.
	DS141	HPU NBR FKM	400/6000	0.5	-30 to +100 -30 to +100 -20 to +200	Hydraulic. Single acting lip seal for cylinder rods. The dynamic lip is shorter than the static lip in order to minimize friction. Suitable for low pressure hydraulics.
	DS142	PTFE +NBR ORING	350/5000	15	-30 to +100	Hydraulic. Double acting. Rubber energised seal combining the flexibility of O-Rings with the wear characteristics of PTFE. Thin radial section for pressure variations.
	DS151	PTFE COMPOUNDS +HELICOIL SPRING	450/6526	15	-150 to +250	Single acting. Energized by a helical spring for greater closing tension than U or V springs to improve the tightness against liquids & gases. Designed with a prolonged heel for anti-extrusion. The bevel of the working lip has a scraping & cleaning effect on abrasive or viscous media.
	DS154	PTFE COMPOUNDS +U SPRING	400/5800	15	-150 to +250	Single-acting. Dynamic. Energized with a U-spring. Prolonged heel for anti-extrusion. The beveled outer lip provides a scraping & cleaning effect in abrasive or viscous media. The ribbing on the inner diameter allows the part to be fixed in its housing.
	DS199	HPU NBR FKM EPDM VMQ	410/6000	0.5	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Heavy duty hydraulics & pneumatics. Double acting, static. Easily installed flange seal controls extrusions in surges & pressure fluctuations. Design prevents radial movements, avoids extensive drag pressure & is extremely adaptable.
	DS205	HPU NBR	250/3600	1	-30 to +100	Heavy duty pneumatics. Single acting. Asymmetric rod seal, extremely wear-resistant, for use in lubricated or dry pneumatic applications. Sealing lip allows retention of the initial lubricating film.
	DS216	HPU	250/3600	0.5	-30 to +100	Hydraulic/Pneumatic. Single acting. Cup seal. Used as a replacement in old hydraulic & pneumatic cylinders or for secondary applications. Also used for food filling/portioning equipment. The rounded lip allows better lubrication of the part, compared to the DS 116 that has a sharp edged lip.
	DS238	GSM/BRONZE/ CARBON PTFE +NBR	400/5800	0.5	-30 to +100	Hydraulic. Single acting. Profile-ring activated asymmetric PTFE Rod Seal, similar to DS124, but for heavy industry hydraulics or for special housing dimensions.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Wipers protect hydraulic cylinders by preventing the entry of contaminants like dirt, moisture, and dust, as well as environmental factors such as ice and water. SGI's wipers are designed with materials that ensure effective cleaning of the piston rod in both dynamic and static conditions, significantly extending the cylinder's service life.

Wiper Seals

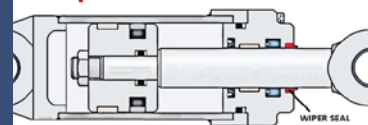


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DA101	NBR HPU		4 2	-30 to +100	Hydraulic. Double step. A1 Wiper. An economical and flexible Snap-Fit wiper seal for light to medium duty applications, designed for stepped housings. The added shoulder improves dirt exclusion around the gland's outside diameter. Pre-load on the outside diameter ensures stability and prevents rolling during shaft reciprocation.
	DA101A	NBR HPU		4 2	-30 to +100	Same as DA101 but with back support area to prevent rolling/tilting of wiper.
	DA102	NBR HPU		4 2	-30 to +100	Hydraulic. Single step. Same as DA101 but for medium & high load cylinders with a low number of cycles.
	DA102A	NBR HPU		4 2	-30 to +100	Same as DA102 but with back support area to prevent rolling/tilting of wiper.
	DA103	NBR+ACETAL HPU+ACETAL		4 2	-30 to +100	Hydraulic & Pneumatic. With mounting cage for press-fit installation into axially open housings (L-Shaped groove). Wiping edge protects against penetration of dust & dirt. The use of plastic mounting cages avoids corrosion in the press-fit.
	DA104	NBR HPU		4 2	-30 to +100	Same as DA101 but for pneumatic applications. Rounded lip end facilitates return of the lubricant film on the stem.
	DA105	NBR HPU		4 2	-30 to +100	Same as DA102 but for pneumatic applications. Rounded lip end facilitates return of the lubricant film on the stem.
	DA106	NBR+ACETAL HPU+ACETAL		4 2	-30 to +100	Pneumatic. Wiper with mounting cage for press-fit installation into axially open housings (L-Shaped groove). Wiping edge protects against penetration of dust & dirt. The use of plastic mounting cages avoids corrosion in the press-fit. Lip is rounded for easy return of the lubricant film.
	DA107	NBR HPU		4 2	-30 to +100	Hydraulic & Pneumatic. Manufactured to fit (30 deg angle). Replacement wiper commonly used in British style equipment.
	DA108	NBR HPU		4 2	-30 to +100	Hydraulic & Pneumatic. Protects against penetration of dust & dirt into the cylinder's interior. Kept in its housing by means of an external flange. Sharp cleaning edge, favouring scraping. "Hat Flange", mainly used in older hydraulic & pneumatic equipment or secondary application.
	DA109	NBR HPU		4 2	-30 to +100	Hydraulic. Flanged Wiper. Protects against penetration of dust & dirt into the cylinder's interior. The outer tongue rejects contamination (mud, dust, splashes) more effectively than a conventional scraper. I.D. ribbing helps prevent internal bursting caused by built-up pressure between the part & rod seal, preventing the scraper from slipping into its seat. Minimum loss of lubricant.
	DA109B	NBR HPU		4 2	-30 to +100	Can provide both wiping & sealing action in one component in low pressure systems. The external lip scrapes foreign matter from the rod & the other lips act as an effective pressure seal in low pressure applications. Can also be used as a secondary seal to trap slight leakage from the primary seal. This creates a very dry rod system.
	DA109C	NBR HPU		4 2	-30 to +100	Double acting. For closed grooves.
	DA113	NBR HPU ACETAL		1	-30 to +100	Hydraulic & Pneumatic. Asymmetrical profile with U lips. Used as a wiper but also as a rod seal in pneumatic services. Allows an elastic assembly, adjusting to the width of the housing.
	DA114	NBR HPU ACETAL		1	-30 to +100	Hydraulic & Pneumatic. The outer lip keeps contaminants from entering the system from outside of the wiper groove. Excellent choice for light to medium duty hydraulic applications.
	DA115	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING		5	-30 to +100 -15 to +200	Hydraulic & Pneumatic. O-ring energized wiper. PTFE wiper with O-ring as preloading element. PTFE part takes over wiping function, O-ring maintains equal contact pressure. Good dry running properties, no "stick-slip". Excellent chemical & thermal resistance can be achieved by selection of suitable O-ring material. O-ring provides the tension necessary to keep the wiper ring in contact with the sliding surface stem.
	DA116	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING		5	-30 to +100 -15 to +200	Hydraulic & Pneumatic. Single acting. Excluder wiper. Low friction wiper ring with double sealing edge in PTFE material with elastomer O-ring. Double lip facilitates the lubrication of the wiper & prevents a possible leak. O-ring provides tension to keep the wiper ring in contact with the sliding surface of the stem.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Wipers protect hydraulic cylinders by preventing the entry of contaminants like dirt, moisture, and dust, as well as environmental factors such as ice and water. SGI's wipers are designed with materials that ensure effective cleaning of the piston rod in both dynamic and static conditions, significantly extending the cylinder's service life.

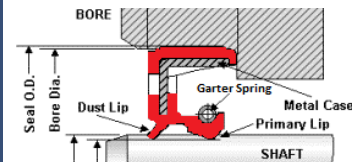
Wiper Seals



Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description	
		WORKING PARAMETERS				
	DA117	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING	5	-30 to +100 -15 to +200	Hydraulic & Pneumatic. Single acting. PTFE-double wiper with two O-rings as preloading elements. Wiping edge assures reliable protection against penetration of dust & dirt. Additional sealing lip for reduction of residual oil film if used in combination with O-ring activated PTFE seals. Excellent chemical & thermal resistance can be achieved by selection of suitable O-ring material.	
	DA118	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING	5	-30 to +100 -15 to +200	Same as DA116 but for high speed applications.	
	DA119	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING	5	-30 to +100 -15 to +200	Hydraulic & Pneumatic. Two O-ring energized wiper designed to be used in environments with heavy contamination, particularly when the rod is facing upwards (vertical). Outstanding for eliminating debris buildup from in front of the primary wiping lip by forcing flow to the outer diameter of the cylinder away from the rod. Excellent for dry running properties with no “stick-slip.” Used for chemical resistance applications depending on the O-ring material.	
	DA211	NBR HPU	16/230	5	-30 to +100	Hydraulic & Pneumatic. Seal & wiper combination in light/medium duty applications. Additional sealing lip on the heel for dual purpose. Commonly used in combination with an O-ring activated PTFE seal to reduce oil residue “weapage” or oil build-up. Also used as a secondary seal to trap slight leakage from the primary seal to create a very dry rod system. HPU for maximum strength abrasion resistance.
	DA212	NBR HPU	16/230	2	-30 to +100	Same as DA211 but includes step that prevents its displacement from the groove. Recommended use in assemblies with low friction joints.
	DA213	PTFE BRONZE/ CARBON +NBR ORING PTFE BRONZE/ CARBON +FKM ORING	5	-30 to +100 -15 to +200	Hydraulic & Pneumatic. Scraper ring, used in combination with a secondary wiper DA102 or DA101. Used for the removal of extremely heavy soiling (mud, tar, ice) & dirt, so that the following elastomeric wiper is protected from damage.Placed before the main wiper in the gland assembly for proper function. Recommended materials provide good dry running properties, high stiffness & breaking strength. Good for low profile applications when space saving is required for compact grooves.	

Rotary seals are seated between two opposing machine parts, one of which rotates and the other is stationary. Key performance criteria include circumferential speed, leak prevention, compressive strength, and resistance to chemicals and temperature. These requirements are met using specialized sealing profiles made from advanced materials tailored to specific applications.

Rotary Seals

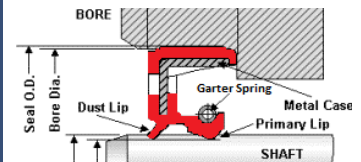


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DR101	HPU +ACETAL/GSM NBR +ACETAL/GSM	0.5/7	5	-30 to +100	Single acting. Spring-loaded lip seal with retainer ring for press-fit installation into axially-open housings. Wide range of applications in every sector of industry, mainly as protecting element for bearings.
	DR102	HPU +ACETAL/GSM NBR +ACETAL/GSM	0.5/7	5	-30 to +100 -30 to +100	As per profile DR101, but with additional dust lip to avoid ingress of dust & dirt.
	DR103	HPU +ACETAL/GSM NBR +ACETAL/GSM	250/3600	2	-30 to +100 -30 to +100	Double acting. Integrated back-up rings for pivoting motion in hydraulic systems. Interference-fit on outside diameter maintains stable fit in the housing. Back-up rings for larger extrusion gap or higher pressure. Used for rotary pivots on excavators, grabs etc
	DR104	HPU NBR FKM	160/2300 100/1450 100/1450	2	-30 to +100 -30 to +100 -15 to +200	Double acting. Space-saving rotary seal for pivoting motion in hydraulic systems. Interference-fit on outside diameter maintains stable fit in the housing. Dynamic sealing lips on inside diameter to prevent ingress of splashing liquids & solid particles. The serrations diameter is greater than the shaft diameter, to avoid friction. Not effective against gases or pressure systems. If used as a sealing element, the internal fluid level must be below the seal. It's recommended as an auxiliary element.
	DR105	HPU NBR FKM	160/2300 100/1450 100/1450	2	-30 to +100 -30 to +100 -15 to 200	Same as DR104 but with interference-fit on inside diameter to maintain stable fit in the housing. Dynamic sealing lips on outside diameter.
	DR106	HPU NBR FKM		25 8-12 6.5-10	-30 to +100 -30 to +100 -15 to +200	Axially-acting. Type "A" V-Ring. Wear-resistant with interference-fit on the shaft, rotates with the shaft, sealing axially against shaft collars, protecting the bearing against dust, dirt, oil-splash, water-splash. Face-type excluder seal to prevent solid, liquid & gaseous contaminants ingress into the machine. Mounted on the shaft with a small expansion to allow the seal to rotate together with the shaft, causing a centrifugal effect of the lip that expels the solid & liquid particles from the area to be protected. Can be used in conjunction with oil seals if contamination exclusion & lubricant retention are required.
	DR107	HPU NBR FKM		25 8-12 6.5-10	-30 to +100 -30 to +100 -15 to +200	Axially-acting. Type "S" V-Ring has the same function as DR106 but is broad & tapered, providing a solid grip on the shaft.
	DR108	HPU NBR FKM	100/1450 0.5 0.5	10 5 5	-30 to +100 -30 to +100 -15 to +200	Spring-less rotary lip seal with no reinforcement ring. Recommended for secondary sealing applications. Good eccentricity due to length & flexibility of inside lip.
	DR110	GSM/BRONZE/ CARBON PTFE +NBR ORING	350/5000	5	-30 to +100	Double-acting. Low friction glyd ring for rods in rotating/oscillating services (hose reels, swivel joints, rotating track rings & machine tool hydraulics). For high pressures at low circumferential speed. Energizing ring with compact cross-section & a PTFE/HPU sliding ring with oil retaining groove for stick-slip-free starting.
	DR111	GSM/BRONZE/ CARBON PTFE +NBR ORING	350/5000	5	-30 to +100	Double-acting. Low friction glyd ring for pistons in rotating/oscillating services (hose reels, swivel joints, rotating track rings & machine tool hydraulics). For high pressures at low circumferential speed. Energizing ring with compact cross-section & a PTFE/HPU sliding ring with oil retaining groove for stick-slip-free starting.
	DR112	HPU NBR FKM	160/2300 100/1450 100/1450	0.2	-30 to +100 -30 to +100 -15 to +200	Rotation seal with press fit on outside diameter for stable fit in the housing. Good sealing under lower pressure. Small groove below the seal maintains film of oil which reduces the friction & increases seal durability.
	DR113	HPU +ACETAL/ CARBON PTFE NBR +ACETAL/ CARBON PTFE	400/5800 250/3600	0.2	-30 to +100	Integrated backup rings for pivoting motion in hydraulic systems. Press fit on outside diameter for stable fit in the housing, backup rings permit larger extrusion gap/higher pressure. Used for rotary pivots on excavators, grabs.
	DR115	HPU +ACETAL/ CARBON PTFE NBR +ACETAL/ CARBON PTFE	600/8700 300/4300	0.5 5	-30 to +100	Same as DR110 but with 2 oil retaining grooves to improve seal efficiency by increasing the specific surface load pressure against the sealed surface. They also form a lubricant reservoir & reduce friction.
	DR116	HPU +ACETAL/ CARBON PTFE NBR +ACETAL/ CARBON PTFE	600/8700 300/4300	0.5 5	-30 to +100	Same as DR111 but with 2 oil retaining grooves to improve seal efficiency by increasing the specific surface load pressure against the sealed surface. They also form a lubricant reservoir & reduce friction.
	DR117	CARBON/ BRONZE/ PURE PTFE +V-SPRING	300/4300	2	-200 to +260	Single acting. V-Spring activated PTFE seal with integrated clamping flange on the back (outside) of seal for clamping fixation, acting as anti-twist device. Excellent chemical & thermal resistance. Suitable for high pressure & high speed, however the allowable pressure & speed depend on each other. The U-shaped spring maintains a constant tension on the sealing edges.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Rotary seals are seated between two opposing machine parts, one of which rotates and the other is stationary. Key performance criteria include circumferential speed, leak prevention, compressive strength, and resistance to chemicals and temperature. These requirements are met using specialized sealing profiles made from advanced materials tailored to specific applications.

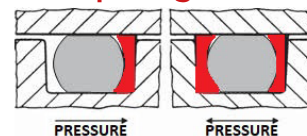
Rotary Seals



Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description	
		WORKING PARAMETERS				
	DR118	CARBON/ BRONZE/ PURE PTFE +V-SPRING	300/4300	15	-200 to +260	Single acting. V-Spring activated PTFE flange seal, excellent chemical & thermal resistance. Designed to be deformed axially and therefore must be mounted onto flange-type systems. Suitable for low-rotation static or dynamic services. Used for internal sealing of covers or frontal rotary systems (loading arms for hydrocarbons).
	DR119	CARBON/ BRONZE/ PURE PTFE +V-SPRING	300/4300	5	-200 to +260	Rotary. PTFE seal energized with a V-Spring. Designed to be deformed axially & therefore must be mounted onto flange type systems.Suitable for low-rotation static or dynamic services. Used for external sealing of covers or frontal rotary systems (loading arms for hydrocarbons).
	DR121	HPU CARBON/ BRONZE/ PURE PTFE BUT WITHOUT SPRING	800/11600 300/4300	2	-30 to +100 -200 to +260	Flange u/seal for rotating purposes. Integrated clamping flange on the front (inside) of seal for clamping fixation, acting as anti-twist device. Excellent chemical &thermal resistance.
	DR201	HPU+GSM NBR+GSM FKM+GSM +SPRING	0.5	10	-30 to +100 -30 to +100 -15 to +200	B type oil seal recommended for oil or grease sealing in rotating equipment. The external casing is made of GSM/POM for axially accessible housings with a press fit at the outside diameter.
	DR202	HPU+GSM NBR+GSM FKM+GSM +SPRING	0.5	10	-30 to +100 -30 to +100 -15 to +200	BS type oil seal with dust lip. Recommended for oil or grease sealing in rotating equipment. The external casing is made of GSM/POM for axially accessible housings with a press fit at the outside diameter.
	DR203	HPU+GSM NBR+GSM FKM+GSM	0.5	10	-30 to +100 -30 to +100 -15 to +200	B type oil seal without energizing spring, recommended for oil or grease auxiliary sealing in rotating equipment. The external casing is made of POM/GSM for axially accessible housings with a press fit at the outside diameter.
	DR204	HPU NBR FKM +SPRING	0.2	10	-30 to +100 -30 to +100 -15 to +200	BS type oil seal with dust lip recommended for oil or grease sealing in rotating equipment. The external casing is made of GSM/POM for axially accessible housings with a press fit at the outside diameter.
	DR205	HPU NBR FKM +SPRING	0.2	10	-30 to +100 -30 to +100 -15 to +200	Oil seal with dust lip and without reinforcement ring. Recommended as split design. As the reinforcement ring is not available, the oil seal clamping in its housing is achieved by means of axial tightening.
	DR206	HPU NBR FKM	0.2	10	-30 to +100 -30 to +100 -15 to +200	Oil seal with neither an energizing spring nor reinforcement ring. It's recommended as a split seal design for oil or grease auxiliary sealing in rotating equipment. As the reinforcement ring is not available, the oil seal clamping in its housing is achieved by means of axial tightening.
	DR207	HPU NBR FKM	0.2	10	-30 to +100 -30 to +100 -15 to +200	Oil seal with dust lip but no energizing spring. It's recommended as a split seal design for oil or grease auxiliary sealing in rotating equipment. As the reinforcement ring is not available, the oil seal clamping in its housing is achieved by means of axial tightening.

Backup rings, typically made of hard thermoplastics, bridge large extrusion gaps in seals to handle higher pressures, temperature peaks, and rapid linear movements when combined with elastomeric seals. They are also available in slotted form for easier assembly.

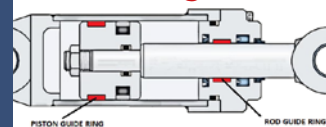
Backup Rings



					PRESSURE	PRESSURE
Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description	
		WORKING PARAMETERS				
	DST108	PTFE NBR VITON		-200 to +260 -30 to +100 -15 to +200	A common inactive back up ring, mainly used with o-rings to avoid gap extrusion. Split & non-split available.	
	DST109	PTFE NBR VITON		-200 to +260 -30 to +100 -15 to +200	Same as DST108 but with concave section to better fit the contour of the o-ring.	
	DST110	ACETAL (HPU) PTFE (NBR)		-30 to +100 -200 to +260	Standard active back up ring for rod seals DS102 & DS104 (usually included). Designed for automatic pressure activation. Split & non-split available.	
	DST111	ACETAL (HPU) PTFE (NBR)		-30 to +100 -200 to +260	Standard active back up ring for piston seals DK102 & DK104 (usually included). Designed for automatic pressure activation. Split & non-split available.	
	DST112	ACETAL (HPU) PTFE (NBR)		-30 to +100 -200 to +260	Triangular back up ring for rod applications with a special shaped housing. Also used as integrated, active back up ring in special high-pressure or low-friction seal profiles. Split & non-split available.	
	DST113	ACETAL (HPU) PTFE (NBR)		-30 to +100 -200 to +260	Triangular back up ring for piston applications with a special shaped housing. Also used as integrated, active back up ring in special high-pressure or low-friction seal profiles. Split & non-split available.	
	DST114	PURE PTFE		-200 to +260	Spiral back up. Static & dynamic use for reciprocating movements only. Designed for compensation of large temperature changes & tolerances with screw-like elongation & contraction. Easy installation in closed grooves. Most common style in being effectively self adjusting to diametrical tolerances.	

Guide rings, used as piston and rod guide elements, ensure central alignment of the rod and piston while preventing metal-to-metal contact and absorbing lateral forces during operation. They are typically produced in straight or inclined slotted forms, with the latter preventing drag flow pressure. SGI offers wear bands made from advanced materials that enhance the durability and reliability of the cylinder.

Guide Rings

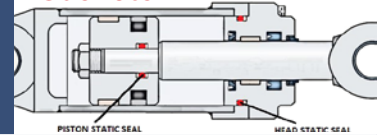


	Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description
			WORKING PARAMETERS			
	DF101	PURE PTFE	3	4	-200 to +260	Most common for rod or piston applications. Used in many standard cylinders. Split design available for installation into closed housings, or non-split designs for bushings. Chamfered edges to minimize edge pressure.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF102	PURE PTFE	3	4	-200 to +260	Same as DF101 but without chamfer. Recommended for use as a spacer or bush.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF103	PURE PTFE	3	4	-200 to +260	For piston applications. Angled design combines guide & back up function. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF104	PURE PTFE	3	4	-200 to +260	For rod applications. Angled design combines guide & back up function. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF105	PURE PTFE	3	4	-200 to +260	With integrated collar on inside diameter, for piston applications. Chamfered edges to minimize edge pressure. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF106	PURE PTFE	3	4	-200 to +260	With integrated collar on inside diameter, for rod applications. Chamfered edges to minimize edge pressure. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF107	PURE PTFE	3	4	-200 to +260	Stem mounting, with groove on inside diameter, for piston applications. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DF108	PURE PTFE	3	4	-200 to +260	Stem mounting, with groove on inside diameter, for rod applications. Split & non-split available.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	
	DFB102	PURE PTFE	3	4	-200 to +260	Static & dynamic applications for internal & external sealing applications. Used with o-rings in high pressure applications; o-ring materials with low hardness; to compensate for radial sealing gaps & large temperature fluctuations. Reciprocating & rotating movements possible.
		BRONZE PTFE	4.5	5	-200 to +260	
		ACETAL	25	4	-30 to +100	

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Gaskets provide static axial sealing between two flat machine components, such as flange connections. Their sealing effectiveness relies heavily on surface pressure, with a lower compression set being crucial for optimal performance. Commonly used gaskets include O-rings, which are suitable for both static and dynamic applications across various elastomers and TPE materials.

Static Axial Seals & Gaskets



Profile No.	Material	Max Pressure (Bar/PSI)	Max Speed (m/s)	Temp Range (°C)	Product Description	
		WORKING PARAMETERS				
	DFL101	NBR FKM EPDM VMQ		-30 to +100 -15 to +200 -45 to +150 -60 to +200	Washer/Flat Ring. Used as a static seal in fittings for fluid sealing in liquid or gas conduction systems. The sealing is achieved by deforming the joint in the axial direction to obtain a tightness in the radial direction. Therefore, is recommended to use only high elasticity materials such as NBR, EPDM, FPM or VMQ.	
	DFL102	NBR FKM EPDM VMQ		-30 to +100 -15 to +200 -45 to +150 -60 to +200	Rectangular section gasket used for static sealing in general applications. For fluids sealing in flanges or machine covers.	
	DFL103	PTFE PURE+NBR PTFE PURE+FKM PTFE PURE+EPDM PTFE PURE+VMQ		-20 to +200	PTFE Envelope Gasket. Flat elastomer gasket covered with a PTFE sheath for high resistance to deformation & chemical products. Recommended to use as a gasket core, with an elastic material to achieve a durable tightening torque on the flange faces.	
	DFL104	PTFE PURE+NBR PTFE PURE+FKM PTFE PURE+EPDM PTFE PURE+VMQ		-20 to +200	Same technical characteristics as the DFL103 but PTFE sheath covers the elastic joint on the outside & on the sides.	
	DFL105	HPU NBR FKM EPDM		-30 to +100 -30 to +100 -15 to +200 -45 to +130	Flat disk for fluids sealing in valves, pipe ends & water or gas connectors or couplings.	
	DFL106	HPU NBR FKM EPDM VMQ KALREZ CR PTFE	600/8700 160/2300 160/2300 160/2300 70/1145 185/2683 275/4000 160/2300	-30 to +100 -30 to +100 -15 to +200 -45 to +130 -60 to +200 -40 to +340 -40 to +100 -20 to +250	O-ring. Double acting. The sealing action is due to the compression of the cross-section of the O-ring between two sealing surfaces. Used in static (liquid & gas) & dynamic applications (axial, rotary or oscillating), or as preloading element for PTFE seals.	
	DFL107		450/6526	-250 to +1000	Spiral Wound Gasket. Versatile with strong mechanical strength & recovery characteristics. Its semi-metallic design is effective for sealing a wide range of media. Adaptable to different flange face configurations, which determine the gasket style required.	
	DFL108	HPU NBR FKM EPDM VMQ	450/6526	-30 to +100 -30 to +100 -15 to +200 -45 to +130 -60 to +200	An alternative to O-Ring & B/UP combination. No risk of twisting or backup ring disposition. Less sensitive to pressure pulsing, reducing the possibility of ingress of dirt in between the sealing elements. High resistance to extrusion by material choice.	
	DFL109	HPU NBR FKM		-30 to +100 -30 to +100 -15 to +200	Flange gaskets with rounded edge on the outer diameter. The rounded edge is used in the area in contact with the fluid. Elastic materials have a better adaptation to the irregularities of the flange faces & have a better compression set value than plastics & thermoplastics	
	DFL109	HPU NBR FKM		-30 to +100 -30 to +100 -15 to +200	Flange gaskets with rounded edge on the inside & outer diameter. The rounded edges are used in the area in contact with the fluid. Elastic materials have a better adaptation to the irregularities of the flange faces & have a better compression set value than plastics & thermoplastics	
	DFL109	HPU NBR FKM		-30 to +100 -30 to +100 -15 to +200	Flange gaskets with rounded edge on the inside diameter. The rounded edge is used in the area in contact with the fluid. Elastic materials have a better adaptation to the irregularities of the flange faces & have a better compression set value than plastics & thermoplastics.	
	DFL110	HPU NBR FKM		-30 to +100 -30 to +100 -15 to +200	Flange gaskets with rounded edge on the upper face to facilitate the gasket deformation & improve the fluid sealing. Advisable to install the gasket in a rectangular groove. Height of the seal must be 15 % higher than the groove depth.	
	DFL111	HPU NBR FKM EPDM VMQ	410/6000	0.5	-30 to +100 -30 to +100 -15 to +200 -45 to +150 -60 to +200	Quad Ring. Gasket with four sealing edges for water tightness of fluids in static & in dynamic applications where it offers stability & low friction. Unlike an oring, does not rotate in its seat & also stores lubricant between the sealing edges, which reduces friction. Longer lifespan.
	DFL112	HPU NBR FKM	2500/36250	0.5	-30 to +100 -30 to +100 -20 to +220	Concave backup ring to better accommodate the O-Ring and retain shape under high pulsating pressure.
	ORING CORD	NBR FKM EPDM VMQ		-30 to +100 -15 to +200 -45 to +150 -60 to +200	Wide range of diameters available. Imperial & Metric.	
	ORING SERVICE BOX	NBR FKM EPDM VMQ		-30 to +100 -15 to +200 -45 to +150 -60 to +200	Assortment of O-Rings. Metric & Imperial.	
	X-RING SERVICE BOX	NBR FKM EPDM VMQ		-30 to +100 -15 to +200 -45 to +150 -60 to +200	Assortment of X-Rings. Metric & Imperial.	

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Seal configuration & material choice are key factors in a well-designed sealing system. When selecting from our standard & specialised material options, consider factors such as physical properties, chemical compatibility, thermal capabilities, extrusion resistance, friction, wear, as well as storage, handling, and installation guidelines for optimal performance.

Sealing Compounds & Material Selection



Material Type	Material Description	Hardness (A/D)	Pressure max. (Bar/PSI)	Temperature Range (°C)
ELASTOMERS: THERMOPLASTIC				
Polyurethane (TPU) PU93	Versatile thermoplastic elastomer known for its flexibility & durability.	93/47	400/5801	-30 +110

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Flexibility:** Exhibits excellent flexibility & elasticity. | **Abrasion Resistance:** Resistant to wear & abrasion. | **Tear Strength:** Offers high tear resistance. | **Temperature Range:** Performs well in a broad temperature range. | **Chemical Compatibility:** Resistant to many oils, chemicals, & solvents.

APPLICATIONS: Oil, Ozone, Microbes. | **Automotive:** O-rings, gaskets, & seals in engines & transmissions. | **Fluid Handling:** Seals for pumps, valves, & hydraulic systems. | **Industrial Machinery:** Seals for conveying systems, processing equipment, & rotary shafts. | **Medical:** Sealing components for fluid h&ling, disposable medical products. | **Consumer Electronics:** Sealing components in electronic devices to prevent dust & moisture ingress.

CONSIDERATIONS: **UV Sensitivity:** May be sensitive to prolonged UV exposure. | **Complexity:** Specific formulations can impact properties. | **Chemical Resistance:** While good, it's not as resistant as some elastomers. | *TPU's combination of flexibility, durability, & versatility makes it widely used across industries for a range of applications. While considering UV exposure, processing methods, & specific formulations, TPU's performance can be tailored to suit diverse needs.*

ELASTOMERS: RUBBERS

NBR	Nitrile butadiene rubber – synthetic rubber known for its excellent oil resistance.	60-95/-	250/3626	-30 +110
------------	---	---------	----------	----------

GENERAL CHEMICAL RESISTANCE

Oil & Fuel Resistance: Exceptional resistance to oils, fuels, & hydrocarbons. | **Good Abrasion Resistance:** Withstands wear & abrasion. | **Good Compression Set:** Maintains shape after compression. | **Temperature Tolerance:** Performs well in a moderate temperature range. | **Cost-Effective:** NBR is relatively economical compared to other elastomers.

APPLICATIONS: Automotive: Seals, gaskets, O-rings for engines, & fuel systems. | Industrial: Seals, gaskets, hoses for machinery & equipment using oils. | Oil & Gas: O-rings, seals for oil exploration & production. | Hydraulic & Pneumatic Systems & Equipment. | Marine: Seals, gaskets for marine engines & equipment.

CONSIDERATIONS: **Chemical Compatibility:** NBR may not be suitable for applications with aggressive chemicals. | **High-Temperature Limitations:** NBR's temperature resistance is limited compared to other elastomers. | **Ozone & Weather Resistance:** NBR is not as resistant to ozone & weathering as some elastomers.

While NBR has high resilience & wear resistance, it's strength capabilities are moderate.

VITON (FKM)	Fluorocarbon rubber (Viton®) – Synthetic rubber known for its excellent heat & chemical resistance.	70-95/-	350/5076	-20 +220
--------------------	---	---------	----------	----------

GENERAL CHEMICAL RESISTANCE

High Temperature Tolerance: Performs well in elevated temperatures. | **Broad Chemical Compatibility:** Resistant to a wide range of chemicals, oils, & solvents. | **Low Gas Permeability:** Minimizes gas & vapor permeation. | **Excellent Compression Set:** Maintains shape after compression. | **Oil & Fuel Resistance:** Particularly suitable for applications involving oils & fuels.

APPLICATIONS: Fats, Crude Oil, Mineral Oil, Gasoline, Aliphatic & Aromatic Hydrocarbons. | Automotive: Seals, gaskets, O-rings for engines & fuel systems. | Aerospace: Seals for aviation fuel systems & hydraulic fluids. | Industrial: Seals for machinery, pumps, & chemical processing. | Oil & Gas: O-rings, seals for oil & gas exploration & production. | Semiconductor: Gaskets, seals for chemical handling in semiconductor manufacturing.

CONSIDERATIONS: **Low-Temperature Limitations:** While FKM has excellent resistance to heat, it's low-temperature performance may not be as good as other elastomers. | **Compression Set:** While good, FKM's compression set is not as high as some other elastomers. | **Cost:** Can be more expensive compared to general-purpose elastomers.

FKM's strong combination of heat & chemical resistance, along with its compatibility with oils & fuels, makes it a popular choice in various dem'ing applications. However, its low-temperature performance & higher cost should be considered based on specific application requirements.

KALREZ (FFKM)	Perfluoroelastomer (DuPont™/Kalrez®) – a high-performance elastomer with exceptional chemical resistance & high temperature stability	90/-	350/5076	-20 +320
----------------------	---	------	----------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Extreme Chemical Resistance:** Resistant to a broad range of aggressive chemicals, acids, & solvents. | **High Temperature Tolerance:** Maintains integrity at elevated temperatures. | **Low Outgassing:** Minimizes volatile emissions in high-vacuum environments. | **Excellent Compression Set:** Minimal permanent deformation after compression. | **Low Contamination:** FFKM minimizes particle generation in critical applications.

APPLICATIONS: Semiconductor: Process equipment seals, wafer handling components. | Chemical Processing: Gaskets, O-rings, seals for aggressive chemicals. | Aerospace: Seals for high-temperature & chemically harsh environments. | Oil & Gas: Seals, O-rings, for drilling, extraction, & refining. | Pharmaceutical: High-purity applications, seals for aggressive chemicals.

CONSIDERATIONS: **Cost:** FFKM is more expensive than other elastomers due to its high performance. | **Temperature Limits:** May have temperature limits depending on specific compound. | **Low Elasticity:** FFKM can have lower elasticity compared to other elastomers. | **Processing Difficulty:** Due to its high chemical resistance, processing can be more challenging.

FFKM's exceptional chemical resistance & high-temperature stability make it invaluable in industries where aggressive chemicals are encountered. While it is costlier & may have some processing challenges, its performance in critical applications can mean less frequent seal changes, repairs & inspections, increasing process & equipment uptime for greater productivity & yield.

SILICONE (VMQ)	Vinyl methyl silicone rubber – a synthetic elastomer known for its wide temperature range & excellent flexibility.	85/-	50/725	-60 +200
-----------------------	--	------	--------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Temperature Tolerance:** Maintains properties across an extensive temperature range, from extreme cold to high heat. | **Flexibility:** Remains flexible at low temperatures, ideal for dynamic applications. | **Weather Resistance:** Resistant to UV, ozone, & weathering, suitable for outdoor use. | **Good Insulation:** Exhibits high electrical insulating properties. | **Chemical Stability:** Stable in contact with various chemicals & solvents. | **Low Compression Set:** Maintains original shape after compression.

APPLICATIONS: Hot Air, Ozone, Hot Water & Acetic Acid. | Medical: Medical tubing, implants, prosthetics. | Food & Beverage: Seals, gaskets, tubing for fluid transfer. | Electronics: Insulation, seals for electrical components. | Industrial: O-rings, gaskets, seals for industrial machinery.

CONSIDERATIONS: **Tear & Abrasion:** Lower resistance to tear & abrasion compared to some elastomers. | **Oil Resistance:** Generally has poor resistance to oils & hydrocarbons. | **Compression Set:** Vulnerable to permanent deformation when subjected to high compression.

Silicone's ability to perform across a wide temperature range, along with its flexibility & electrical insulating properties, make it a popular choice for applications ranging from medical to industrial. Its limitations include lower tear resistance & relatively poor oil resistance, which should be considered when choosing it for specific uses.

EPDM	Ethylene propylene diene rubber – a synthetic rubber known for its excellent weather resistance & versatility.	85/-	50/725	-45 +130
-------------	--	------	--------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Weather Resistance:** Outstanding resistance to ozone, UV, & weathering. | **Temperature Range:** Performs well in both high & low temperature extremes. | **Good Insulation:** Exhibits good electrical insulating properties. | **Water & Steam Resistance:** Maintains properties in contact with water & steam. | **Chemical Resistance:** Resistant to many acids, alkalis, & polar solvents. | **Flexibility:** Remains flexible even at low temperatures.

APPLICATIONS: (Hot) Water, Acids, Bases, Steam, Ketones, Brake Fluids based on polyglycols & lyes. | HVAC: Gaskets, seals, insulation. | Industrial: Conveyor belts, hoses, electrical insulation. | Marine: Gaskets, seals, fenders.

CONSIDERATIONS: **Oil Resistance:** Moderate resistance to oils & hydrocarbons. | **Tear & Abrasion:** Lower resistance to tear & abrasion compared to some elastomers.

EPDM's exceptional weather resistance & broad temperature range make it a popular choice for outdoor & industrial applications. While it has moderate oil resistance, its versatility & electrical insulating properties contribute to its widespread use across various industries.

Seal configuration & material choice are key factors in a well-designed sealing system. When selecting from our standard & specialised material options, consider factors such as physical properties, chemical compatibility, thermal capabilities, extrusion resistance, friction, wear, as well as storage, handling, and installation guidelines for optimal performance.

Sealing Compounds & Material Selection



Material Type	Material Description	Hardness (A/D)	Pressure max. (Bar/PSI)	Temperature Range (°C)
---------------	----------------------	----------------	-------------------------	------------------------

POLYMERS: THERMOPLASTICS

POM/ACETAL	Polyoxymethylene/Polyacetal, is a thermoplastic with good mechanical properties.	-/85	400/5801	-45 +100
-------------------	--	------	----------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Mechanical Strength:** Offers high tensile strength & stiffness. | **Low Friction:** Exhibits low coefficient of friction, suitable for moving parts. | **Dimensional Stability:** Maintains shape & size even in humid conditions. | **Good Wear Resistance:** Suitable for applications involving sliding & contact. | **Chemical Resistance:** Resistant to various chemicals & solvents. | **Low Water Absorption:** Absorbs minimal moisture, ensuring stability. | **APPLICATIONS:** Fuels, Water, Lyes, Lubricants, Alcohols & Solvents | **Engineering Components:** Gears, bearings, bushings, & other precision parts. | **Automotive:** Fuel system components, window guides, door h&les. | **Medical:** Surgical instruments, components for medical devices. | **Electrical:** Insulators, connectors, switches. | **CONSIDERATIONS:** **W**Temperature Sensitivity: Lower temperature resistance compared to some other plastics. | **UV Sensitivity:** Susceptible to degradation in prolonged UV exposure. Can be brittle under shock load conditions. | **Flammability:** Limited fire resistance. *Acetal is valued for its mechanical properties, making it suitable for a range of applications in various industries. However, its temperature sensitivity & UV susceptibility should be considered when selecting it for specific uses.*

UHMW PE	Ultra-High Molecular Weight Polyethylene is a thermoplastic known for its exceptional toughness & durability.	-/61	300/4351	-200 +80
----------------	---	------	----------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **High Impact Strength:** Resistant to impact, even in low temperatures. | **Low Friction:** Exhibits excellent sliding properties, suitable for bearings. | **Abrasion Resistance:** Withstands wear & abrasion, extending lifespan. | **Chemical Resistance:** Resistant to many chemicals & corrosive substances. | **Self-Lubricating:** Reduces the need for external lubrication. | **Low Water Absorption:** Absorbs minimal moisture, ensuring dimensional stability. | **High resistance to abrasive wear, good oxidation resistance, good sliding & antiadhesive behaviour, high resilience at shock & impact stress.** | **APPLICATIONS:** **Wear Components:** Gears, bushings, rollers, & guide rails. | **Food Processing:** Conveyor belts, chutes, & cutting boards. | **Medical:** Orthopedic implants, prosthetics, & medical devices. | **Industrial:** Liners for hoppers, chutes & material handling equipment. | **CONSIDERATIONS:** **Temperature Limitations:** Limited resistance to high temperatures. | **UV Sensitivity:** Susceptible to UV degradation if not protected. | **Machining Challenges:** Requires specialized machining techniques due to its toughness. *UHMW-PE's unique combination of strength, low friction, & resistance to wear & chemicals makes it valuable for applications where durability & performance are essential.*

NYLON	Versatile synthetic polymer known for its strength & durability	85	110/1595	-40 +100
--------------	---	----	----------	----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **High Strength:** Offers excellent tensile & impact strength. Good shock absorption & electrical insulator. | **Abrasion Resistance:** Resists wear & tear, maintaining longevity. | **Low Friction:** Exhibits low coefficient of friction, suitable for moving parts. | **Chemical Resistance:** Generally resists oils, solvents, & chemicals. | **Temperature Tolerance:** Performs well across a moderate temperature range. | **APPLICATIONS:** **Engineering Components:** Gears, bearings, bushings, & structural parts. | **Automotive:** Engine components, gears, housings, & interior parts. **Automotive Seals:** Engine gaskets, O-rings, & seals for fluids & gases. | **Industrial Seals:** Hydraulic & pneumatic seals for machinery & equipment. | **Consumer Goods Seals:** Sealing components for appliances, containers, & consumer products. | **Medical Seals:** Seals for medical devices, fluid handling, & packaging. | **CONSIDERATIONS:** **Moisture Absorption:** Nylon's moisture absorption can affect its dimensions & properties. | **UV Sensitivity:** Extended UV exposure can impact performance. | **Processing Method:** Nylon is commonly molded, extruded, or 3D printed. *Nylon's strength, durability, & versatility make it a popular choice for various applications. However, its moisture absorption, sensitivity to UV exposure, & processing methods should be considered for specific uses.*

GSM (MOS)	Cast nylon combining both molybdenum disulphide (MoS) & oil for load capacity, improved frictional characteristics & exceptional dry lubrication properties	Not typically characterised using the Shore hardness scale, as it's a solid lubricant and not a solid material itself.	207/3000	-180 +150
------------------	---	--	----------	-----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Solid Lubrication:** Provides effective dry lubrication, reducing friction & wear. | **High Load-Bearing Capacity:** Withstands heavy loads & pressures. | **Chemical Stability:** Resistant to oxidation & chemical degradation. | **Temperature Range:** Functions in a wide temperature spectrum. | **Low Coefficient of Friction:** Reduces sliding resistance between surfaces. | **APPLICATIONS:** **Hydraulic Seals:** Enhances performance & lifespan of hydraulic system seals. | **Pneumatic Seals:** Reduces friction & enhances sealing efficiency in pneumatic systems. | **Rotary Shaft Seals:** Provides dry lubrication for efficient rotary sealing. | **Static Seals:** Improves static sealing against pressure & temperature variations. | **High-Temperature Seals:** Resists friction & wear in high-temperature environments. | **CONSIDERATIONS:** **Surface Preparation:** Proper surface preparation can optimize adhesion & performance. | **Mechanical Stability:** May require mechanical stability in some applications. | **Interactions:** Interactions with other additives or materials should be considered. *Molybdenum Disulfide's solid lubrication properties, load-bearing capacity, & chemical stability make it valuable in applications where traditional liquid lubricants are not suitable. However, surface preparation, mechanical stability, & compatibility should be taken into account for optimal performance.*

POLYMERS: FLUOROPOLYMERS

All PTFE's have excellent chemical & temperature capabilities. Low co-efficient of friction (slippery) for lubrication. Poor memory capabilities which can be rectified using orings/spring or fillers.

PTFE PURE (Virgin)	Purest form of PTFE without fillers or additives.	-/55	160/2320	-200 +260
---------------------------	---	------	----------	-----------

GENERAL CHEMICAL RESISTANCE

KEY CHARACTERISTICS: **Chemical Resistance:** Highly resistant to various chemicals, acids, & solvents. | **Low Friction:** Exceptional non-stick & low-friction properties. Superior fluid compatibility. | **APPLICATIONS:** Seals: Gaskets, O-rings, due to chemical resistance & low friction. Static or slow speed applications with low wear resistance. | High-Purity Uses: Semiconductor industry & other purity-sensitive applications. Food approved. | Not ideal for applications with high wear or where effective heat transfer is crucial. *While virgin PTFE offers benefits like chemical resistance and low friction, it may not be ideal for applications with high wear or where effective heat transfer is crucial.*

GLASS FILLED PTFE (PTFE 1)	Glass fibers are added to PTFE to improve its mechanical strength, wear resistance, & dimensional stability.	-/58	400/5801	-200/260
-----------------------------------	--	------	----------	----------

KEY CHARACTERISTICS: Enhanced strength, lower creep, & improved wear resistance compared to unfilled PTFE. Maintains chemical resistance.

APPLICATIONS: Piston rings, valve seats, & other high-load applications.

Glass-filled PTFE combines the advantages of PTFE with enhanced wear resistance and strength, making it valuable for applications requiring low friction, chemical resistance, and durability. However, compatibility with mating materials and machining difficulty should be considered.

BRONZE FILLED PTFE (PTFE 2)	Fine bronze powder is added to PTFE to create a material with improved mechanical strength & wear resistance (durability).	-/60	400/5801	-200/260
------------------------------------	--	------	----------	----------

KEY CHARACTERISTICS: Higher compressive strength, improved wear resistance, & better thermal conductivity. Chemical resistance remains high.

APPLICATIONS: Suitable for heavy-duty dynamic sealing applications, like high pressure hydraulic pistons & rods. Limited chemical resistance in some acids & alkalis.

Bronze-filled PTFE combines the advantages of PTFE with enhanced strength, wear resistance, and thermal conductivity. However, compatibility with mating materials, cost, and machining difficulty should be considered.

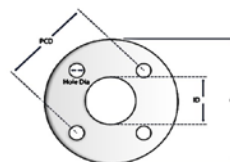
CARBON FILLED PTFE	Carbon powder or fibers are added to PTFE to enhance its mechanical & thermal properties (heat).	-/67	350/5076	-200/260
---------------------------	--	------	----------	----------

KEY CHARACTERISTICS: Improved conductivity, reduced creep, better thermal conductivity, & lower wear. Still retains chemical resistance.

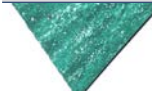
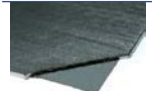
APPLICATIONS: Compatible with most hydraulic fluids. Seals for applications where conductivity or thermal properties are needed, such as in electrical connectors.

Carbon-filled PTFE combines PTFE's qualities with enhanced wear resistance and mechanical strength. It excels in applications demanding durability and resistance to wear. However, cost, potential abrasion, and machining challenges should be taken into account.

Flange gaskets are used to create a static seal between two flanges faces, at various operating conditions, with varied pressure and temperature ratings. A gasket fills the microscopic spaces and irregularities of the flange faces, and then it forms a seal that is designed to keep liquids and gases.

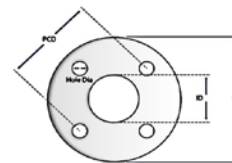


Flange Gaskets: Ring, Full-face, Custom & Sheetg

	Material Name	Sheet Dimensions (mm)	Thickness (mm)	Temp Range (°C)	Compression %	Material Description & Suitability
CORK						
	Cork (Industrial) TS1521	1000 x 1000 (Also available in rolls)	1,5 2,4 3 4,5 6	- 30 + 110	40-55	Cork with Stryene Butadiene (SBR) rubber. Economical, highly compressible material with good flexibility, resilience & low sealing stress. Suitable for most lubrication fluids (i.e engine oil, gear oil, fuel applications).
	Cork (Transformer) TS1028	1000 x 1000 (Also available in rolls)	1,5 3 4,5 6 10 12	Max. 125	15-25	Cork with high grade Nitrile (NBR) rubber. Good Fuel, Diesel, Solvent&Oil Resistance. Also suitable for Electrical, Natural Gas & Liquid Petroleum Gas applications such as gas valves, gas appliances, gas pipe work. International Spec with Certification available: TEADIT TD1049 (3mm, 4.5mm, 6mm, 10mm) Premium Grade available : TD1120, suitable for large power transformers (9.5mm, 12.5mm)
VELLUMOID						
	Flexoid Paper Brown	1000 X 1000 (Running meters available)	0,25 0,4 0,8 1,5	Max. 120	25-40	Soft jointing material used for sealing against petrol, oil & water. Excellent oil & fuel resistant properties. Ideal for uneven or light sealing loads.
NON ASBESTOS, COMPRESSED						
	Economy General Purpose (Euro-Seal GP) Green <i>Equivalent to C-4324</i>	2000 x 1500	0,3 0,5 0,8 1 1,5 2 3 4	- 120 + 300	10	Universal non-asbestos grade for medium to high loadings. Made from aramid & glass fibres with a nitrile rubber binder. Suitable for general industrial service including oils, fuels, hydrocarbons & water. High Grade available: Euro-Seal High Grade Economy (Green & White) International Spec with Certification available: NA1002 or NA1122 (depending on temperature, pressure, application & media requirements).
	Economy High Grade (Euro-Seal High) Green/White <i>Equivalent to C-4430</i>	2000 X 1500	0,5 0,8 1 1,5 2 3	- 200 + 400	9	High quality jointing made from asynthetic fibres & glass-fibre bound with nitrile rubber. Suitable for many industrial sealing applications. High temperature resistance in steam, water & oils, hydrocarbons. Excellent creep resistance. International Spec with Certification available: NA1002 or NA1122 (depending on media, temperature, pressure, application & media requirements).
	Economy High Grade (NA1002 Teadit) Green <i>Equivalent to C-4430 or C-4400</i>	1600 x 1500 3200 x 1500	0,5 0,8 1 1,5 2 3	Max. 400	7 to 17	Same as General Purpose Economy but with a high grade Nitrile (NBR), & ISO certification. Very good general service gasket material that has numerous applications in the process industries & in the water & waste water industry. Suitable for general media: mild acids, alkalies, water, brine, air, industrial gases, animal & vegetable oils, petroleum & derivatives, neutral solutions & refrigerants.
	Economy Superior (NA1122 Teadit Plain) Black Grade	1600 x 1500 3200 x 1500	0,5 0,8 1 1,5 2 3	Max. 550	12 to 22	Compressed non-asbestos sheet with inorganic fibers and special fillers, bonded with nitrile rubber (NBR). ISO certification. Superior thermal stability during extreme thermal cycling applications. Recommended for saturated & superheated steam services but has also proven itself to be very effective in sealing liquid petroleum derivatives, ethanol, chemical products & other fluids Wire reinforcement available for improved resilience & durability: NA1122M (Teadit Wire).
	Acid (Euro-Seal Acid) White <i>Equivalent to C-8200</i>	2000 X 1500	1 1,5	Max. 200	9	Premium high pressure gasket for use with acids. Made from glass fibres with special acid resistant elastomers. Resistant to acids, & a wide variety of media including most mineral acids, alkalis, ketones, aldehydes, refrigerants, oils, fuels, hydrocarbons.
GRAPHITE SHEETING						
	Graphite (Euro-Seal Premium) Black <i>Equivalent to Top Graph 2000</i>	2000 X 1500	0,5 0,8 1 1,5 2 3	- 200 + 300	10	A flexible graphite sealing material, with high load bearing capacity & low embrittlement. Expanded graphite & synthetic fibres. Ideally suited for use where temperature & pressure variables are high i.e steam, oils, fuels, hydrocarbons. Good leakage properties. Also available with stainless steel WIRE reinforcement for improved resilience & durability (Euro-Seal Premium Wire) .
	Graphite SLS Smooth S/S Foil Insert (Euro-Seal SLS)	1000 X 1000 1500 x 1500	1,5 2 3 1,5 3	- 200 + 300	40	For improved load bearing characteristics. Resistant to steam, high & low temperatures, all media. High compressibility.
	Graphite PSM Tanged S/S Foil Insert (Euro-Seal PSM)	1500 x 1500	1,5 2 3	- 200 + 300	33-38	For improved blow out resistance & ease of handling. Excellent thermal & chemical capabilities. Used in petrochemical & chemical industries for process duties. Resistance to all media, especially steam & high&low temperatures. High compressibility.
	Teadit Graphite GR 1700	1500 x 1500	1 1,5 2 3	- 200 + 480 Max. 650 (steam)	35	Layered reinforcements make it suitable for applications with extremely high or low temperatures & pressures, with highly corrosive & aggressive media & for sensitive flange materials. Ideal solution in highly stressed applications such as equipment or heat exchanger gaskets or as sealing components in pumps, valves & pipes.
	Graphite Sheet with metal insert SS316 (Teadit GR 1520)	1000 X 1000	1 1,5 2 3	- 240 + 450 Max. 650 (steam)	40-50	Chemically resistant against most media, execlent thermal conductivity. Particularly suited for gases, steam & fluids, extremely high or low temperatures, highly corrosive & aggressive media. Good for sensitive flange materials (i.e. enamel, glass, plastic) Available with tanged metal insert (Teadit GE 1520) for higher pressure applications.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

Flange gaskets are used to create a static seal between two flanges faces, at various operating conditions, with varied pressure and temperature ratings. A gasket fills the microscopic spaces and irregularities of the flange faces, and then it forms a seal that is designed to keep liquids and gases.



Flange Gaskets: Ring, Full-face, Custom & Sheetting

	Material Name	Sheet Dimensions (mm)	Thickness (mm)	Temp Range (°C)	Compression %	Material Description & Suitability
PTFE						
	PTFE Skived (Sheet)	1200 x 1200	0,5 1 1,5 2 3	- 270 + 260	2	Excellent resistance to many aggressive chemicals due to high level of inertness. Used where strong acids are present (acid plants). Soft, slippery tendencies.
Structured PTFEs provide high fibrillation to overcome the creep relaxation & cold flow problems associated with standard (skived or moulded) PTFE sheets						
	Structured PTFE (Teadit TF 1510) Pure PTFE & Hollow-Glass-Micro-Spheres	1500 x 1500	1,5 2 3	-240 +260	37	Highly compressible & suitable for aggressive fluids, including hydrocarbons, acids&caustics, solvents, water, steam, hydrogen-peroxide, refrigerants, etc. Excellent mechanical strength&high stress retention value. High compressibility makes it particularly suitable for use with stress sensitive and/or fragile flanged joints, e.g. glass, ceramics, plastic, etc. International Spec with Certification available: TEADIT TF1570 (Equivalent to Top Chem 2003)
	Structured PTFE (Teadit TF1580) Pure PTFE & Barium Sulfate <i>Equivalent to Top Chem 2006</i>	1500 x 1500	1,5 2 3	-210 +260	9	FDA conformance for service within food&pharmaceutical applications. Used in a wide range of applications due to its vast resistance to most chemicals. Compatible with strong acids & caustics. White colour makes it suitable for processes where contamination is not tolerated.
	Structured PTFE (Teadit TF 1590) Pure PTFE & Silica <i>Equivalent to Top Chem 2005</i>	1500 x 1500	1,5 2 3 6	-210 +260	6	Suitable for services with high pressures&temperature, especially in chemical processing&hydrocarbon plants in strong acids (except hydrofluoric), solvents, hydrocarbons, water, steam,&chlorine.
	Expanded PTFE (Teadit 20SH)	1500 x 1500	0,5 6	-60 +230	45	Food & Pharmaceutical. Universally employable gasket sheet for all applications. Suitable for all types of flanges, nearly all media, a wide temperature range&for applications with the toughest demands on purity. It is inherently clean&non-toxic. Dimensionally stable. Teadit 24SH available for higher operating pressure (max. 200 bar),&broad temperature range (from- 240°C to +270°C)
	Expanded PTFE Tape (Euro-Seal)	7 X 3 (10 Meters) 10 X 3 (10 Meters) 14 X 5 (5 Meters) 17 X 6 (5 Meters) 20 X 7 (5 Meters) 25 X 5 (5 Meters) 40 X 5 (5 Meters)		-60 +260	45	Excellent resistance to aggressive chemicals. High internal pressures & compressibility. Soft & compliant, making it ideal for irregular flange geometry. Clean & non-toxic, suitable for food & pharmaceutical. International Spec with Certification available: TEADIT 24B
RUBBER						
	Rubber Insertion	1200 x 1000	1,5 3 4,5 6	-30 +80	40	Low grade, low cost NR/SBR with fabric. Ideal for gasket applications i.e. gaskets, spacers, buffers. Poor resistance to minerals, oils, ozone, UV.
	General Purpose Natural Rubber (GP65 & GP45)	1200 x 1000	3 6	-30 +80	49.8/40	Versatile, high elasticity, good memory, abrasion resistant. Poor resistance to minerals, oils, ozone, UV, petrochemical.
	EPDM Rubber	1200 x 1000	1,5 3 4,5 6	-30 +130	40	Excellent heat, water, steam, ozone&weathering resistance, as well as to a wide range of chemicals, acids & alkalis. Poor resistance to oil, fuel, abrasion
	Neoprene Commercial Black (CR)	1200 x 1000	1,5 3 4,5 6	-20 +80	35	Medium grade CR, Good resistance to oils, greases & fuels i.e. oil, fuel gaskets, external weathering (ozone & UV). Not resistant to liquid fuels. Also available in RED for improved compressibility (64.8%)
	Nitrile Commercial Grade	1200 x 1000	1 1,5 3 5 6 8 10	-20 +80	35	Excellent petrochemical resistance i.e. fuel, oil, heat. Poor UV/Ozone. High Grade Nitrile (NBR) available : Temp. -30 to +100
	Silicone (MVQ)	1200 x 1000	1 1,5 3 5 6	-60 +200	34	Excellent temperature resistance & flexibility. Resistant to UV, Ozone&weathering.Good insulating properties. Low resistance to tear, abrasion, oils&hydrocarbons.
	Viton Rubber (FKM)	1200 x 1000	1,5 3	-40 +200	55	Outstanding chemical & oil resistance. Good ozone, weathering, heat resistance. Excellent resistance to concentrated&diluted acids. Suitable for heat, ozone, acids, oils & fats.
	Food Grade Rubber	1200 x 1000	1 1,5 3 6	Max. 80	22,8	White food quality natural rubber. Made to FDA specification & non toxic. Mainly for use in the food processing industry or where a white rubber is required.

This information represents typical values, which can vary according to the application. These values do not constitute a performance guarantee. Users should determine, prior to use, the suitability of profile & material for particular application.

