

Uni-Seals Product Catalog

Category: Gasket



UNI-SEALS

Unimax International Limited

www.uni-seals.com

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Spiral Wound Gasket



GA9100 Spiral wound gasket

Spiral wound gasket (SWG) consists of thin metal hoop and nonmetal filler material that are simultaneously wound. The metal hoop is pre-formed in V or W shaped profile, which allows the gasket to act as a spring between the flanges. The hoop also provides the basic structural element for the gasket while the nonmetal filler material seals the flange surfaces that are with small imperfections.

Depending on its excellent compression resilience, it is suitable for sealing spots where the alteration of temperature and pressure are frequent. It can be used as the static sealing element of pipe, valve, pump, thermal exchange, condensing tower, plain hole, man hole of flange, etc. It has been widely applied in the fields of petrochemical, mechanical manufactory, power station, metallurgy, shipbuilding, pharmaceutical, nuclear power station, navigation, etc.

Styles:

Style	Construction	Suitable flange	Hoop material	Filler material	Inner & outer ring material	Normal thickness	
						Gasket	Inner & outer ring
GA9101	Basic style 	Tongue and groove	304, 304L, 316, 316L, 321, 317L, Titanium, Nickel, Monel, Inconel, etc.	Graphite, PTFE, Asbestos, Non-asbestos, Ceramic, etc.	Carbon Steel, 304, 304L, 316, 316L, 321, 317L, Titanium, Nickel, Monel, Inconel, etc.	3.2mm	2mm
GA9102	With inner ring 	Male and female					
GA9103	With outer ring 	Raised face Flat face					
GA9104	With inner & outer ring 						
GA9106	For use with RTJ flanges 	Ring-Type-Joint					
GA9110	With bar for heat exchanger 	Heat exchanger					

* Gaskets are color coded at the outside of the centering ring according to ASME B16.20 standard.

Service Limits:

Filler material	Temperature	Pressure
Graphite	-240°C~+550°C in oxidizing media	300bar in hot water, oil, etc
	-240°C~+800°C in non-oxidizing media	200bar in vapor oil, gases, etc
Asbestos	-150°C~+450°C	150bar
PTFE	-200°C~+250°C	150bar

Dimensions:

Produced according to ASME, BS, JIS, DIN standards, etc. Special sizes and shapes are also available upon request.

Ring Joint Gasket



GA9200 Ring joint gasket

Our ring joint gaskets are machined from solid metal in a variety of shapes with high quality numerical control machines. They are designed for high pressure, high temperature or highly corrosive applications by selecting the most suitable materials and shapes. **All Uni-seals ring joint gaskets are forged and integral, non-welded.**

GA9201 R type oval ring joint gasket

Standard ring joint gaskets with oval cross section and designed for flanges with standard ring joint grooves.



GA9202 R type octagonal ring joint gasket

Standard ring joint gaskets with octagonal cross section and designed for flanges with standard ring joint grooves. Interchangeable with GA9201 oval section gasket on modern octagonal grooved flanges.



GA9203 RX type ring joint gasket

An adaptation of the standard R type ring joint gasket and designed to fit the same groove design as R type. It is interchangeable with the standard R type gaskets.



GA9204 BX type ring joint gasket

Designed for very high pressures. All BX gaskets incorporate a pressure balance hole to ensure equalization of pressure which may be trapped in the grooves. Only suited for API BX flanges and grooves.



GA9208 Combination ring gasket

The gaskets consist of two different sizes having the same pitch circle diameter. Used for sealing ring type joint flanges where the mating flanges have different ring groove diameters or profiles. Available with either oval or octagonal facings.



Normal Materials:

Metal material	Ring identification	Maximum hardness	Temperature
Soft iron*	D	90 HB	-60°C~+500°C
Low carbon steel*	S	120 HB	-40°C~+500°C
5Cr1/2Mo	F5	130 HB	-40°C~+650°C
Stainless steel 304(L), 321	S304(L), S321	160 HB	-250°C~+550°C
Stainless steel 316(L)	S316(L)	160 HB	-100°C~+550°C
Stainless steel 347	S347	160 HB	-250°C~+550°C

* Gaskets made of soft iron or low carbon steel materials are normally applied with anticorrosive oil in final production. Zinc electroplating is also available on customer's special request, with a higher cost. Other metal materials are also available on request.

Uni-seals ring joint gaskets are manufactured in accordance with relevant standards (such as ASME B16.20, API 6A, etc) to suit different flange designations (such as ASME B16.5, ASME B16.47 Series A, API 6B, API 6BX, etc).

Machined Metal Gasket



Our various machined metal gaskets are made from solid metal in a variety of shapes with high quality numerical control machines. They are designed for high pressure, high temperature or highly corrosive applications by selecting the most suitable materials and shapes.

GA9210 Lens ring gasket

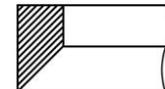
Manufactured in accordance with DIN 2696, lens ring gaskets have spherical surfaces and are suitable for use with conical flange faces.



They are used in high pressure applications and are resistant to overstressing. Effective sealing is obtained at a relatively low bolt loads.

GA9220 Wedge gasket

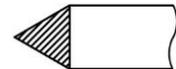
The wedge gaskets are pressure activated gaskets for use on pressure vessel heads and valve bonnets for pressures of 1500 psi (10 MPa) and above. The cross section of the gasket is such that internal pressure acting against the ring forces it against the containing surface making a self-energized seal.



They are normally plated with silver or lead, in order to provide a softer surface and minimize the force required to flow the gasket metal into the flange surface.

GA9230 Delta gasket

The delta gaskets are pressure actuated gaskets used primarily on pressure vessels and valve bonnets at very high pressures in excess of 5000 psi (34 MPa). Internal pressure forces the gasket material to expand when the pressure forces tend to separate the flanges. Extremely smooth surface finishes of 63 micro inches or smoother are required when using this type of gasket.



GA9240 Convex gasket

With convex surfaces, the gaskets are used where centralized loading of the gaskets are preferable by a reduction in area.



Other custom made gaskets according to customer’s designs and drawings are also available.

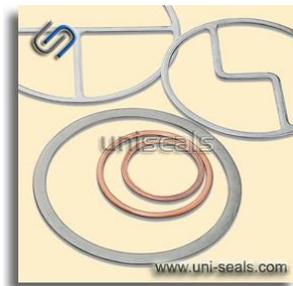
Normal Materials:

Metal material	Ring identification	Maximum hardness	Temperature
Soft iron*	D	90 HB	-60°C~+500°C
Low carbon steel*	S	120 HB	-40°C~+500°C
5Cr1/2Mo	F5	130 HB	-40°C~+650°C
Stainless steel 304(L), 321	S304(L), S321	160 HB	-250°C~+550°C
Stainless steel 316(L)	S316(L)	160 HB	-100°C~+550°C
Stainless steel 347	S347	160 HB	-250°C~+550°C

* Gaskets made of soft iron or low carbon steel materials are normally applied with anticorrosive oil in final production. Electroplating is also available on customer’s special request, with a higher cost.

Other metal materials are also available on request.

Metal Jacketed Gasket



GA9300 Metal jacketed gasket

Our metal jacketed gaskets (MJG) take expanded graphite, non-asbestos or ceramic fibers etc as the filler material, and thin stainless steel foil, carbon steel foil or copper foil etc as the covering metal jacket. This kind of structure effectively protects the filler against pressure conditions, fluctuating temperatures and corrosion, providing outstanding resilience and efficient sealing.

GA9310 Single jacketed gasket



GA9310 has one of its contact surfaces covered and is ideally suited for comparatively narrow flange widths in circular and non-circular configurations. Suited for low pressure applications such as boilers, compressors, pumps, and diesel and gasoline engines, but not recommended for standard pipe flanges.

GA9320 Double jacketed gasket

The filler material is completely enclosed by a two piece metal jacket, which covers both the inside and outside diameters and both contact surfaces. It is designed for high pressure and temperature applications.

GA9321 Flat double jacketed gasket



GA9322 Corrugated double jacketed gasket



The metal jacket is formed from a corrugated jacket providing better resilience than the GA9321, since the corrugations form multi-seals across the flange sealing face.

Metallic Jacket Materials:

CS, Soft Iron, SS304, SS304L, SS316, SS316L, Copper, Aluminum, Monel 400, etc.

Non-metallic Filler Materials:

Flexible graphite, asbestos, non-asbestos, PTFE, ceramic fiber, etc.

Service Limits:

Jacketing material	Maximum temperature	Pressure
Carbon steel	300°C	20~60bar
Copper	400°C	20~60bar
Stainless steel (SS304, SS316, etc)	530°C	20~60bar

Dimensions:

Outer diameter: up to 5000mm.

Thickness: from 2mm to 8mm.

Our MJG come in sizes according to standards ASME B16.20, EN 1514-4, or other sizes required by customers.

Corrugated Metal Gasket



GA9400 Corrugated metal gasket

GS9400 gasket has outstanding mechanical strength and thermal conductivity, capable of withstanding high temperature, almost no limitation on size, and trouble-free on handling and installation even for large size.

The gasket has been proven to be both reliable and cost-effective for the application on flanges and heads where bolt loading is sufficient. Typically used in high temperature applications and applications involving steam, water, gas, oil, etc.

GA9410 Corrugated metal gasket basic style

The corrugations in the gasket provide multi-seals across the face of the gasket and inherent resilience.

GA9420 Corrugated metal gasket with layer

The gasket is available to be covered with non-metallic material layers on both sides. It is normally used in low-pressure applications at high temperatures. It is suitable for gas pipes and valve caps, or wherever acids, oils and chemicals are found.

GA9422 Corrugated metal gasket with layer and inner rim

The inner rim protects the sensitive layers when mounting and could be advantageous at high temperatures.

Metallic Materials:

Metal material	DIN material No.	Density	Hardness	Temperature
CS/Soft Iron	1.1003/1.0038	7.85g/cm ³	90~120 HB	-60°C~+500°C
SS304, SS304L	1.4301/1.4306	7.9g/cm ³	130~180 HB	-250°C~+550°C
SS316, SS316L	1.4401/1.4404	7.9g/cm ³	130~180 HB	-100°C~+550°C

Other metal materials are also available on request.

Non-metallic Layer Materials:

Flexible graphite, PTFE, non-asbestos, etc.

Normally in thickness of 0.5mm, 1mm, 1.5mm.

Kammprofile Gasket



GA9500 Kammprofile gasket

Kammprofile/Camprofile gasket consists of a metal core with concentric grooves on both sides. A sealing layer is usually applied on both sides and depending on the service duty the material for the layers can be graphite, PTFE, or other soft materials. The non-metallic layers protect the flange surface from damage in addition to providing an excellent seal at low bolt stress.

GA9501 Kammprofile gasket basic style

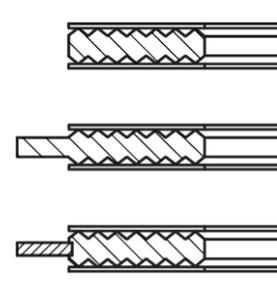
It is the basic gasket without centering ring.

GA9502 Kammprofile gasket with integral outer ring

Gasket with outer ring ensures optimum gasket positioning between the bolts.

GA9503 Kammprofile gasket with loose outer ring

Gasket with loose outer ring avoids possible damage caused by thermal shock conditions to gasket which is with integral outer ring.



Applications:

It is the preferred gasket when improved performance at low seating stresses is required, particularly suitable for applications where high temperatures, pressures and fluctuating conditions are encountered. It is the ideal replacement for problem applications associated with jacketed gaskets, for heat exchangers, vessels, reactors and various flange connections.

Materials:

Metallic core: carbon steel, SS304, SS304L, SS316, SS316L, etc.
 Non-metallic layer: flexible graphite, PTFE, non-asbestos, etc.

Service Limits:

Depending on the layer material, the gasket can resist temperature up to 700°C.
 Maximum sealing pressure: >250bar.

Dimensions:

The gaskets can be manufactured in various shapes and sizes upon request.
 Thickness of metallic core material: generally in 3mm but for gaskets with diameter above 1.5m it is suggested in 4mm.
 Thickness of non-metallic layer material: generally in 0.5mm on each side.
 Normal cam pitch: 1mm, groove depth: 0.4mm. Alternative profiles are available on request, e.g. cam pitch: 1.5mm, groove depth: 0.6mm, etc.

Flat Metal Gasket



GA9600 Flat metal gasket

Uni-seals supply flat metal gaskets with or without soft layers.

GA9610 Solid flat metal gasket

The gasket offers extremely tight sealing, high mechanical strength, and good resistance to temperature, corrosion and pressure. Bolting stress and flange surface finish are key to the performance of this design.

Normal materials: aluminum, copper, brass, soft iron, SS304, SS316, etc. The hardness of gasket material must be less than the hardness of the flanges to prevent damage to the flange.

Applications:

GA9610 gasket is best suited for application such as valve bonnets, ammonia fittings, heat exchangers, hydraulic presses, tongue-and-groove joints. It can be used when compressibility is not required to compensate for flange surface finish, warpage or misalignment and where sufficient clamping force is available to seat the gasket.

GA9620 Flat metal gasket with soft layers

The gasket consists of a flat metal core which is supplied with soft layers on both sides. The solid metal core provides high strength and rigidity, while the soft layers ensure excellent sealing performance. The soft layer material can flow easily into the flange faces allowing a high integrity seal, even under low applied seating stresses.

Normal metal core material: carbon steel, SS304, SS316, etc, normal in thickness of 3mm.

Normal soft layer material: graphite (0.5mm), PTFE (0.4mm).

Other materials and thickness are also available on request.

Applications:

GA9620 gasket is typically used for large diameter gaskets, as well as heat exchanger duties where seating space is limited, normally in non-standard situations.

Metallic Materials:

Metal material	Density	Maximum hardness	Maximum Temperature
Aluminum	2.7g/cm ³	35 HB	425°C
Brass	8.5g/cm ³	60 HB	260°C
Copper	8.8g/cm ³	80 HB	400°C
Soft Iron	7.85g/cm ³	90 HB	500°C
SS304	7.9g/cm ³	160 HB	550°C
SS316	7.9g/cm ³	160 HB	800°C

Graphite Gasket



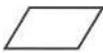
Our graphite gaskets are made from homogeneous graphite, reinforced by metal mesh, foil or tanged metal. They offer excellent sealing capabilities such as thermal stability, self-lubrication, corrosion resistance, not being brittle or aging etc. They are with long life and less maintenance is required under extreme conditions.

The rimmed metal gaskets are improved from pure cut gaskets. The metal rims at inner and outer edges offer a special protection against blowout and chemical corrosion for the gaskets, and increase the pressure resistance capability.

Applications:

Widely used in petrochemical, mining, vessels, boilers, piping and ducts, pumps and valves, flanges etc. Suitable for steam, mineral oil, heat transfer oil, hydraulic oil, fuel, water, seawater, freshwater, and so on.

Styles:

Gasket style	GA1000	GA1000R1	GA1000R2	GA1000R3
Material sheet style	GS1000	GS1000R1	GS1000R2	GS1000R3
Sheet construction				
Inserted material	None	Tanged metal plate (0.25mm CS, 0.1mm SS304, 316)	0.05mm/0.1mm metal foil (SS304, 316, etc)	0.2mm metal mesh (CS, SS304, SS316, etc)
Without rim	GA1001	GA1001R1	GA1001R2	GA1001R3
With inner rim	GA1002	GA1002R1	GA1002R2	GA1002R3
With outer rim	GA1003	GA1003R1	GA1003R2	GA1003R3
With inner & outer rim	GA1004	GA1004R1	GA1004R2	GA1004R3

Style examples:

GA1000R1 Tanged metal plate reinforced graphite gasket

GA1004R1 Tanged metal plate reinforced graphite gasket with inner & outer rim

Specifications:

Style	GA1000	GA1000R1	GA1000R2	GA1000R3
Temperature	-200°C~+650°C	-200°C~+550°C	-200°C~+550°C	-200°C~+550°C
Maximum pressure	30bar	200bar	150bar	150bar
PH range	0~14	0~14	0~14	0~14

Dimensions:

According to standards of ASME B16.21, EN1514-1, etc. Special sizes and shapes are also available upon request.

Compressed Asbestos Fiber Gasket



Uni-seals offers various compressed asbestos fiber gaskets, which are made from different grades of asbestos compressed fiber sheets. They are used in large quantity in a variety of applications in different industries. Available in standard and non-standard gasket designs.

GA2200 Compressed asbestos fiber gasket

Cut from various grades of Uni-seals compressed asbestos fiber sheets, to suit different application requirements.

Specifications:

Style	GA2220	GA2230	GA2240	GA2245	GA2255
Maximum temperature	Up to 200°C	Up to 300°C	Up to 400°C	Up to 450°C	Up to 550°C
Maximum pressure	Up to 2.0Mpa	Up to 3.0Mpa	Up to 5.0Mpa	Up to 6.0Mpa	Up to 6.0Mpa
Resistance to media	Water, seawater, steam, alkali, gases, alcohols, salt solutions etc.				

GA2200R Reinforced compressed asbestos fiber gasket

Cut from various grades of Uni-seals reinforced compressed asbestos fiber sheets.

Specifications:

Style	GA2220R	GA2230R	GA2240R	GA2245R	GA2255R
Maximum temperature	Up to 220°C	Up to 320°C	Up to 420°C	Up to 470°C	Up to 570°C
Maximum pressure	Up to 3.0Mpa	Up to 4.0Mpa	Up to 5.5Mpa	Up to 6.5Mpa	Up to 6.5Mpa
Resistance to media	Water, seawater, steam, alkali, gases, alcohols, salt solutions etc.				

Other grades of materials and gaskets are also available on request.

GA2300 Oil resistant compressed asbestos fiber gasket

Cut from various grades of Uni-seals oil resistant compressed asbestos fiber sheets.

Specifications:

Style	GA2325	GA2330	GA2340	GA2350
Maximum temperature	Up to 250°C	Up to 300°C	Up to 400°C	Up to 500°C
Maximum pressure	Up to 2.5Mpa	Up to 3.0Mpa	Up to 4.0Mpa	Up to 5.0Mpa
Resistance to media	Oils, alkali, mild acid, water, steam, gases, alcohols etc.			

Available colors: black, grey, green, blue, red, etc.

Available with anti-stick coating or graphite coating on the surfaces.

Other grades of materials and gaskets are also available on request.

Dimensions:

The dimensions of our standard non-metallic gaskets meet the requirements of the ASME B16.21, EN1514-1, or other standards. Special sizes and shapes are also available upon request.

Compressed Non-asbestos Fiber Gasket



Uni-seals offers various compressed non-asbestos fiber gaskets, which are made from different grades of **100% asbestos-free** compressed fiber sheets. They are used in large quantity in a variety of applications in different industries. Available in standard and non-standard gasket designs.

GA3000 Compressed non-asbestos fiber gasket

Cut from various grades of Uni-seals compressed non-asbestos fiber sheets, to suit different application requirements.

Specifications:

Style	GA3302	GA3303	GA3735	GA3941
Maximum temperature	Up to 200°C	Up to 300°C	Up to 350°C	Up to 400°C
Maximum pressure	Up to 2.0Mpa	Up to 3.0Mpa	Up to 4.0Mpa	Up to 4.0Mpa
Resistance to media	Water, vapor, general gas, oils etc.			

Available colors: black, green, blue, etc.

GA3735A Acid resistant compressed non-asbestos fiber gasket

Cut from Uni-seals sheet: GS3735A Acid resistant compressed fiber sheet Aramid-350, which is specially formulated for acid and alkali applications.

Specifications:

Style	GA3735A
Maximum temperature	Up to 350°C
Maximum pressure	Up to 4.0Mpa
Resistance to media	Water, vapor, general gas, oils, acid, alkali, etc.

Available color: green.

Dimensions:

The dimensions of our standard non-metallic gaskets meet the requirements of the ASME B16.21, EN1514-1, or other standards. Special sizes and shapes are also available upon request.

PTFE Gasket**GA4000 PTFE gasket**

The product is molded, skived or cut from virgin PTFE sheets, rods, tubes etc.

PTFE has the best chemical resistance among known plastics. It also has good aging stability, electrical insulation, wear resistance, and extremely low friction coefficient. The unloaded operating temperature range is -180~+260°C.

Applications:

PTFE gasket is one of the most suitable types of gaskets for a variety of sealing applications. Different types of Uni-seals PTFE gaskets are available to meet various application demands.

Specifications:

Density	Tensile strength	Elongation at break	Temperature	Maximum pressure
2.1~2.3g/cm ³	≥15Mpa	≥150%	-180°C~+260°C	10Mpa

GA4500 PTFE gasket with filler

It is PTFE gasket with filler materials such as glass fiber, carbon fiber, graphite etc. Improved mechanical and processing properties can be additionally reached by combination of virgin PTFE and different fillers.

See details in the product page "Filled PTFE Articles".

Dimensions:

According to standards of ASME B16.21, EN1514-1, etc. Special sizes and shapes are also available upon request.

Maximum external diameter is up to 2000mm.

For gaskets with outer diameter more than 1000mm, our style TA4107 expanded PTFE joint sealant tape might be considered as a substitute, which is very easy and economical.

PTFE Envelope Gasket



GA4050 PTFE envelope gasket

Our PTFE envelope gasket consists of asbestos, non-asbestos, rubber, corrugated stainless steel etc as cushion material encased in PTFE envelope, resulting in a gasket with the excellent corrosion resistance of PTFE and the strength and resilience of core material. It can be produced in several types to meet the most demanding applications.

GA4060 V style PTFE envelope gasket

The PTFE is slit in center from outside.

It is an economical solution for lower pressure applications.



GA4070 Square style PTFE envelope gasket

The PTFE is cut into square envelope form.

For use with medium and higher pressure.



GA4080 U style PTFE envelope gasket

The PTFE is heat welded at the joint.

Normally for $DN \geq 200\text{mm}$.



Applications:

GA4050 PTFE envelope gasket is the ideal solution for applications demanding virtually 100% chemical resistance and where the mechanical properties of a compressed gasket material are also needed. It performs well in the food processing industries where contamination of the medium is not permitted. Suitable for mediums like strong alkalis, cryogenic fluids, oxygen, chlorine gas etc.

Properties:

Virtually 100% chemically resistant.

Temperature range from -180°C to $+260^{\circ}\text{C}$, depending on the core.

Mechanical strength dependent on core selection.

Pressure: $\leq 4\text{Mpa}$.

Dimensions:

Meet the requirements of ASME, DIN, or other standards. Special sizes and shapes are also available upon request.

Normal Thicknesses:

Thickness of core: 2.0mm.

Thickness of PTFE: $0.5\text{mm} + 0.5\text{mm} = 1.0\text{mm}$.

From 20 mm to 500 mm: the gasket is made in one piece;

From 500 mm upwards: the gasket is welded. There are no size limitations for gaskets with welded envelopes.

Rubber Gasket



Our collection of rubber gaskets are available in various materials, designs and sizes to meet different requirements. Below are some typical rubber gaskets made from part of the rubber material varieties available from us.

GA5200 NBR rubber gasket

NBR (Nitrile) rubber has good resistance to petroleum oils, aromatic hydrocarbons, mineral oils, vegetable oils, and many acids. It also has good elongation properties as well as adequate resilience, tensile and compression set.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.7g/cm ³	≥7Mpa	≥200%	70±5 Shore A

GA5400 Neoprene rubber gasket

Neoprene (CR) rubber is one of the best all-purpose rubber where resistance to ozone, sunlight, oxidation and many petroleum derivatives are of prime importance. Added advantages include good resistance to water, chemicals, flame, abrasion, flex cracking etc. It also has good resilience characteristics and tensile strength.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.7g/cm ³	≥7Mpa	≥200%	70±5 Shore A

GA5500 EPDM rubber gasket

EPDM rubber is ideal for outdoor applications because of its excellent resistance to heat, ozone, oxidants, UV rays, and severe weather conditions. It shows good resistance to many corrosive chemicals however does not have good oil resistance.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.3g/cm ³	≥10Mpa	≥300%	70±5 Shore A

GA5700 FKM rubber gasket

FKM (Viton) rubber has excellent resistance to oil, flame, chemical corrosion, weathering and aging. It resists a wide variety of corrosive fluids at elevated temperatures while retaining their mechanical properties. The material is also with good tensile strength, resilience, and low compression set.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.9g/cm ³	≥12Mpa	≥100%	70±5 Shore A

Dimensions:

The dimensions of our rubber gaskets meet the requirements of the ASME B16.21, EN1514-1, or other standards. Special sizes and shapes are also available upon request.

PTFE Bonded Rubber Gasket



With the protection of PTFE bonding at the inner diameter, the PTFE bonded rubber gaskets could be suitable for use with most corrosive chemicals, and have long service life.

They have perfect sealing effect even at low bolt tightening force, and are ideal for plastic piping systems, plastic-lined metal systems, or metal systems.

The normal rubber materials for these gaskets are EPDM, FKM, etc.

GA5540 PTFE bonded EPDM rubber gasket

EPDM rubber is ideal for outdoor applications because of its excellent resistance to heat, ozone, oxidants, UV rays, and severe weather conditions. It shows good resistance to many corrosive chemicals however does not have good oil resistance.

Suggested working temperature for GA5540 gasket: -40°C~+90°C.

Typical Specifications (EPDM rubber):

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.3g/cm ³	≥10Mpa	≥300%	70±5 Shore A

GA5740 PTFE bonded FKM rubber gasket

FKM (Viton) rubber has excellent resistance to oil, flame, chemical corrosion, weathering and aging. It resists a wide variety of corrosive fluids at elevated temperatures while retaining their mechanical properties. The material is also with good tensile strength, resilience, and low compression set.

Suggested working temperature for GA5740 gasket: -40°C~+120°C.

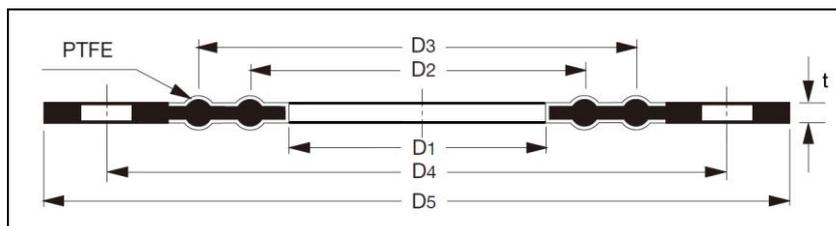
Typical Specifications (FKM rubber):

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.9g/cm ³	≥12Mpa	≥100%	70±5 Shore A

Dimensions:

Thickness of bonded PTFE material: 0.3~0.4mm.

The dimensions of the gaskets meet the requirements of ASME, DIN, or other standards. Special sizes and shapes are also available upon request.



Rubber O-ring



An O-ring, also known as a toric seal, is a loop of elastomer with a round cross-section, designed to be seated in a groove and compressed during assembly between two or more parts, creating a seal at the interface.

O-rings are one of the most common seals used in machine design because they are inexpensive, easy to make, reliable, and have simple mounting requirements. They can seal tens of megapascals (thousands of psi) of pressure.

Applications:

O-rings may be used in static applications or in dynamic applications where there is relative motion between the parts and the O-rings. Dynamic examples include rotating pump shafts and hydraulic cylinder pistons.

The rubber O-ring materials could be NR, NBR, neoprene, EPDM, silicone, FKM, etc. Below are some typical O-rings made from part of the rubber material varieties available from us.

OR5200 NBR rubber O-ring

NBR (Nitrile) rubber has good resistance to petroleum oils, aromatic hydrocarbons, mineral oils, vegetable oils, and many acids. It also has good elongation properties as well as adequate resilience, tensile and compression set.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.25g/cm ³	≥14Mpa	≥250%	70±5 Shore A

OR5600 Silicone rubber O-ring

Silicone rubber is chemically extremely stable and suitable for use with many acids and alkalis. It resists to oil, ozone, oxidation, ultraviolet light, high temperature and weathering in general.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Red or translucent	1.25g/cm ³	≥8Mpa	≥250%	70±5 Shore A

OR5700 FKM rubber O-ring

FKM (Viton) rubber has excellent resistance to oil, flame, chemical corrosion, weathering and aging. It resists a wide variety of corrosive fluids at elevated temperatures while retaining their mechanical properties.

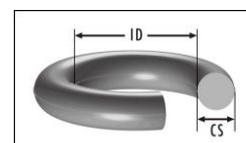
Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Compression set	Hardness
Black	2.0g/cm ³	≥10Mpa	≥150%	≤30%	75±5 Shore A

Dimensions:

The dimensions of the O-rings meet the requirements of American standard SAE AS568, or other standards. Customized sizes are also available upon request.

The sizes of an O-ring are usually defined by ID and CS dimensions.



Round Rubber Cord



Our rubber cords are available in a wide range of materials, colors, grades and sizes for matching the demands of various applications. The offered smooth-surfaced rubber cords are durable, flexible, and dimensional accurate.

Below are some typical rubber cords made from part of the rubber material varieties available from us.

CO5200 NBR rubber cord

NBR (Nitrile) rubber has good resistance to petroleum oils, aromatic hydrocarbons, mineral oils, vegetable oils, and many acids. It also has good elongation properties as well as adequate resilience, tensile and compression set.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.6g/cm ³	≥4Mpa	≥200%	70±5 Shore A

CO5700 FKM rubber cord

FKM (Viton) rubber has excellent resistance to oil, flame, chemical corrosion, weathering and aging. It resists a wide variety of corrosive fluids at elevated temperatures while retaining their mechanical properties. The material is also with good tensile strength, resilience, and low compression set.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Black	1.9g/cm ³	≥8Mpa	≥180%	75±5 Shore A

Other specifications and technical requirements are also available on request.

Available colors: black, brown, red and green.

Normal Dimensions:

Diameter: 1.2~50mm.

Length: optional on request.

Silicone Rubber Cord / Strip

Silicone rubber is chemically extremely stable and suitable for use with many acids and alkalis. It resists to oil, ozone, oxidation, ultraviolet light, high temperature and weathering in general. It also has good electrical insulation, low flammability, low smoke, and no harmful toxic or physiological effects.

Unimax manufactures various silicone rubber cords and strips in circular, square, rectangular, and other customized shapes up to 50mm in diameters/widths and in optional lengths.

The silicone rubber cords and strips are suitable to be used in temperature between $-40^{\circ}\text{C}\sim+200^{\circ}\text{C}$.

Applications:

Widely used in high temperature sealing applications, door seals, gaskets, dispensers and oven seals, food and medical, aerospace, automotive, construction and power generation.

CO5600 Silicone rubber cord

Extruded silicone rubber cords in round section. Can be supplied in cut lengths or jointed O-rings.

ST5600 Silicone rubber strip

Extruded silicone rubber strips in square or rectangular section.

Typical Specifications:

Color	Density	Tensile strength	Elongation at break	Hardness
Translucent	$1.2\text{g}/\text{cm}^3$	$\geq 8\text{Mpa}$	$\geq 350\%$	65 ± 5 Shore A

Other specifications and technical requirements are also available on request.

Normal colors: translucent, red, ivory.

Normal Dimensions:

Diameter/Width: 1~50mm.

Length: optional on request.

Customized silicone rubber cords and strips are also available as per customer's drawings or samples.

Ceramic Fiber Gasket



GA6510 Ceramic fiber gasket

Cut from GS6510 ceramic fiber paper, our ceramic fiber gaskets are soft, lightweight and resilient, and have superior thermal characteristics. They are the perfect choice where an inexpensive heat seal with low sealing pressure is required. Since they are soft and can be easily laminated to form thicker seals, the flange finish is not particularly important when using this material.

Applications:

Mainly used as high temperature insulation for sensitive apparatus. Suitable for applications such as valve bonnets, hydraulic presses, ammonia fittings, heat exchangers, etc.

Specifications:

Classification temperature		1260°C
Working temperature		1000°C
Density		200±15kg/m ³
Thermal conductivity	200°C	0.075~0.085w/m.k
	400°C	0.115~0.121w/m.k
	600°C	0.165~0.175w/m.k
Organic content		6~8%
Chemical content	Al ₂ O ₃	45~47%
	SiO ₂	50~52%

Dimensions:

The dimensions of our standard non-metallic gaskets meet the requirements of the ASME B16.21, EN1514-1, or other standards. Special sizes and shapes are also available upon request.

Expanded Graphite Tape



TA1000 Expanded graphite tape

Our graphite tape is produced from high purity graphite with no fibers, fillers, binders or organics that cause weight loss at elevated temperatures. The tape can be used as filler packing for valve stuffing boxes or pumps, facing for metal jacketed gaskets and field repairs for metal gaskets.

It's easy-to-install and can be used in emergencies. Suitable for mediums like hot water, high temperature and high pressure steam, hydrogen gas, ammonia, organic solvents etc.

TA1007 Expanded graphite tape with self-adhesive

The self-adhesive makes it easy to fix the tape onto the sealing surface. Can be used as emergency gasket replacement.

TA1010 Corrugated graphite tape

The corrugated surface eases the assembly operations and improves the sealing.

TA1017 Corrugated graphite tape with self-adhesive

The self-adhesive makes it easy to fix the tape onto the sealing surface.

Applications:

Suitable for use in many industries with valves handling media such as high-temperature steam, demineralized water, potable water, heat transfer media, petroleum products, inorganic and organic acids, alkalis, hot waxes and oils.

Specifications:

Density of graphite	1.0g/cm ³
Carbon Content	≥98%
Sulphur content	≤1200ppm

Service Limits:

Temperature	-200°C~+550°C
Maximum Pressure	25bar
PH range	0~14

Normal Dimensions:

Thickness: 0.4mm, 0.5mm.

Width: 10mm~30mm.

Length: 10m~15m/roll.

Woven Graphite Tape



TA1020 Woven graphite tape

The tape is woven from expanded graphite yarns. It has all the advantages of the expanded graphite, with high strength and good flexibility.

TA1027 Woven graphite tape with self-adhesive

With self-adhesive tape backed on one side of TA1020 woven graphite tape. The self-adhesive makes it easy to fix the tape onto the sealing surface. Can be used as emergency gasket replacement.

Available to be reinforced with stainless steel wire, nickel wire or copper wire (style number: TA1020R, TA1027R).

Applications:

Used as sealing material for expansion joints, valve stems, furnace doors etc.

Service Limits:

Temperature	-200°C~+550°C
Maximum Pressure	25bar
PH range	0~14

Normal Dimensions:

Thickness: 2~5mm.

Width: 20~1000mm.

Braided Graphite Tape



TA1030 Braided graphite tape

Braided from expanded graphite yarns into a tubular structure and then pressed and shaped into a tight flat joint sealant tape. It has all the advantages of the expanded graphite, such as good chemical resistance and temperature stability, high strength and good flexibility.

TA1037 Braided graphite tape with self-adhesive

With self-adhesive tape backed on one side of the TA1030 braided graphite tape. The self-adhesive makes it easy to fix the tape onto the sealing surface. Can be used as emergency gasket replacement.

TA1037R Reinforced braided graphite tape with self-adhesive

Braided from graphite yarns reinforced with nickel wire, and backed with self-adhesive tape.

TA1037M Braided graphite tape reinforced with wire mesh and with self-adhesive

This exclusive joint sealant tape is braided from graphite yarns which have been pre-wrapped with nickel wire mesh individually, and then backed with self-adhesive tape. It provides the high-pressure, high temperature performance for tight jointed connections. Fast and easy to use.

Applications:

Widely used for pipe and flange connections, ovens and furnaces in petrochemical industry, chemical industry, power plant, mining industry, shipbuilding, etc.

Service Limits:

Style	TA1030, TA1037	TA1037R	TA1037M
Temperature	-200°C~+550°C	-200°C~+550°C	-200°C~+550°C
Maximum Pressure	25bar	35bar	120bar
PH range	0~14	0~14	0~14

Normal Dimensions:

Thickness: 3~10mm.

Width: 8~80mm.

Braided PTFE Tape**TA4030 Braided PTFE tape**

Braided from PTFE yarns into a tubular structure and then pressed and shaped into a tight flat joint sealant tape. The excellent surface conformability makes it ideal for vessel and pipe flanges with rough, uneven, or glass-lined surfaces. It can handle virtually any chemical services except molten alkali metals.

TA4030L Braided PTFE tape with lubricant

Braided from PTFE yarns which are treated with lubricant.

Applications:

Widely used for mixers, agitators, refiners, hatches, process vessels, and flange connections in petrochemical industry, chemical industry, water treatment industry, food and beverage industry, sugar industry, and so on.

Service Limits:

Temperature	-200°C~+260°C
Maximum Pressure	25bar
PH range	0~14

Normal Dimensions:

Thickness: 3~8mm.

Width: 20~80mm.

Expanded PTFE Tape



TA4100 Expanded PTFE tape

It is an inorganic sealant tape for static applications made of 100% virgin PTFE. A unique process converts PTFE to a microporous fibrous structure, resulting in a sealant tape with an unsurpassed combination of mechanical and chemical properties.

TA4107 Expanded PTFE tape with self-adhesive

For easy fixing onto the sealing surface, there is normally a self-adhesive strip which is covered with a protective tape on one side of the TA4100.

Applications:

EPTFE tape is especially suitable for sealing flange connections, pipe systems, hydraulic and pneumatic systems, etc. In addition, it's also ideal for seals in glass, enamel and plastic flanges, vessels and special shaped sealing surface.

EPTFE tape saves money and time. Since there is no scrap or waste, it costs less than other gasket materials. By using only a few sizes, large inventories of sheet gasket and costly pre-cut gaskets can be eliminated. Installation time is kept to a minimum since there are no templates, pre-cutting or special fitting requirements.

Specifications:

Density	0.7~0.75g/cm ³
Temperature	-240°C~+260°C
Maximum pressure	100bar
PH range	0~14
Media	Acids, alkalis, solvents, gases, etc

Normal Dimensions:

Width	Thickness	Length/roll
3mm	1.5mm	30m
4mm	2.5mm	30m
5mm	2.0mm	25m
6mm	3.0mm	25m
7mm	2.5mm	25m
8mm	3.0mm	25m
10mm	3.0mm	25m
10mm	4.0mm	25m
12mm	4.0mm	10m
14mm	5.0mm	10m
16mm	5.0mm	10m

Width	Thickness	Length/roll
17mm	6.0mm	10m
20mm	7.0mm	5m
25mm	8.0mm	5m
30mm	3.0mm	5m
30mm	5.0mm	5m
40mm	3.0mm	5m
40mm	5.0mm	5m
50mm	3.0mm	5m
50mm	5.0mm	5m
60mm	3.0mm	5m
80mm	3.0mm	5m

Other dimensions are also available on request.

Expanded PTFE Round Cord**CO4100 Expanded PTFE round cord**

Valve-spindle cord made of pure expanded PTFE, used as valve-spindle and flange seals in the chemical, pharmaceutical and food processing industries. Flanges are sealed quickly and securely by simple insertion of a ring of PTFE round cord (ends twisted).

Specifications:

Density	0.75~0.8g/cm ³
Temperature	-240°C~+260°C
Maximum pressure	100bar
PH range	0~14
Media	Acids, alkalis, solvents, gases, etc

Normal Dimensions:

Diameter: 2~10mm.

Length: 5m, 10m, 15m per roll.

**Note:**

1. All technical details quoted throughout this catalogue are based on our extensive tests and years of experience, however, they can only serve as guide values. Your specific application should not be undertaken without independent study and evaluation for suitability. Failure to select proper products and specifications could result in property damage and/or personal injury.
2. Technical details subject to change without notice. This edition cancels all previous issues.

UN-CTLG-GT-151208