



**AL AMANIYA**  
**INDUSTRIAL COMPANY**  
 COMPLETE GASKET AND SEALING SOLUTION



Powering Industries  
**With Trust**



aramco

iktva

رؤية  
**2030**  
 المملكة العربية السعودية  
 KINGDOM OF SAUDI ARABIA

International Organization for Standardization  
**ISO**  
 9001

**ISO**  
 9001:2015

International Organization for Standardization  
**ISO**  
 14001:2015

**ISO**  
 45001:2018



## About Us

Al Amaniya is a leading industrial solutions provider, specializing in high-performance gaskets, sealing systems, insulation materials, and precision-engineered products that cater to the oil & gas, petrochemical, power generation, marine, and construction sectors. With a strong commitment to quality and innovation, we manufacture products in compliance with globally recognized standards such as ASME, BSEN, DIN, JIS, and AWWA, ensuring reliable performance across demanding industrial applications.

As an ISO 9001:2015 certified company, Al Amaniya goes beyond manufacturing by focusing on value-driven partnerships, tailored solutions, and dependable service. Our modern facilities, strict quality control processes, and customer-centric approach guarantee durability, precision, and on-time delivery. By combining advanced technology with proven industry expertise, we continue to be a trusted partner for businesses seeking efficiency, safety, and sustainability in their operations.

## Why Choose Al-Amaniya

- ◆ International quality standards you can trust
- ◆ Wide range of industrial products under one roof
- ◆ Custom-made solutions for unique requirements
- ◆ Skilled team with technical expertise
- ◆ On-time delivery and reliable support
- ◆ Strong focus on long-term customer relationships





# OTHER PRODUCTS



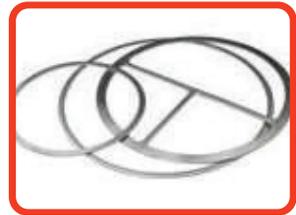
Non-Asbestos Gaskets



Spiral Wound Gaskets



Ring Joint Gaskets



Heat Exchanger Gaskets



Corrugated Metal Gaskets



Grooved /Camprofile Gaskets



PTFE Envelope Gaskets



Metal Eyeleted Gaskets



PTFE Joint Sealant



O-Rings & Seals



Flexible Graphite Tape



Ceramic Ropes & Tapes



Expansion Joints



Gland Packings



Insulation Kits



Die-Moulded Rings



Rubber Rolls



Cork Sheets



Machining & Fabrication Works

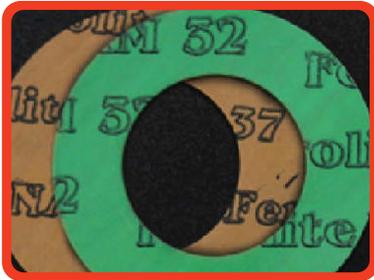


Rubber Moulding & Extrusions



# NON-METALLIC GASKETS

## COMPRESSED NON-ASBESTOS MATERIALS



<p>Ferolite Nam 32 Made from Aramid fiber, mineral fiber &amp; inorganic bonded</p>	<p>Max. Peak Temp. 450 °C Max. Cont. Temp. 250 °C Max. Ope. Pr. 150 bar</p>
<p>Ferolite Nam 37 Synthetic NBR Elastomers.</p>	<p>Max. Peak Temp. 400 °C Max. Cont. Temp. 250 °C Max. Ope. Pr. 1 00 bar</p>



<p>Pure Virgin Teflon</p>	<p>Temp. -230 to +315 Pr. 3000 PSI</p>
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PTFE GASKETS

## GARLOCK BLUEGARD GASKETING

**BLUE GARD** gasketing provides superior sealability and excellent creep relaxation. **BLUE GARD** gasketing is produced from special blends of synthetic fibers, fillers and elastomeric binders. **BLUE GARD** gasketing serves as a general purpose gasket material across a wide range of industrial applications.

### STYLE 3000

Water, aromatic hydrocarbons, oils, gasoline, mild acids and alkalies.

### STYLE 3400/3200

Water, saturated steam, inert gas, mild acids and alkalies.

### STYLE 3700

Water, saturated steam, mild acids, strong caustics of moderate concentrations



## RUBBER GASKET SHEETS

Rubber is the most cost-effective material to use where temperatures and pressure are low and the chemical environment is mild. Different elastomers offer different mechanical and chemical properties. Cloth inserted materials are better able to handle movement and high compression loads.





# NON ASBESTOS FIBRE SHEETS & GASKETS - (CNAF)

## SIZE AND CONSTRUCTION

The non-metallic gaskets are produced in several sizes and shapes to meet the most demanding applications. They are available in standard and non-standard gasket design. For non-standard gaskets we can provide any shape and size according to customer design or sample.

## AVAILABILITY

The dimensions of our standard gaskets meet the requirements of the EN 1514-1, ANSI B16.21 or other standards. Gaskets of up to 2000 mm x 2000 mm are made from one piece, while larger ones are assembled from segments. Two kinds of splicing are used: dove-tail and bevelled (practically there are no limitation regarding gasket dimension). According to the gasket shapes and sizes all other dimensions can be manufactured upon request.

## CUTTING CAPABILITIES

With our cutting technology, experience and knowledge we are able to cut almost any material. A wide range of cutting equipment provides competitive pricing and high quality regardless of the gasket size or quality. A large range of presses, special cutting tools, CAD-CAM CNC, Water jet cutting and also a skilled team for the swift production of small quantities are available. The Custom-cut gaskets according to the customers drawing and specification, samples and templates, Cutter manufacture-cutting tools are made in-house as an integral part of production unit.

## DIMENSION STANDARD

SIZE: 1.5 Mtr X 1.5 Mtr (Std) 2.0 Mtr X 2.0 Mtr,

3 Mtr x 3 Mtr upon request

THICKNESS: 1.0/2.0/3.0/4.0/5.0 mm

NOTE: Other sizes are available on request.



# RUBBER PRODUCTS

Rubber is the most cost-effective material to use where temperatures and pressures are low and the chemical environment is mild. Different elastomers offer different mechanical and chemical properties. Cloth inserted materials are better able to handle movement and high compression loads,

## MATERIAL AND APPLICATIONS

Material	Temp.(F)	P.Max(psi)	Thick. (in).	Application/Features
Butyl	-40 - 225	150	1/16 - 1/4	Gases inorganic acids & alkalis. Excellent weather abrasion resistance.
EPDM	-40 - 212	150	1/16 - 1/4	Water, steam, animal/vegetable. Oils, oxygenates solvents, Excellent weather resistance.
Natural (Pure Gum)	-20 - 140	150	1/32 - 1	Acids, organic salts & alkalis. Non-toxic. Abrasion resistant soft.
Neoprene	-20 - 170	150	1/32 - 2	Oil/gasoline. Excellent weather resistance
Neoprene Cloth inserted	-20 - 170	150	1/32 - 1/4	Oil/gasoline. Excellent weather resistance Handles movement. High tensile strength.
Nitrile (NBR, Buna-N)	-20 - 170	150	1/32 - 1/2	Oil/Aromatic fuels, mineral, animal and vegetable oils, solvents and hydraulic fluid. Available in commercial, premium and FDA grades.
SBR (Red Rubber)	-20 - 170	150	1/32 - 1/4	Air, hot /cold water.
SBR Cloth inserted	400	150	1/16 - 1/4	Air, hot /cold water, saturated/low pressure steam. Excellent for high compression loads. Handles movement.
Silicone	20 - 160	150	1/32 -1/4	High temperature air or water (not oil or steam). Soft. Available in FDA grade.
Vinyl	20 - 160	150	1/16 -1/4	Water oxidizing agents, Excellent weather/abrasion resistance.
Viton	400	150	1/32 -1/4	Oil/Aromatic fuels, mineral, animal and vegetable oils, solvent and hydraulic fluid.

## AVAILABILITY

- ◆ Available in Rolls
- ◆ Available as Gaskets
- ◆ Available as sheets
- ◆ Can be supplied in cut-to-width strips
- ◆ Can be vulcanized to infinity

## DIMENSION STANDARD

SIZE: 1.2 Mtr X 10 Mtr (Std)

1.5Mtr \* 10Mtr Std)

2.0 Mtr X 10 Mtr (Std)

THICKNESS:1.0/2.0/3.0/5.0/6.0/8.0/10.0 mm

NOTE: Other sizes are available upon request





# PTFE Products

PTFE is the material choice for a very large variety of applications. The chemical inertness of PTFE is unique and makes it suitable for almost all chemicals with the exception of fluorine, some flour chemicals and molten alkali metals.

## ADVANTAGES:

- ◆ Wide temperature use range: -200°C +250°C
- ◆ Very low coefficient of friction
- ◆ Anti-stick properties
- ◆ Non-flammable
- ◆ Excellent dielectric properties
- ◆ Good mechanical properties
- ◆ Excellent tensile strength even at low temperature
- ◆ Non-ageing properties
- ◆ Moisture and U.V, resistance
- ◆ Non-toxic
- ◆ Resistance to all corrosive chemicals.



## PTFE FILLED COMPOUNDS

In spite of its remarkable properties, pure or "unfilled" PTFE is inadequate for some engineering uses. Mechanical applications especially require better physical characteristics. A proper combination of inorganic and metallic fillers will enhance the following factors:

- ◆ Creep resistance
- ◆ Wear resistance
- ◆ Thermal conductivity
- ◆ Arc resistance
- ◆ Dimensional stability
- ◆ Hardness

## PRODUCT RANGE:

- ◆ Virgin PTFE Sheets
- ◆ Expanded PTFE Sheets
- ◆ Modified PTFE Sheets (Barium silicate, Silica fillers)
- ◆ Glass, Bronze & Graphite filled sheets
- ◆ PTFE Rods



- ◆ Skived Tape
- ◆ Expanded PTFE Tape
- ◆ IBC & Full Face Gaskets
- ◆ PTFE Envelope Gaskets
- ◆ Thread Seal Tapes





# PTFE Enveloped Gaskets

The sealing inserts are made of corrugated stainless steel, soft non-asbestos material, or rubber and different combinations. This insert is coated with PTFE and open on one side, usually on the outside. Thanks to the high chemical stability, good mechanical properties and permanent resistance in the atmosphere (humidity, gasses, temperature changes) they are suitable for all types of gaskets and different media, mostly for aggressive chemicals.



## ADVANTAGES

Benefits from the high stability of C-F bond virgin PTFE, which is used for the envelope and exhibits extraordinary chemical resistance. Combinations of two or more insert materials allow a large number of different applications.

## SHAPE AND CONSTRUCTION

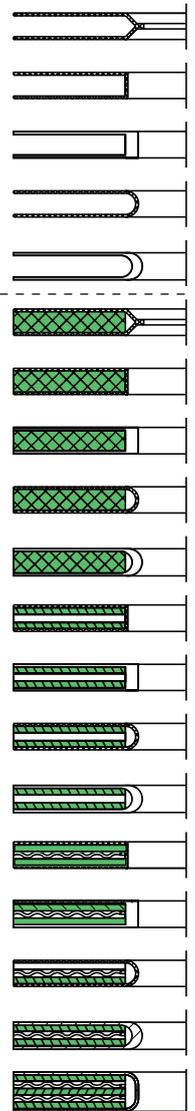
The PTFE enveloped gaskets are produced in several types to meet the most demanding applications, Standard shapes are round or oval.

Enveloped material: Virgin PTFE

Base materials: Stainless steel, non-asbestos material, rubber.

## SIZE

The PTFE envelope for gaskets with maximum external diameter of up to 500 mm are made in one piece, for gaskets with greater diameters they are welded. Oval shapes of PTFE envelopes are welded. There are no limitations regarding sizes for gaskets with welded envelopes.



## EN 1514-3 gaskets

DN (mm)	Gasket inside diameter (mm)	Envelope outside diameter (mm)	Gasket outside diameter (mm)					
			PN6	PN 10	PN 16	PN25	PN40	PN63
			PN Class					
10	18	36	39	46	46	46	46	56
15	22	40	44	51	51	51	51	61
20	17	50	54	61	61	61	61	72
25	34	60	64	71	71	71	71	82
32	43	70	76	82	82	82	82	88
40	49	80	86	92	92	92	92	103
50	61	92	96	107	107	107	107	113
65	77	110	116	127	127	127	127	138
80	89	126	132	142	142	142	142	148
100	115	151	152	162	162	168	168	174
125	141	178	182	192	192	194	194	210
150	169	206	207	218	218	224	224	247
200	220	260	262	273	273	284	290	309
250	273	314	317	328	329	340	352	364
300	324	365	373	378	384	400	417	424
350	356	412	423	438	444	457	474	486
400	407	469	473	489	495	514	546	543
450	458	528	528	539	555	564	571	
500	508	578	578	594	617	624	628	
600	610	679	679	695	734	731	747	

## GASKET ORDERING EXAMPLE

EN 1514-3, Type C, DN 65, PN 16, 2 mm, virgin PTFE





# Graphite Sheets and Gaskets

Al Amaniya is one of the leading suppliers of Graphite sheets & Gaskets in Middle East. These products are well suited to a wide range of industrial processes that demand high-performance at increased temperatures.

## ADVANTAGES

- ◆ Graphite can handle both high and low temperatures, making it very durable in processes that operate across a wide temperature range.
- ◆ Graphite is corrosion resistant at most temperature and pressures, and is not affected by pH changes.
- ◆ Graphite has exceptional mechanical strength when used in Gaskets and excellent resiliency.
- ◆ Graphite is highly compressible
- ◆ Graphite has low creep under pressure or temperature
- ◆ Graphite has unlimited storage life and are not effected by direct sunlight

## APPLICATION

- ◆ High & low temperatures
- ◆ Aggressive media
- ◆ Low bolt loads
- ◆ Hot oil equipment
- ◆ Heat exchangers



Graphite gaskets are used in processes that include corrosive media like ammonia, hot water, high pressure vapours, ultra cool liquids and hydrocarbons. This can withstand a temperature -200°C to 650°C. This makes them the top choice for heat exchangers, cooling towers and high pressure pipes. Al Amaniya provides gaskets fully customized to your dimensional and mechanical requirements.

## PRODUCT RANGE.

- ◆ Pure Graphite sheet, plain, no insert
- ◆ Graphite laminate, 316 stainless steel foil insert, adhesive bond
- ◆ Graphite laminate, 316 stainless steel tang insert, mechanically bond

## DIMENSION STANDARD

SIZE: 1.0 Mtr X 1.0 Mtr (Std)

1.5 Mtr X 1.5 Mtr (Std)

THICKNESS: 1.0/2.0/3.0/5.0 mm

NOTE: Other sizes are available upon request.

## OTHER STYLES:

As per customer's request, we can also supply inserts in Nickel Alloy, Monel and other exotic materials.



# Spiral Wound Gaskets

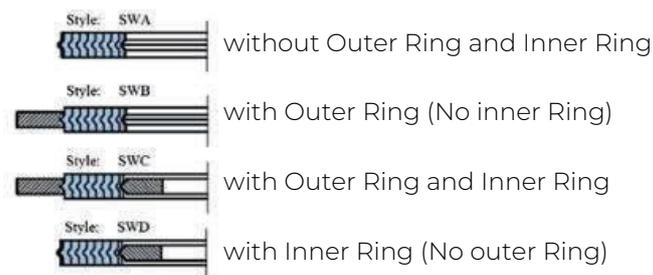
Spiral Wound Gaskets are special semi-metallic gaskets of great resilience; therefore they are suitable for applications featuring heavy operating conditions. SWG manufactured by spirally winding a V-shaped metal strip and a strip of non-metallic filler material. The metal strip holds the filler, providing the gasket with mechanical resistance and resilience. SWG can be reinforced by an outer centering ring and/or inner retaining ring. The outer centering ring controls the compression and holds the gasket centrally within the bolt circle. The inner retaining ring increases the axial rigidity and resilience of the gasket and acts as a Heat and Corrosion barrier eliminating turbulence between the gasket Inner diameter and the flange bore so avoiding erosion of the flange faces.



## ADVANTAGES

- ◆ Sealing under heavy operating conditions.
- ◆ Strong stress compensation,
- ◆ Stable and Reliable sealing performance even under frequent pressure fluctuation conditions.
- ◆ Solid construction provides stability
- ◆ Seal ability even when the sealing surfaces are slightly corroded or bent.
- ◆ Easy installation meters

## SWG STANDARD STYLES



## DIMENSIONS:

Standard Sizes: Acc. To ASME/ANSI, DIN, BS, JIS & Non-Standard sizes upon request.  
Manufacturing Thicknesses: 3.2 mm; 4.5 mm; 6.5 mm and 7.2 mm

## MATERIALS:

Standard Filler : Flexible Graphite, PTFE, Non-Asbestos, Ceramic etc..

Standard Metals : SS316L, SS316, SS304, SS304L, SS321, SS347, Monel, Inconel, Incoloy, Titanium, Duplex, Super Duplex etc...



# Spiral Wound Gaskets

Spiral wound gaskets have proven to be the most reliable sealing element for use in difficult, critical and arduous duties. Spiral wound gaskets are used in refinery, Petrochemical, Chemical, steam lines and process industries, where they have many advantages over older types of gaskets.

These gaskets are manufactured to international specifications such as BS, API, ASME, JIS and DIN standards. We also manufacture to as per customer's specifications.

## FLANGE STANDARDS

ASME/ANSIB16.5	MSS SP44 (ASME B16.47 SERIES A) (AWWA)
BS 1560, BS10, BS4504	DIN FLANGES, JIS FLANGES
API 605 (ASME B16.47 SERIES B)	FRENCH NF STANDARD

## COMMON FILLERS USED

FILLERS MATERIALS	MAX. WORKING TEMPERATURE
Graphite Mica	350 F (Temperature)
Graphite 99.8 % purity	1200 C
Non asbestos	550 C
PTFE	250 C
Ceramic	1000 C

## INNER AND OUTER RINGS

Carbon steel, stainless steel 304,304L, 316, 316L, 316TI,321,347,MONEL 400 Inconel 600,625,800, Incoloy 800,825, Nickel 200, Titanium, Hastelloy, Copper, Duplex, Super Duplex etc...

## SPIRAL WOUND GASKET SIZES

Size and shape as per prevailing international standards or Customer needs can be produced

## GASKET COMPRESSION & CHOICE OF THICKNESS

Nom. Thickness	Compressed Thickness
2.5mm(.098 in )	1.9/2.1mm(.075/.085 in )
3.2mm(.125 in )	2.4/2.6mm(.95/.105 in )
4.5 mm(.175 in )	3.2/3.45mm(.125/.135 in )
6.4 mm(.250 in )	4.6/4.8mm (.180/.190 in )
7.3 mm(.285 in )	4.7/4.9mm(.185/.195 in )

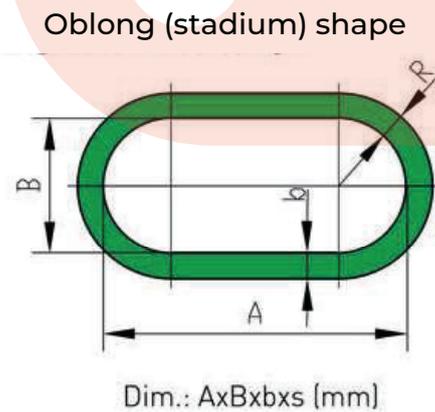
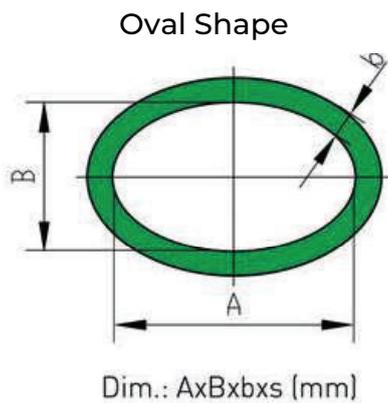




# Spiral Wound Gaskets

## GASKETS FOR BOILERS HANDHOLES AND MANHOLES

Gaskets Type SWA can be manufactured in other shapes like oval and oblong (stadium). There is no specific standard for this type of gasket. When ordering, complete specifications must be provided inside dimensions (A x B), width (b) and thickness (s) or a drawing



### GASKET ORDERING EXAMPLE

Spiral Wound Gasket Style: SWA

Size : A x B x b x s

Winding : AISI / SS316

Filler : Graphite 98%

### Certification / Approval

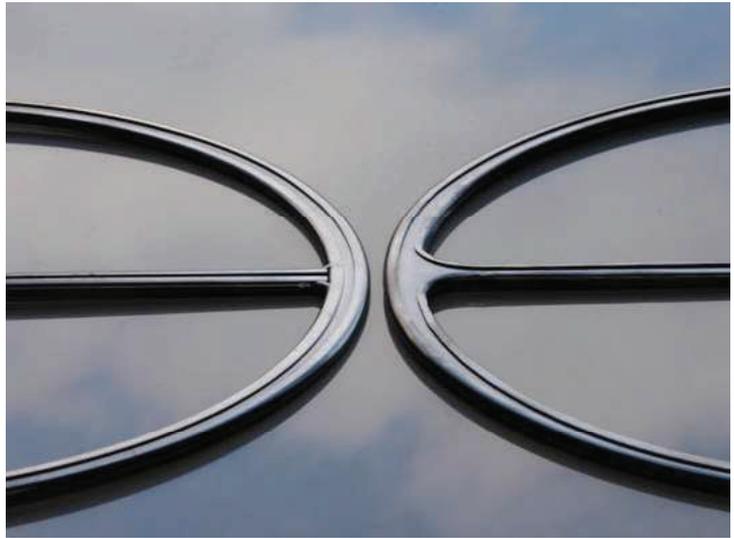
TAT- SHELL Approved product





# Metal Jacketed Gaskets

Metal-Jacketed gaskets are particularly suitable for sealing flat surfaces of heat exchangers, gas pipes, cast iron flanges, and autoclaves and similar, By their sealing efficiency, provided by exerting strong pressure on circular rims of the flanges, metal-jacketed gaskets can stand up to 30% deviation from the initial thickness, which is very useful in case of irregular or faulty flange rims. The chemical compatibility of the metal and the medium being sealed should be considered. The metallic jacket is normally 0.4 mm thick. Other materials are available on customer request. The metal jacketed gaskets come in sizes according to EN 1514-4 ASME B 16.21 standards, Metal-jacketed gaskets are produced in several types to meet the requirements of the most demanding applications.

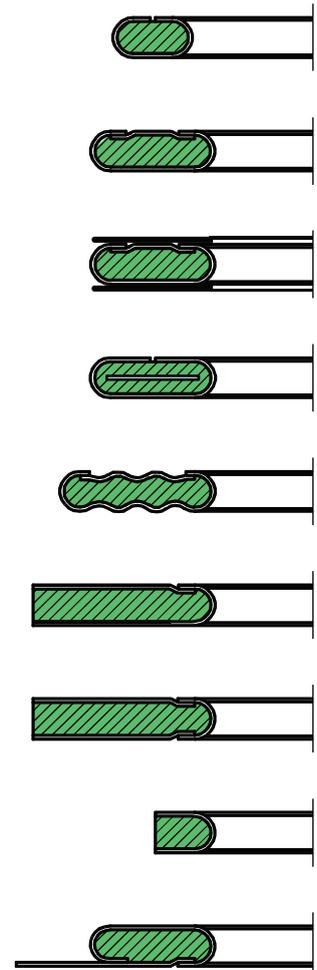


## APPLICATION

- ◆ Refineries
- ◆ Chemical and petrochemical industry
- ◆ Gas production and distribution
- ◆ Petrochemical industry
- ◆ Pumps and valves
- ◆ Boilers and flues

## GASKET PROFILES

Metal jacketed gaskets can be manufactured in the given profiles to profile shapes.



## MATERIALS FOR COATING

Material	AISI/ASTM	DIN EN 10 027-2 Material No.
Low carbon steel	Soft iron (CS)	1.0333
Stainless steel	AISI 304	1.4301
Stainless steel	AISI 316, 316 L	1.4401, 1.4404
Stainless steel	AISI 321	1.4541
Stainless steel	AISI 316 Ti	1.4571
Monel (NiCu30Fe)	Alloy 400	2.4360
Copper	Copper	2.0090
Brass	Brass Ms 63	2.0321
Titanium	B348 Gr.1	3.7025





# Spiral Wound Gaskets

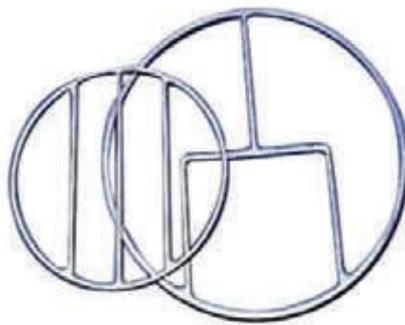
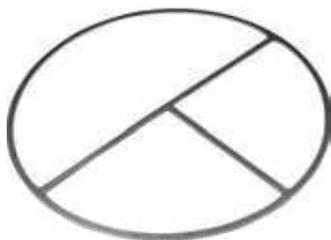
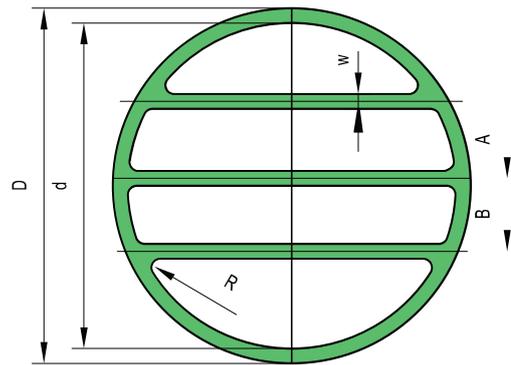
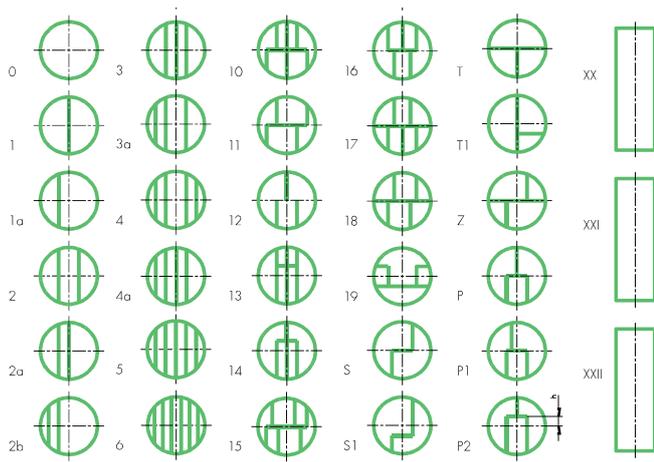
## FILLER

The most common filler in metal jacketed gaskets is expanded graphite, Other fillers like ceramic, CSF or other can be used.

STANDARD SEALING FILLER – TEMPERATURE RANGE		
Graphite	-200 °C	+550 °C
CSF	- 40 °C	+250 °C
Ceramic	-200°C	+1100°C

## SHAPES

Metal jacketed gaskets can be produced in different shapes with or without bars as shown in the drawing.



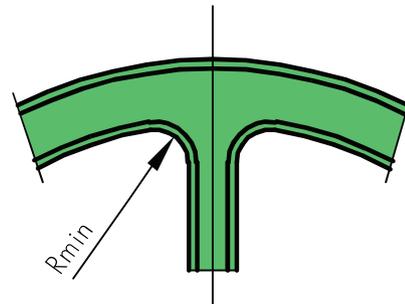


# Metal Jacketed Gaskets

## GASKETS WITH INTEGRATED BARS

Usually, double-jacketed gaskets for heat exchangers are manufactured with integrated bars. There is a radius between the bars and an internal diameter of the gaskets. The values of the corresponding radius for the most commonly used metals and alloys are shown in the following table. If a radius is less than R min, the material can crack, reducing the sealing properties of the gaskets.

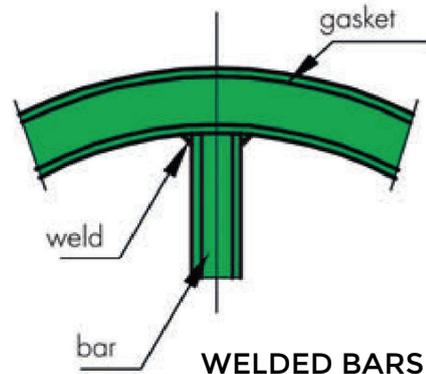
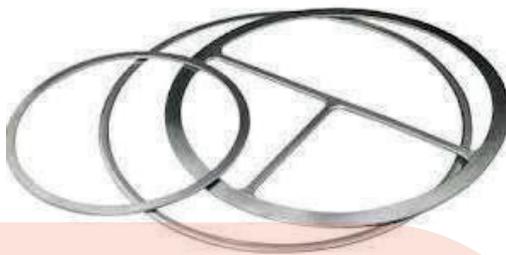
GASKET MATERIAL and R min	
Copper	8 mm
Soft iron (CS)	8 mm
Brass, Monel	10 mm
Stanless steel	10 mm



INTEGRATED BARS

## GASKETS WITH WELDED BARS

Gaskets with welded bars have eliminated one of the greatest problems of conventional gaskets, which are cracks in the radius area. The primary and secondary seals are continuous all around the gasket. The gasket has an excellent sealability, reducing leaks to the environment. The bars which seal between the heat exchanger passages are plasma or TIG welded with spot welds at each end.



WELDED BARS

## DIMENSIONS AND SIZES

Standard sizes are made according to EN 1514-4 or ASME B 16,21 standards. Non standard sizes are available on request, Outside diameter of metal jacketed gaskets can be up to 4000 mm, thickness of the gasket can be from 2 to 12 mm.

STANDARD DIMENSIONS	
Gasket width	10, 13 and 16 mm
Gasket thickness	3,2 mm
Bar width	8,10 and 13 mm





# Grooved Gaskets

Al Amaniya grooved or Kammprofile gaskets consist of a metal core with concentric grooves and a soft layer of sealing material bonded to both grooved faces. Grooved gaskets are an excellent solution for extreme operating conditions, Non-metal layers ensure that flanges remain undamaged while a metal core ensures the gasket's stability. Grooved gaskets provide the highest level of sealing integrity and have the ability to seal at low seating stress. Very low diffusion level and very high density ensure very low leakage rates, Grooved gaskets are proven to be very effective where temperatures and pressures are constantly fluctuating. They can be used as an alternative for applications associated with metal jacketed gaskets and are ideal choice for heat exchanger services



## GENERAL CHARACTERISTICS

- ◆ Camprofiles resist pressures up to 400 bar, and depending on the sealing layer gaskets can resist temperatures up to approx. +1000°C.
- ◆ Gaskets are suitable for applications according to various specifications for flanges (DIN, ASTM, EN, JIS, etc.) and a very wide seating stress range (highly suitable for varying temperatures and pressures, less sensitive to assembly faults, suitable for light and heavy designed flanges).
- ◆ Grooved gaskets do not damage the flange surfaces and can be easily removed.

## APPLICATION

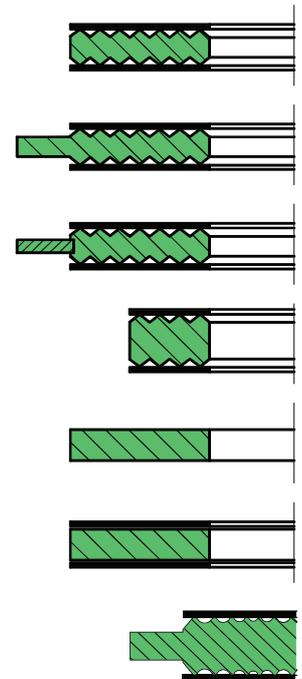
- ◆ Chemical and petrochemical industry
- ◆ Nuclear power stations
- ◆ Steam generation
- ◆ Power plants
- ◆ Heat exchangers

## STANDARD GASKET PROFILES

At Spira Power Grooved gaskets are made in several different profiles to profile shapes.

## CERTIFICATION / APPROVAL

TAT-SHELL Approved product





# Corrugated Gaskets

Al Amaniya corrugated gaskets are universally usable sealing elements. Due to the different possibilities of manufacturing in the form of rings, ovals, long ovals or frames, which can be with or without ribs, holes, and fixing loops, the field of application for these gaskets is expanding continuously. The gaskets can be completely or partly covered with a soft layer. Even in cases of uneven flanges a satisfactory tightness could be achieved with adequate flexible soft layers. Corrugated gaskets are used in applications where mechanical strength, thermal conductivity, temperature and corrosion resistance are requested. The field of application for these gaskets is growing.

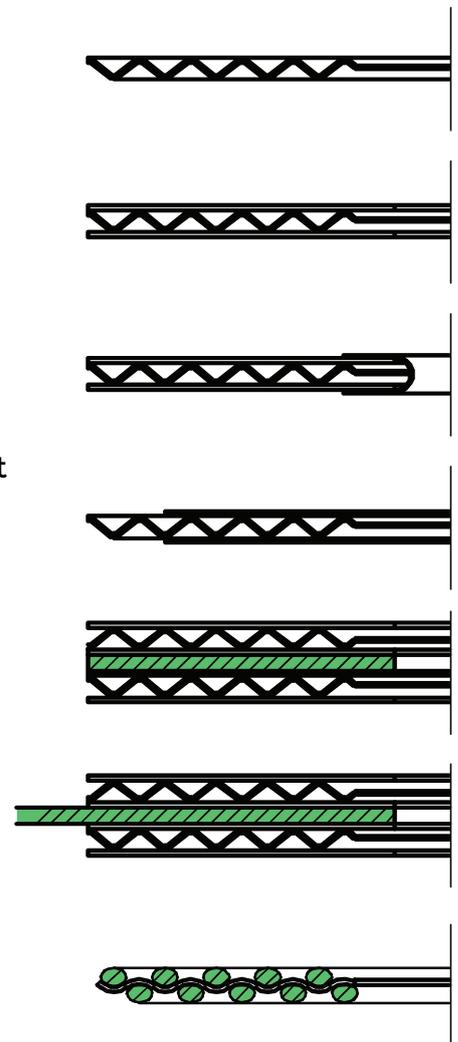


## APPLICATION

- ◆ Pipes and valves
- ◆ Chemical industry
- ◆ Vacuum applications
- ◆ Low pressure and high temperature applications

## GASKET PROFILES

At Spira Power corrugated gaskets are produced in different profiles and dimensions.



# MATERIALS

Standard materials for the core are carbon steel, SS 316L, SS 304, SS 321. Other materials are available on request. Standard thickness of the metal part is 1.3 mm while the thickness of the layer on each side is 0.8 mm, However other thickness also available on customer's request.

## STANDARD MATERIALS

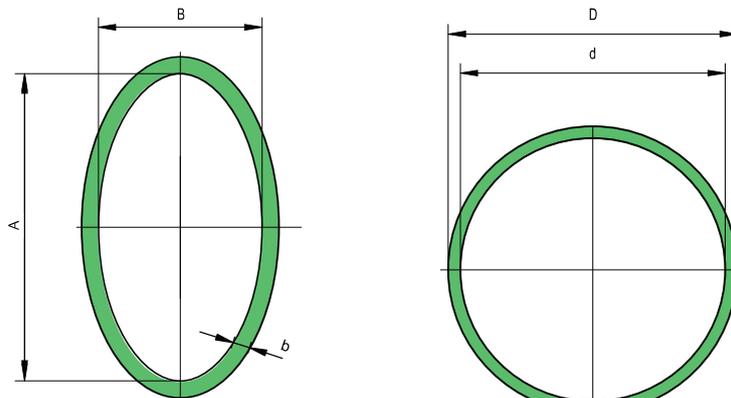
Material	ASTM	DIN 10 027-2 Material No.
Low carbon steel	Soft iron (CS)	1.0333
Stainless steel	AISI 304	1.4301
Stainless steel	AISI 316, 316 L	1.4401, 1.4404
Stainless steel	AISI 321	1.4541
Stainless steel	AISI 316 Ti	1.4571

## LAYER

Standard material of layers: expanded graphite, CSF, PTFE, mica.

## SHAPE AND DIMENSION

Shapes of corrugated gaskets can be circular, oval, rectangular, etc. Dimensions of the gaskets are available from 50 mm to 4000 mm according EN or ASME standard or in non-standard dimensions, according to customer's request.



Type: A x B x b (oval)

## GASKET ORDERING EXAMPLE

Standard dimension  
Corrugated gasket NT 1A EN  
1514-4 DN 100, PN 40  
Material: AISI 316/Graphite

Non-standard dimension  
Corrugated gasket NT 1A D730 mm,  
d = 700 mm, s = 3,5 mm  
Material: AISI 316/Graphite





# Ring Joint Gaskets (RTJ)

RING JOINT GASKETS(RTJ) are designed for high pressure applications. They are available in a variety of forms to suit different flanges formats. RTJs can be used for very high and/or fluctuating pressures up to 1500 bar, depending on the profile selected. Material selection determines use for high temperatures up to 1000°C and in aggressive media. To ensure proper sealing the surfaces of contact between the gaskets and flange have to be carefully processed. The small sealing area and high contact pressure results in excellent seal ability.



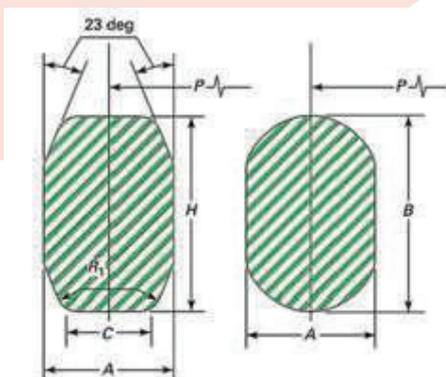
## Typical Ring Joint Gaskets Materials

Material	Designation	Max. Hardness Rockwell B	Max. Hardness Brinell
Soft Iron	D	56	90
Low Carbon Steel	S	68	120
4-6 Chrome	F-5 Identification designates ASTM Specification	72	130
Stainless Steel 304	SS -304	83	160
Stainless Steel 316	SS -316		
Stainless Steel 321	SS -321		
Stainless Steel 347	SS -347		
Stainless Steel 410	SS -410	86	170
Alloy 625	INC 625	89	180
Ally 825	INC 825	92	195

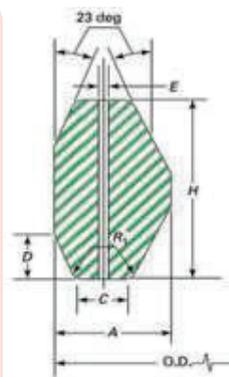


STANDARDS FOR RING JOINT GASKETS USED WITH FLANGES		
RTJ Style	RTJ Standards	Flange Standard
R	ASME B 16.20 API 6A	ASME B16.5, ASME B1647 Series
RX	ASME B16.20 API 6A	A API 6B
BX	API 6A	API 6BX

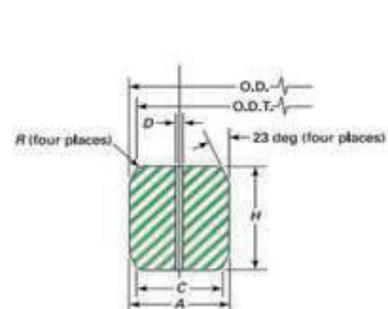
**Type R Ring Gasket Dimensions and Tolerances**



**Type RX Ring Gasket Dimensions and Tolerances**



**Type BX Ring Gasket Dimensions and Tol**





# Ring Joint Gaskets (RTJ)

Nominal Pipe Size (NPS)	SIZE DESIGNATIONS FOR OVAL OR OCTAGONAL RINGS							
	FLANGE PRESSURE CLASS							
	150	300-600	900	1500	2500	API 6A (psi)		
1/2"		R-11	R-12	R-12	R-13	2000	3000	5000
3/4"		R-13	R-14	R-14	R-16			
1.0"	R-15	R-16	R-16	R-16	R-18			
1 1/4"	R-17	R-18	R-18	R-18	R-21			
1 1/2"	R-19	R-20	R-20	R-20	R-23			
2.0"	R-22	R-23	R-24	R-24	R-26			
2 1/16"						R-23		R-24
2 1/2"	R-25	R-26	R-27	R-27	R-28			
2 9/16"						R-26		R-27
3.0"	R-29	R-31	R-31	R-35	R-32			
3 1/8"						R-31		R-35
3 1/2"	R-33	R-34	R-34					
4.0"	R-36	R-37	R-37	R-39	R-38			
4 1/16"						R-37		R-39
5.0"	R-40	R-41	R-41	R-44	R-42			
5 1/8"						R-41		R-44
6.0"	R-43	R-45	R-45	R-46	R-47			
7 1/16"						R-45		R-46
8.0"	R-48	R-49	R-49	R-50	R-51			
9.0"						R-49		R-50
10.0"	R-52	R-53	R-53	R-54	R-55			
11.0"						R-53		R-54
12.0"	R-56	R-57	R-57	R-58	R-60			
13 5/8"						R-57		
14.0"	R-59	R-61	R-62	R-63				
16.0"	R-64	R-65	R-66	R-67				
16 3/4"						R-65		
18.0"	R-68	R-69	R-70	R-71				
20.0"	R-72	R-73	R-74	R-75				
20 3/4"							R-74	
21 1/4"						R-73		
22.0"	R-80	R-81						
24.0"	R-76	R-77	R-78	R-79				
26.0"		R-93	R-100					
28.0"		R-94	R-101					
30.0"		R-95	R-102					
32.0"		R-96	R-103					
34.0"		R-97	R-104					
36.0"		R-98	R-105					





# Ring Joint Gaskets (RTJ)

RX RING DESIGNATIONS FOR API 6B FLANGES				
API Ring Number	SIZE OF CHART FLANGE			
	2000 psi	2900 psi	3000 psi	5000 psi
RX-20	1 1/2"		1 1/2"	1 1/2"
RX-23	2 1/16"			
RX-24			2.0"	2.0"
RX-26	2 1/2"			
RX-27			2 1/2"	2 1/2"
RX-31	3.0"		3.0"	
RX-35				3.0"
RX-37	4.0"		4.0"	
RX-39				4.0"
RX-41	5.0"		5.0"	
RX-44				5.0"
RX-45	6.0"		6.0"	
RX-46				6.0"
RX-47				8.0"*
RX-49	8.0"		8.0"	
RX-50				8.0"
RX-53	10.0"		10.0"	
RX-54				11.0"
RX-57	12.0"		12.0"	
RX-63				14.0"
RX-65	16.0"			
RX-66			16.0"	
RX-69	18.0"			
RX-70			18.0"	
RX-73	20.0"			
RX-74			20.0"	
RX-82		1.0"		
RX-84		1 1/2"		
RX-85		2.0"		
RX-86		2 1/2"		
RX-87		3.0"		
RX-88		4.0"		
RX-89		3 1/2"		
RX-90		5.0"		
RX-91		10.0"		
RX-99	8.0"*		8.0" *	

\*Crossover flange Connections

BX RING DESIGNATIONS FOR API 6BX FLANGES						
API Ring Number	SIZE OF CHART FLANGE ( Inches )					
	2000 psi	3000 psi	5000 psi	10000 psi	15000 psi	20000 psi
BX-150				1 11/16"	1 11/16"	
BX-151				1 13/16"	1 13/16"	1 13/16"
BX-152				2 1/16"	2 1/16"	2 1/16"
BX-153				2 9/16"	2 9/16"	2 9/16"
BX-154				3 1/16"	3 1/16"	3 1/16"
BX-155				4 1/16"	4 1/16"	4 1/16"
BX-156				7 1/16"	7 1/16"	7 1/16"
BX-157				9.0"	9.0"	9.0"
BX-158				11.0"	11.0"	11.0"
BX-159				13 5/8"	13 5/8"	13 5/8"
BX-160			13 5/8"			
BX-161						
BX-162			16 3/4"	16 3/4"		
BX-163			18 3/4"			
BX-164				18 3/4"	18 3/4"	
BX-165			21 1/4"			
BX-166				21 1/4"		
BX-167	26 3/4"					
BX-168		26 3/4"				
BX-169				5 1/8"	5 1/8"	
BX-170				6 5/8"	6 5/8"	
BX-171				8 9/16"	8 9/16"	
BX-172				11 5/32"	11 5/32"	
BX-303	30.0"	30.0"				

Ring joint gaskets come in two basic types, an Oval cross section and an Octagonal cross section. The octagonal cross section has a higher sealing efficiency than the oval and would be the preferred gasket. However, only the oval cross section can be used in the old type round bottom groove. The newer flat bottom groove design will accept either the oval or the octagonal cross section. RTJ assemblies are sealed by an initial line contact or an edging action as the compressive forces are applied, Dimensions for standard ring joint gaskets and grooves are covered in ASME B16.20 and API 6A, API 17D and ASME B16.5/816.20.

RX Ring Gaskets are similar in shape to the standard octagonal ring joint gasket but their cross section is designed to take advantage of the contained fluid pressure in effecting a seal. They are made to API 6A and interchangeable with standard Octagonal rings for oil field drilling and production applications in API 6B flanges. RX is used at pressures up to 15,000 psi (103MPa). Standard sizes are stocked in low carbon steel, 304 and 316.

BX Ring Gaskets differ from the standard oval or octagonal shape since it is square in cross section and tapers in each corner. They can only be used in API 6BX flanges. EX is used at pressures up to 15,000 psi. Standard sizes are stocked in low carbon steel, 304 and 316,



# Flange Insulation Gasket Kits

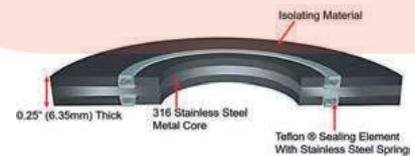
Flange Isolation Kits are designed to restrict the electrical conductivity between joint connections and to combat the effects of galvanic corrosion often found in flanged pipe systems, by eliminating metal to metal contact, as the static electrical current is halted to aid in the cathodic protection of the piping system. These kits can be used to control stray electric currents in piping at oil, gas, water, refineries and chemical plants in order to increase the safety of the production system. Below are the design and selection of materials used in Flange Isolation Kit Gasket.



## Isolating Gaskets and Flange Isolation Kits

sealing and isolating gasket is designed for critical applications, Manufactured with a 316 stainless steel core retainer and laminated on both sides with high strength G10 laminate, the Defender™™ gasket is resistant to deformation under load and is used when electrical isolation and corrosion control are required on pipes containing gas, natural gas, oil and other hydrocarbon based medias up to 392°F (200°C). Available for flat face, raised face and ring type joint flanges from 1½" to 32", ANSI 150-2500# and API 2-10K. The Defender™™ gasket is an engineered solution that eliminates costly leaks and provides a solution for fugitive emissions.

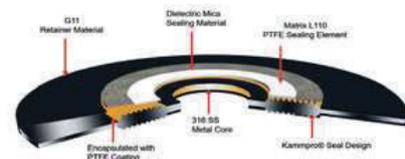
- ◆ Gasket Type: E or F
- ◆ Seal Elements: KMT (Kammpro/Mica/PTFE)
- ◆ Pressure Class: ANSI (150#-2500#), API (2-10K), PN (20-420)
- ◆ Sizes: ½" through 48" diameter
- ◆ Temperature Range: Cryogenic-303°F (FS G10), -100-392°F (FS G11)



## FS Isolation Gaskets

FS gaskets were engineered for Fire Safe, extreme, high reliability sealing and electrical isolation in critical service applications. They are designed to withstand the rigorous API standard 6FB (Third Edition) test and therefore provide a solution for those who want to electrically isolate their flange while also requiring protection against the introduction of fire in and around the flange. The Defender FS sealing/isolating gasket and kit, which includes sleeves and isolation washers, exceeds the pressure-containing capabilities in standard 6FB (Third Edition) as outlined by API and is able to maintain its fire safe characteristics throughout the entirety of the test. These gaskets are well suited for high reliability sealing and electrical isolation critical service applications and locations where highly volatile fluids are present.

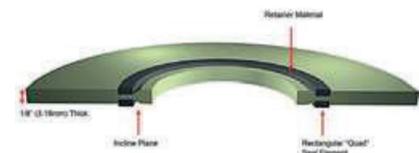
- ◆ Gasket Type: E or F
- ◆ Seal Elements: KMT (Kammpro/Mica/PTFE)
- ◆ Pressure Class: ANSI (150#-2500#), API (2-10K), PN (20-420)
- ◆ Sizes: ½" through 48" diameter
- ◆ Temperature Range: Cryogenic-303°F (FS G10), -100-392°F (FS G11)



## Sealing/Isolating Gaskets and Flange Isolation Kits

The IsoGuard sealing/isolating gasket system is designed for general applications where electrical flange isolation and corrosion control are required on pipes containing water/wastewater, gas, natural gas, oil and other hydrocarbon based medias up to 392 deg \* F (200 deg \* C) Available for flat face, raised face and ring type joint flanges, this system consists of a retainer with an incline-plane seal groove designed to optimize each seal's elastic memory, in conjunction with a proven rectangular sealing element ("Quad" ring). This design guarantees low bolt load requirements and high sealing reliability. IsoGuard systems are available with a variety of retainers and seal elements.

- ◆ Gasket Type: E or F
- ◆ Seal Element: Self-Energizing "Quad" ring (EPDM, Nitrile, PTFE, Viton)
- ◆ Gasket Retainer: G10, G11, Phenolic, G7
- ◆ Pressure Class: Up to 1500#, AWWA, API 5K and PN 250
- ◆ Tested to Shell and NSF 61 Certification Standards
- ◆ Size Range: 1/2" through 120"+ diameter
- ◆ Temperature Range (°F): Cryogenic-303°F (G10), -100-392°F (G11)-65-200°F (Phenolic), -100-428°F (G7)
- ◆ Temperature Range (°C): Cryogenic-186°C (G10), -73-200°C (G11), -54-93°C (Phenolic),
- ◆ 54-220°C (G7)



## Recommended Standard Packaged Sleeve / Washer Sets

- Defender™ Gasket  
(Mylar Sleeves, Steel ZP and G-10 Washers)
- (G10 Sleeves, Steel ZP and G10 Washers)
- IsoGuard™ Gasket  
(Mylar Sleeves, Steel ZP and G10 Washers)
- (G10 Sleeves, Steel ZP and G10 Washers)



# COMPRESSION PACKINGS & DIE MOULDED RINGS



## COMPRESSION PACKINGS

Al Amaniya is a leading supplier of high quality packing materials for pumps and valves, Our compression packing is used to provide a 'compression seal, hence the term Compression packing is also called valve packing, pump packing, gland pack-ing, braided packing and mechanical packing. Packing is a very reliable sealing device that is simple to install, cost effective and one that's easy to maintain. Compared to complex alternatives, it is cost effective when considering plant down time and main-tenance costs. Many of our packings will dramatically reduce your stockholding levels - as one carefully selected length-form product can often be used for many different valves, pumps and other fluid handling plant at your site.



## PRODUCTS STYLES

Style 3010- Expanded Pure Graphite

Style 3011-Expanded Pure Graphite With Thin Inconel Wire Reinforcement

## DIE MOLDED RINGS

Die Milled Seals are manufactured from pure graphite using special moulded tools, they are produced applications where tight dimensional tolerances are critical. The molding process creates a high-density ring providing resilience regardless of thermal excursions, Spira Power's ability of manufacturing processes control dimensions, density and packing. The packing can also be produced with metal caps for high temperature/pressure applications.



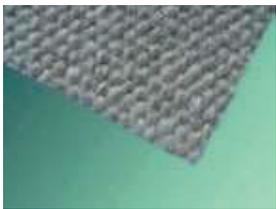
## Properties

Minimum Operating temp.	-240 Deg C to 430 Deg C
Max Steam Temperature	650 Deg C
PH	0-14
Max. Static Pressure	1350 Bar
Max Dynamic pressure	20 Bar
Max. Running speed	5 m/s





# THERMAL INSULATION PRODUCTS

Style	Specification	Temperature & Application
<b>CERAMIC CLOTH ( E GLASS )</b>		<b>650~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber fabric</li> <li>• fiberglass or steel wire reinforced</li> <li>• 1.2-3.0mm thickness</li> </ul>	<ul style="list-style-type: none"> <li>• heat insulation curtain</li> <li>• large area thermal insulation</li> <li>• radiant heat shielding</li> <li>• flexible fabric expansion joints</li> </ul>
<b>CERAMIC CLOTH ( SS WIRE )</b>		<b>750~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber fabric heat treated</li> <li>• reinforced by steel wire</li> <li>• 1.2-3.0mm thickness</li> </ul>	<ul style="list-style-type: none"> <li>• heat insulation curtain</li> <li>• large area thermal insulation</li> <li>• radiant heat shielding</li> <li>• flexible fabric expansion joints</li> </ul>
<b>CERAMIC TAPE ( E- GLASS )</b>		<b>650~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber woven tape</li> <li>• 20mm-500mm width</li> </ul>	<ul style="list-style-type: none"> <li>• high temperature resistant electrical cable, wire covering</li> <li>• high temperature pipe wrapping</li> </ul>
<b>CERAMIC TAPE ( SS - WIRE )</b>		<b>650~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber tape</li> <li>• fiberglass or steel wire reinforced</li> <li>• coated with AL foil</li> </ul>	<ul style="list-style-type: none"> <li>• shielding against heat radiation</li> <li>• thermal wrapping for exhaust pipe</li> </ul>
<b>CERAMIC ROPE ( E GLASS )</b>		<b>650~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber rope</li> <li>• twisted</li> <li>• 10mm-30mm</li> </ul>	<ul style="list-style-type: none"> <li>• expansion joint</li> <li>• seals for stoves and ovens</li> <li>• bulb in tadpole gaskets</li> </ul>
<b>CERAMIC SQUARE ROPE ( E GLASS )</b>		<b>650~1050°C</b>
	<ul style="list-style-type: none"> <li>• ceramic fiber rope</li> <li>• square braided</li> <li>• 6x6mm-50x50mm</li> </ul>	<ul style="list-style-type: none"> <li>• thermal insulation and sealing for stove</li> <li>• burner, chimney door sealing</li> <li>• seal for heat exchanger, kiln car</li> </ul>





**AL AMANIYA**  
**INDUSTRIAL COMPANY**  
COMPLETE GASKET AND SEALING SOLUTION

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