

ALLIANCE AS SEALING

GASKET MANUAL

AS ALLIANCE SEALING

Profile

Alliance Sealing evolved from the merger of Sealcom, Interseal and Specialised Gaskets. The combined business is recognised as Australia's premium supplier of sealing products with origins dating back more than 50 years. Alliance Sealing has broad capabilities in radial sealing, from the traditional oil seal range, to in-house manufacturing of machined seals which includes short run to high volume requirements.

Alliance Sealing is aligned with world leading manufacturers and as the licensee for Flexitallic, Alliance Sealing's Specialised Gaskets operations throughout Australia have strong capabilities in the manufacture of the full range of soft cut and metallic gaskets to most global standards. The Flexitallic brand is internationally recognised as the market leader.



Total Joint Integrity

Continual research and development in material evaluation and manufacturing techniques ensures the most up to date flange sealing technology is available to provide total joint and sealing integrity; taking into consideration gaskets and seals, flanges, stud bolts, bolt loads, utilising hydraulic tensioning equipment and providing the associated service.

Alliance Sealing utilises the most up to date technologies in manufacturing including laser, water jet, presses, spiral winding machinery and sophisticated CNC machinery for producing seals and components in both polymer and metallic forms.

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INTRODUCTION

The Gasket

A gasket is a compressible material, or a combination of materials, which when clamped between two stationary members prevents the passage of the media across those members. The gasket material selected must be capable of sealing mating surfaces, resistant to the medium being sealed, and able to withstand the application temperatures and pressures.

How Does It Work?

A seal is effected by the action of force upon the gasket surface. This force which compresses the gasket, causes it to flow into the flange macro and micro imperfections. The combination of contact stress, generated by the applied force between the gasket and the flange, and the densification of the gasket material, prevents the escape of the confined fluid from the assembly.

Flange Imperfections

On seating, the gasket must be capable of overcoming the macro and micro imperfections. Macro defects are imperfections such as flange distortions, non-parallelism, scoring, troughs, while superficial imperfections such as minor scratches and minor scores are considered micro imperfections. Refer to ASME PCC-1 for information on acceptable flange blemishes.

Forces On The Gasket

In order to ensure the maintenance of the seal throughout the life expectancy of the assembly, sufficient stress must remain on the gasket surface to prevent leakage. The residual bolt load on the gasket should at all times be greater than the hydrostatic end force acting against it. The hydrostatic end force is the force produced by the internal pressure which acts to separate the flanges.

Considerations For Gasket Selection

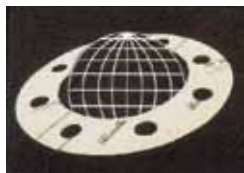
Many factors should be considered when selecting a gasket to ensure its suitability for the intended application. Gasket properties as well as flange configuration and application details are part of the selection process.

Gasket Types

Gaskets can be classified into three categories: soft cut, semi-metallic and metallic types. The physical properties and performance of a gasket will vary extensively, depending on the type of gasket selected and the materials from which it is manufactured.

Physical properties are important factors when considering gasket design and the primary selection of a gasket type is based on the following:

- Temperature of the media to be contained
- Pressure of the media to be contained
- Corrosive nature of the application
- Criticality of the application



Soft Cut

Sheet materials are used in low to medium pressure services. With careful selection these gaskets are not only suitable for general service but also for extreme chemical services and temperatures.

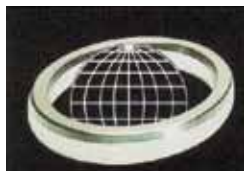
Types: Compressed Fiber Sheets, PTFE, Biaxially Orientated Reinforced PTFE, Graphite, Thermiculite®, Insulating Gaskets.



Semi-metallic

These are composite gaskets consisting of both metallic and non-metallic materials. The metal provides the strength and the resilience of the gasket and the non-metallic component provides the conformable sealing material. These gaskets are suitable for low and high pressure and temperature applications. A wide range of materials is available.

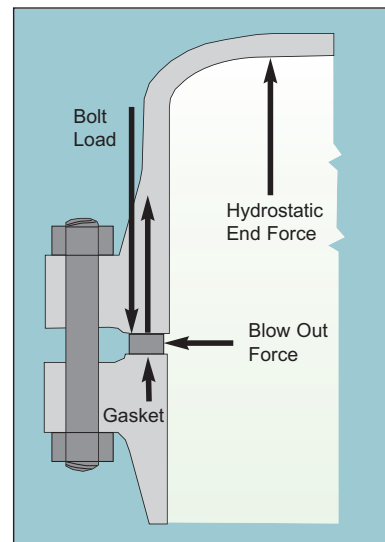
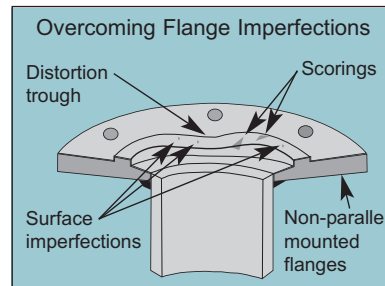
Types: Spiral Wound Gaskets, Flexpro Gaskets (grooved metal gasket with covering layers), Metal Jacketed Gaskets, MRG's (metal reinforced gaskets).



Metallic

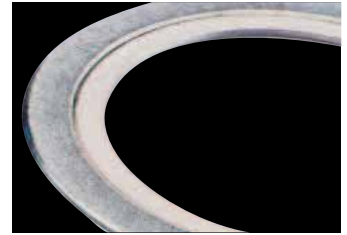
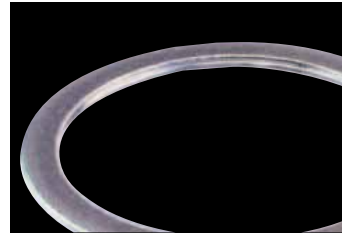
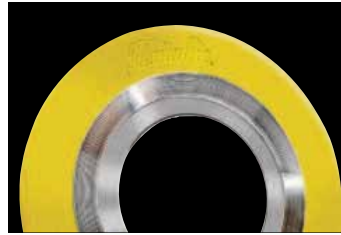
These gaskets can be fabricated in a variety of shapes and sizes recommended for use in high pressure/temperature applications. Except for weld ring gaskets, high loads are required to seat metallic gaskets, as they rely on the deformation or coining of the material into the flange surfaces.

Types: Ring Type Joints, Lens Rings, Weld Rings, Solid Metal Gaskets.



Internal pressure is exerted against both the flange and the gasket.

SEMI-METALLIC SPIRAL WOUND GASKETS



Style CG - Utilises an external ring which accurately centers gasket on flange face, provides additional radial strength to prevent gasket blow-out and acts as a compression stop. A general purpose gasket suitable for use with flat face and raised face flanges up to and inclusive of class 2500.

See note on page 14 for inner ring requirements

Style CGI - A Style CG gasket fitted with internal ring which gives an additional compression limiting stop and provides heat and corrosion barrier protecting gasket windings and preventing flange erosion. Suitable for use with flat face and raised face flanges.

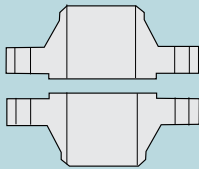
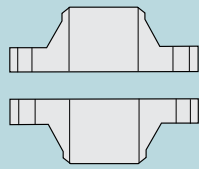
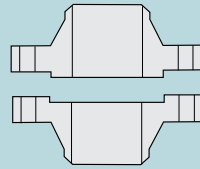
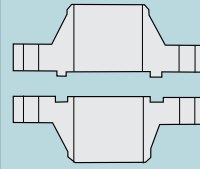
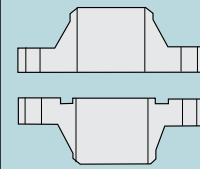
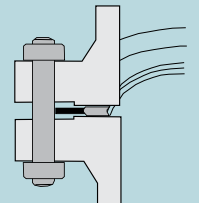
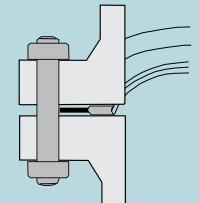
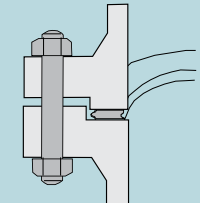
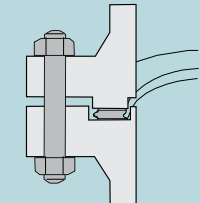
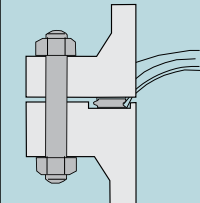
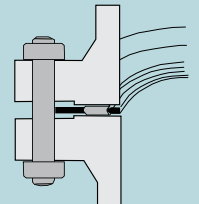
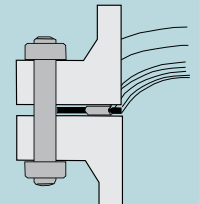
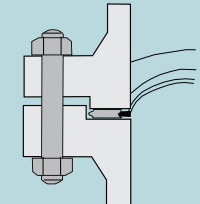
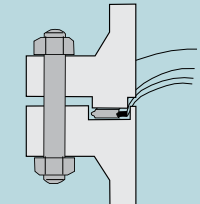
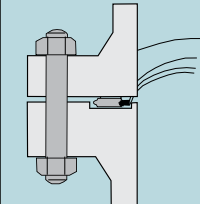
See note on page 14 for inner ring requirements

Style R - Basic construction type. Inner and outer diameters are reinforced with several plies of metal without filler to give greater stability and better compression and sealing characteristics. Suitable for tongue and groove or male and female or grooved to flat face flange assemblies.

Style RIR - Solid inner metal ring acts as a compression stop and fills the annular space between flange bore and the inside diameter of the gasket. Designed to prevent accumulation of solids, reduce turbulent flow of process fluids and minimise erosion at flange faces. Suitable for male and female pipe flanges.

SELECTION GUIDE

Published as an indication of which Flexitallic spiral wound gasket best suits different pipe flange configurations and service conditions.

Flange Face	 Raised Face	 Flat Face	 Male and Female	 Tongue and Groove	 Flat Face to Recess
Recommended Gasket Style For general duties	 Style CG	 Style CG	 Style R*	 Style R*	 Style R*
Recommended Gasket Style For high pressure/temperature duty, also for gaskets with PTFE filler, corrosive or fluctuating pressure or temperature service conditions.	 Style CGI**	 Style CGI**	 Style RIR**	 Style RIR**	 Style RIR**

*It is essential that Style R gaskets are fitted with a compression stop. Without a correctly dimensioned stop the gasket can easily be over-compressed resulting in failure. To provide a compression stop the depth of the tongue, groove or recess should be controlled to provide optimum compressed gasket thickness with metal to metal contact on the flange faces

**See note on page 14 for inner ring requirements

METAL WINDING STRIP AS STANDARD	
Stainless Steel	type 304 316L
OTHERS	
Stainless Steel	type 304L 309 310 316Ti 317L 321 347 430 17-7PH
ALLOY 20	
MONEL®	
TITANIUM®	
NICKEL® 200	
INCONEL®	type 600 625 X-750
HASTELLOY®	type B2 C276
INCOLOY®	type 800 825
DUPLEX	
ZIRCONIUM®	
TANTALUM®	
COPPER	
PHOS-BRONZE	

FILLER MATERIAL	
Flexicarb® flexible graphite	
Thermiculite® 835	
Flexite Super®	
PTFE	
Ceramic	
Non-sintered PTFE	
Thermiculite®, FLEXITALLIC'S proprietary high-temperature, sealing material is comprised of chemically exfoliated and thermally exfoliated vermiculite.	
This revolutionary patented product simulates the structure of exfoliated graphite but with one notable exception... gaskets made with Thermiculite® maintain their integrity, even at extreme temperatures.	
Thermiculite® is thermally stable, ensuring against thermal oxidation, at temperatures in excess of 1800°F (Thermiculite® 835).	

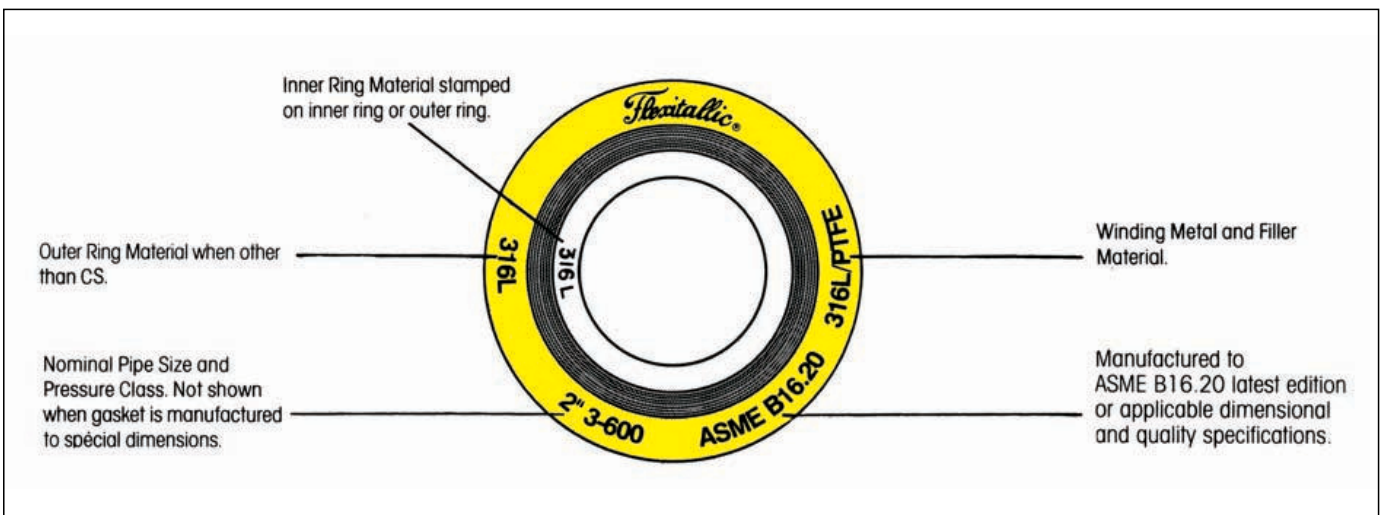
GUIDE RING MATERIAL AS STANDARD	
Carbon Steel	
OTHERS	
Stainless Steel	type 304 304L 316 316L 316Ti 310 321 347 410 600 625
INCONEL®	
MONEL®	
TITANIUM®	
NICKEL	
INCOLOY®	type 800 825
ALLOY 20	
HASTELLOY®	type B-2 C276

NOTES

Selected materials should be compatible with operating temperature and chemicals. If in doubt, contact Alliance Sealing.

If PTFE is subjected to temperatures above 250°C (500°F) decomposition starts to occur slowly, increasing rapidly above 400°C (750°F). Care should be taken to avoid inhaling the resultant fumes, which may produce hazardous effects.

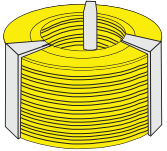
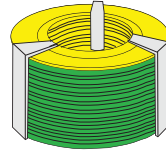
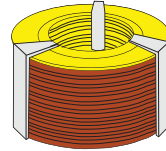
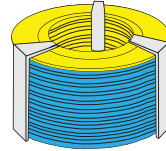
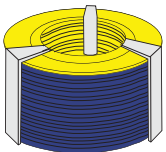
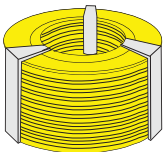
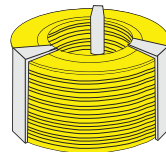
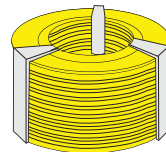
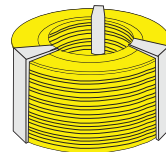
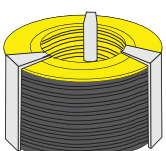
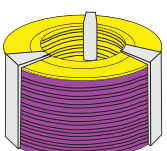
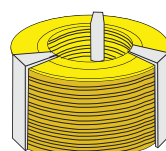
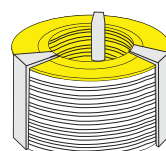
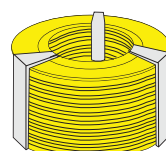
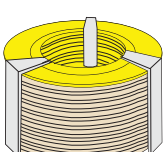
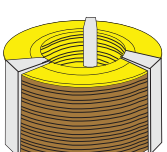
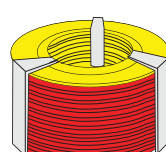
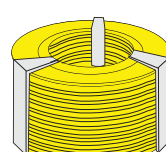
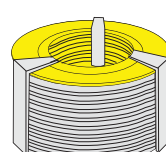
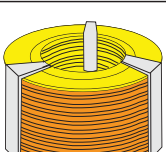
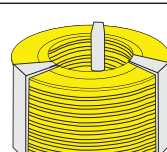
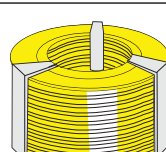
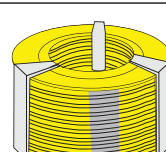
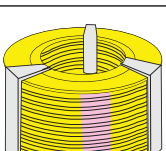
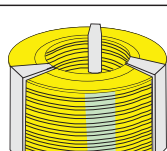
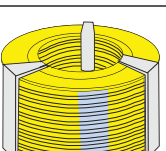
IDENTIFICATION



Gaskets are colour coded to help expedite the selection and identity of the gaskets you need.

The colour on the outside edge of the centering ring identifies both the winding and filler materials. The metallic winding material is designated by a solid colour. The filler materials are designated by colour stripes at equal intervals on the outside edge of the centering ring.

Flexitallic colour coding meets the industry standard for metal and filler materials listed in ASME B16.20.

<p>METALLIC WINDING MATERIALS The metallic winding material is designated by a solid color identification around the outside edge of the centering ring.</p>	 <p>304SS Yellow</p>	 <p>316LSS Green</p>	 <p>317L Maroon</p>	 <p>321SS Turquoise</p>
 <p>347SS Blue</p>	 <p>310SS No color</p>	 <p>304LSS No color</p>	 <p>309SS No color</p>	 <p>430SS No color</p>
 <p>Alloy 20 Black</p>	 <p>Titanium® Purple</p>	 <p>Inconel® 600/625 Gold</p>	 <p>Incoloy® 800/825 White</p>	 <p>Inconel® X750 No Color</p>
 <p>Hastelloy® C276 Beige</p>	 <p>Hastelloy® B2 Brown</p>	 <p>Nickel 200 Red</p>	 <p>Zirconium No color</p>	 <p>Carbon Steel Silver</p>
 <p>Monel® Orange</p>	 <p>Duplex No color</p>	<p>NON METALLIC FILLERS The gasket filler materials are designated by a number of stripes placed at equal intervals around the outside edge of the centering ring.</p>	 <p>PTFE White Stripe</p>	 <p>Flexicarb® Gray Stripe</p>
 <p>Flexite Super® Pink Stripe</p>	 <p>Ceramic Light Green Stripe</p>	 <p>Thermiculite® 835 Light Blue Stripe</p>		

Thermiculite® 835

Exclusive to Flexitallic, this revolutionary material comprised of chemically and thermally exfoliated vermiculite makes it an excellent filler material for use in spiral wound gaskets.

This naturally occurring mineral, with a plate-like structure, simulates that of exfoliated graphite, with one notable exception – it is not susceptible to oxidation and therefore maintains seal integrity through a wide range of extreme temperatures. It exhibits exceptional chemical resistance.

Capable of sealing temperatures up to 1800 °F (982 °C), Thermiculite® 835 is an ideal material selection for critical and problematic applications. It is versatile, fire safe and its excellent sealing characteristics are superior to other high temperature materials such as mica and ceramic. Thermiculite® 835 is especially suitable for high temperature applications where there is a concern about oxidation of flexible graphite filler.

Flexicarb®

A high purity flexible graphite with no binders or fillers. It exhibits superior sealability, and excellent resistance to a wide range of chemicals. Its unique combination of low permeability, inherent lubricity, and compressibility make Flexicarb® suitable for critical gas and vacuum service. Leachable chloride content of industrial grade Flexicarb® is 50 ppm maximum. Available in industrial, nuclear or corrosion inhibited grades.

Polytetrafluoroethylene (PTFE)

PTFE is used as a filler material in Flexitallic gaskets where extreme chemical inertness is required. PTFE is unaffected by any known chemicals except molten alkali metals and fluorine precursors. Because of its low permeability, PTFE is also frequently used as a filler material on FLEXITALLIC gaskets in vacuum applications. Gaskets wound with PTFE should be fully confined either by fitting in a groove or providing both an external and internal ring.

Ceramic Fibre

Consists of aluminum silicate fibre with an organic binder. This material possesses a lower sealability compared to other filler materials, however, it has excellent high temperature stability to 2300 °F (1250 °C). It resists attack from most corrosive agents (except hydrofluoric and phosphoric acids) as well as concentrated alkalis. Recommended only where conditions preclude the use of Thermiculite® filler.

Spiral Wound Filler Guide	Filler Type			
	Thermiculite® 835	Flexicarb ¹	PTFE ²	Ceramic
Maximum Temperature	1800 °F 982 °C	842 °F 450 °C	500 °F 260 °C	2300 °F 1260 °C
Minimum Temperature	-400 °F -240 °C	-400 °F -240 °C	-400 °F -240 °C	-150 °F -101 °C

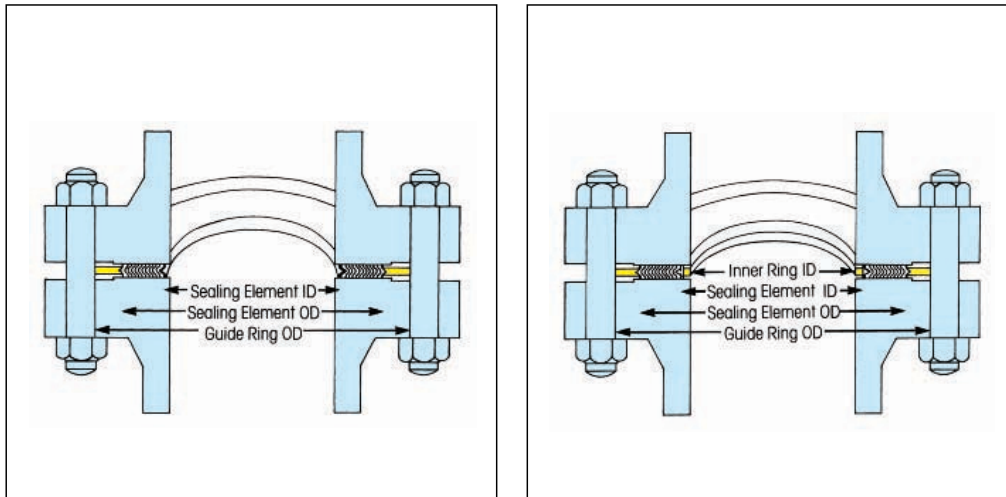
¹ Although Flexicarb has successfully been used at elevated temperatures we recommend that you consult Alliance Sealing for specific applications.

² Several types of PTFE are available. Please consult Alliance Sealing.

Style CG & CGI Gaskets to suit Standard Raised Face and Flat Face Flanges

Special Gaskets

Gaskets of special design can be engineered and fabricated using the same basic fundamentals of Flexitallic Spiral Wound Gasket design and construction to cover a wide range of applications in installations for which there are no industry-wide standards. Special gaskets have been designed for valves, pumps, compressors, turbines, boilers, heat exchangers, etc. Consult Alliance Sealing as early in the design stage as possible.



All CG and CGI Gaskets for these standard flanges are 0.175 in (4.5mm) thick, fitted with 0.125 in (3.2mm) thick solid metal rings, unless otherwise stated.

Flexitallic style CG and CGI Spiral Wound Gaskets can be manufactured in accordance with all relevant gasket standards to suit the following flange designations:

- ASME B16.5
- BS 1560
- BS 10
- ASME B16.47 Series B (API 605)
- ASME B16.47 Series A (MSS SP 44)
- BS 4504
- DIN Flanges
- JIS Flanges

Note that gaskets for nonstandard flanges are also readily available.

NPS (Nominal Pipe Size) Imperial to Metric Conversion

1/2"	15
3/4"	20
1"	25
1-1/4"	32
1-1/2"	40
2"	50
2-1/2"	65
3"	80
4"	100

For NPS > 4", the metric conversion is 25 x Imperial NPS

WHEN ORDERING PLEASE SPECIFY	EXAMPLE
Gasket Style	Flexitallic Style "CGI" Spiral Wound Gasket
Nominal Pipe Size (NPS)	4"
Pressure Rating	Class 900
Gasket Standard	Asme B16.20
Winding Materials	316L/Flexicarb (FG)
Outer Ring Material	Carbon Steel
Inner Ring Material	316L

NOTE: Please select correct gasket style for your particular application. See page 5.

Style CG & CGI* to ASME B16.20 to suit ASME B16.5 Flanges

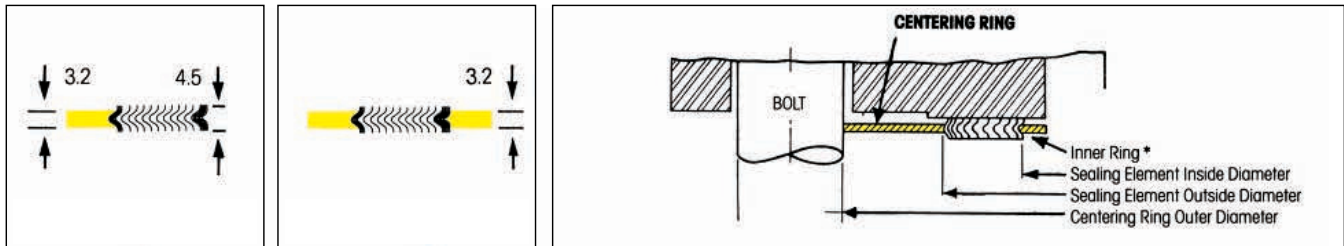


TABLE 2

NOM PIPE SIZE	OUTSIDE DIAMETER OF SEALING ELEMENT		INNER DIAMETER OF SEALING ELEMENT							OUTER DIAMETER OF CENTERING RING						
	CLASS 150, 300, 400, 600	CLASS 900, 1500, 2500	CLASS 150	CLASS 300	CLASS 400	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500	CLASS 150	CLASS 300	CLASS 400	CLASS 600	CLASS 900	CLASS 1500	CLASS 2500
1/4	22.2	-	12.7	12.7	12.7	12.7	-	-	-	44.5	44.5	44.5	44.5	-	-	-
1/2	31.8	31.8	19.1	19.1	19.1	19.1	19.1	19.1	19.1	47.8	54.1	54.1	54.1	63.5	63.5	69.9
3/4	39.6	39.6	25.4	25.4	25.4	25.4	25.4	25.4	25.4	57.2	66.8	66.8	66.8	69.9	69.9	76.2
1	47.8	47.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	66.8	73.2	73.2	73.2	79.5	79.5	85.9
1-1/4	60.5	60.5	47.8	47.8	47.8	47.8	39.6	39.6	39.6	76.2	82.6	82.6	82.6	88.9	88.9	104.9
1-1/2	69.9	69.9	54.1	54.1	54.1	54.1	47.8	47.8	47.8	85.9	95.3	95.3	95.3	98.6	98.6	117.6
2	85.9	85.9	69.9	69.9	69.9	69.9	58.7	58.7	58.7	104.9	111.3	111.3	111.3	143.0	143.0	146.1
2-1/2	98.6	98.6	82.6	82.6	82.6	82.6	69.9	69.9	69.9	124.0	130.3	130.3	130.3	165.1	165.1	168.4
3	120.7	120.7	101.6	101.6	101.6	101.6	95.3	92.2	92.2	136.7	149.4	149.4	149.4	168.4	174.8	196.9
3-1/2	133.4	133.4	114.3	114.3	104.8	104.8	104.8	104.8	-	161.9	165.1	161.9	161.9	190.5	187.3	-
4	149.4	149.4	127.0	127.0	120.7	120.7	120.7	117.6	117.6	174.8	181.1	177.8	193.8	206.5	209.6	235.0
4-1/2	165.1	165.1	139.7	139.7	134.9	134.9	134.9	134.9	-	177.8	196.9	193.7	209.6	238.1	231.8	-
5	177.8	177.8	155.7	155.7	147.6	147.6	147.6	143.0	143.0	196.9	215.9	212.9	241.3	247.7	254.0	279.4
6	209.6	209.6	182.6	182.6	174.8	174.8	174.8	171.5	171.5	222.3	251.0	247.7	266.7	289.1	282.7	317.5
8	263.7	257.3	233.4	233.4	225.6	225.6	222.3	215.9	215.9	279.4	308.1	304.8	320.8	358.9	352.6	387.4
10	317.5	311.2	287.3	287.3	274.6	274.6	276.4	266.7	270.0	339.9	362.0	358.9	400.1	435.1	435.1	476.3
12	374.7	368.3	339.9	339.9	327.2	327.2	323.9	323.9	317.5	409.7	422.4	419.1	457.2	498.6	520.7	549.4
14	406.4	400.1	371.6	371.6	362.0	362.0	355.6	362.0	-	450.9	485.9	482.6	492.3	520.7	577.9	-
16	463.6	457.2	422.4	422.4	412.8	412.8	412.8	406.4	-	514.4	539.8	536.7	565.2	574.8	641.4	-
18	527.1	520.7	474.7	474.7	469.9	469.9	463.6	463.6	-	549.4	596.9	593.9	612.9	638.3	704.9	-
20	577.9	571.5	525.5	525.5	520.7	520.7	520.7	514.4	-	606.6	654.1	647.7	682.8	698.5	755.7	-
24	685.8	679.5	628.7	628.7	628.7	628.7	628.7	616.0	-	717.6	774.7	768.4	790.7	838.2	901.7	-

DIMENSIONS IN MILLIMETERS.

*For Style CGI - see Table 3 for Inner Ring dimensions.

Gasket sizes 1/4" to 3" Class 300, 400 & 600 as well as sizes 1/2" to 2-1/2" Class 900 & 1500 are identical within their respective nominal pipe sizes, therefore inventories need not be duplicated.

In accordance with ASME B16.20, Inner Rings are mandatory for the following flange designations (see Table 3).

Class 900 - NPS 24 to 48

Class 1500 - NPS 12 to NPS 24

Class 2500 - NPS 4 to NPS 12

All PTFE filled gaskets

All flexible graphite gaskets unless otherwise requested by the customer

ASME B16.20 does not include dimensions for NPS 1/4, 3-1/2, or 4-1/2, or Class 400 Flanges up to NPS 3 and Class 900 Flanges up to NPS 2-1/2.

Standard Inside Diameters of Inner Rings for Style CGI Gaskets to ASME B16.20 to suit ASME B16.5 Flanges

TABLE 3

See Table 4 for small diameter screwed and slip-on flanges.

NON PIPE SIZE	PRESSURE CLASS													
	150		300		400		600		900		1500		2500	
1/2	0.56	14.22	0.56	14.22	0.56	14.22	0.56	14.22	0.56	14.22	0.56	14.22	0.56	14.22
3/4	0.81	20.57	0.81	20.57	0.81	20.57	0.81	20.57	0.81	20.57	0.81	20.57	0.81	20.57
1	1.06	26.92	1.06	26.92	1.06	26.92	1.06	26.92	1.06	26.92	1.06	26.92	1.06	26.92
1-1/4	1.50	38.10	1.50	38.10	1.50	38.10	1.50	38.10	1.31	33.27	1.31	33.27	1.31	33.27
1-1/2	1.75	44.45	1.75	44.45	1.75	44.45	1.75	44.45	1.63	41.40	1.63	41.40	1.63	41.40
2	2.19	55.63	2.19	55.63	2.19	55.63	2.19	55.63	2.06	52.32	2.06	52.32	2.06	52.52
2-1/2	2.62	66.55	2.62	66.55	2.62	66.55	2.62	66.55	2.50	63.60	2.50	63.50	2.50	63.50
3	3.19	81.03	3.19	81.03	3.19	81.03	3.19	81.03	3.10	78.74	3.10	78.74	3.10	78.74
4	4.19	106.43	4.19	106.43	4.04	102.62	4.04	102.62	4.04	102.62	3.85	97.79	3.85	97.79
5	5.19	131.83	5.19	131.63	5.05	128.27	5.05	128.27	5.05	128.27	4.90	124.46	4.90	124.46
6	6.19	157.23	6.19	157.23	6.10	154.64	6.10	154.94	6.10	154.95	5.80	147.32	5.80	147.32
8	8.50	215.90	8.50	215.90	8.10	205.74	8.10	205.74	7.75	196.85	7.75	196.85	7.75	196.85
10	10.56	288.22	10.56	268.22	10.05	255.27	10.05	255.27	9.69	246.13	9.69	246.13	9.69	246.13
12	12.50	317.50	12.50	317.50	12.10	307.34	12.10	307.34	11.50	292.10	11.50	292.10	11.50	292.10
14	13.75	349.28	13.75	349.25	13.50	342.80	13.50	342.90	12.63	320.80	12.63	320.80	-	-
16	15.75	400.05	15.75	400.05	15.35	389.89	15.35	389.89	14.75	374.65	14.50	388.30	-	-
18	17.69	449.33	17.69	449.33	17.25	438.15	17.25	438.15	16.75	425.45	16.75	425.45	-	-
20	19.69	500.13	19.69	500.13	19.25	488.95	19.25	488.95	19.00	482.60	18.75	476.25	-	-
24	23.75	603.25	23.75	603.25	23.25	590.55	23.25	590.65	23.25	590.55	22.75	577.85	-	-

DIMENSIONS IN INCHES & MILLIMETERS.

In accordance with ASME B16.20, Inner Rings are mandatory for the following flange designations (see Table 3).

Class 900 - NPS 24 to 48

Class 1500 - NPS 12 to NPS 24

Class 2500 - NPS 4 to NPS 12

All PTFE filled gaskets

All flexible graphite gaskets unless otherwise requested by the customer

ASME B16.20 does not include dimensions for NPS 1/4, 3-1/2, or 4-1/2, or Class 400 Flanges up to NPS 3 and Class 900 Flanges up to NPS 2-1/2.

Style CG & CGI

to suit ASME B16.5 & BS 1560 Small Diameter Screwed or Slip-on Flanges

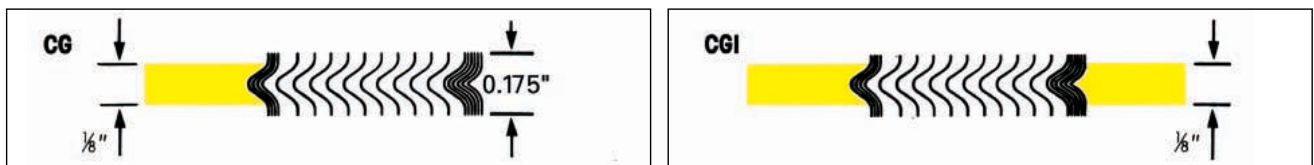


TABLE 4

Nom. Pipe Size	Inner Ring Inside Dia.		SEALING ELEMENT				GUIDE RING OUTSIDE DIAMETER											
			Inside Dia.		Outside Dia.		Class 150		Class 300		Class 400		Class 600		Class 900		Class 1500	
1/4	-	-	9/16	14.3	7/8	22.2	1-3/4	44.5	1-3/4	44.5	1-3/4	44.5	1-3/4	44.5	-	-	-	-
1/2	9/16	14.3	15/16	23.8	1-1/4	31.8	1-7/8	47.6	2-1/8	54.0	2-1/8	54.0	2-1/8	54.0	2-1/2	63.5	2-1/2	63.5
3/4	13/16	20.6	1-3/16	30.2	1-9/16	39.7	2-1/4	57.2	2-5/8	66.7	2-5/8	66.7	2-5/8	66.7	2-3/4	69.9	2-3/4	69.9
1	1-1/16	27.0	1-7/16	36.5	1-7/8	47.6	2-5/8	66.7	2-7/8	73.0	2-7/8	73.0	2-7/8	73.0	3-1/8	79.4	3-1/8	79.4
1-1/4	1-3/8	34.9	1-7/8	47.6	2-3/8	60.3	3	76.2	3-1/4	82.6	3-1/4	82.6	3-1/4	82.6	3-1/2	88.9	3-1/2	88.9
1-1/2	1-5/8	41.3	2-1/8	54.0	2-3/4	69.9	3-3/8	85.7	3-3/4	95.3	3-3/4	95.3	3-3/4	95.3	3-7/8	98.4	3-7/8	98.4

DIMENSIONS IN INCHES & MILLIMETERS.

NOTE: The above style CG & CGI Spiral Wound Gaskets are dimensioned to suit existing screwed or slip-on flanges for NPS 1/4 to 1-1/2 ASME B16.5 & BS 1560 flanges.

Style CG & CGI to suit BS 10 Flanges

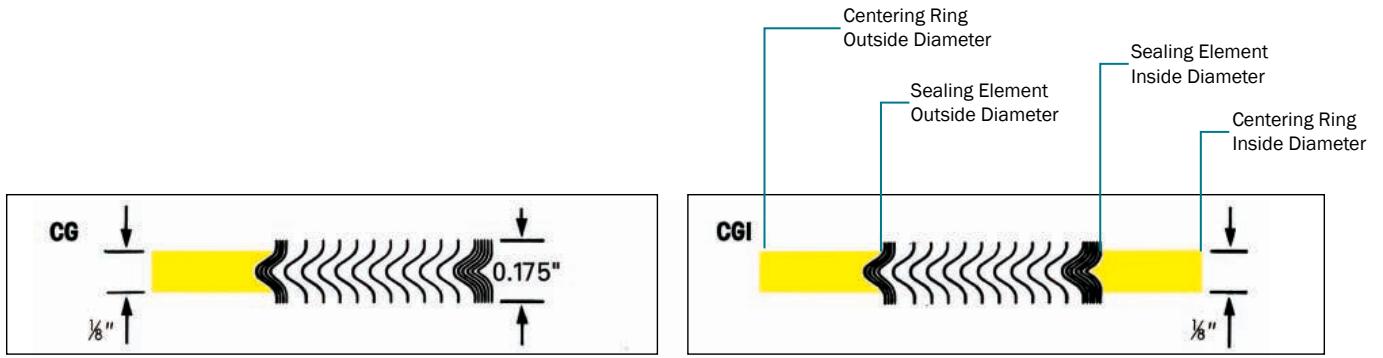


TABLE 13

NOM PIPE SIZE	TABLE D-R	TABLE D & E		TABLE D	TABLE E	TABLE F to R		TABLE F	TABLE H	TABLE J	TABLE K	TABLE R	TABLE S			TABLE T		
	INNER RING	SEALING ELEMENT		CENTERING RING		SEALING ELEMENT		CENTERING RING					SEALING ELEMENT		CENTERING RING	SEALING ELEMENT		CENTERING RING
	ID	ID	OD	OD	OD	ID	OD	OUTSIDE DIAMETER					ID	OD	OD	ID	OD	OD
1/2	9/16	1-1/32	1-5/32	2-1/8	2-1/8	1-1/32	1-17/32	2-1/8	2-5/8	2-5/8	2-5/8	2-5/8	3/4	1-1/4	2-3/4	3/4	1-1/4	3-1/4
3/4	1-3/16	1-1/4	1-11/16	2-3/8	2-3/8	1-1/4	1-3/4	2-3/8	2-5/8	2-5/8	2-5/8	2-5/8	1	1-9/16	2-3/4	1	1-9/16	3-1/4
1	1-1/16	1-9/16	2-1/16	2-3/4	2-3/4	1-9/16	2-3/16	2-13/16	2-13/16	2-13/16	3-1/8	3-1/8	1-1/4	1-7/8	3-1/4	1-1/4	1-7/8	3-1/2
1-1/4	1-5/16	1-7/8	2-3/8	2-15/16	2-15/16	1-7/8	2-1/2	3-1/4	3-1/4	3-1/4	3-1/4	3-1/4	1-1/2	2-3/16	3-1/2	1-5/8	2-5/16	3-7/8
1-1/2	1-9/16	2-1/8	2-5/8	3-3/8	3-3/8	2-1/8	2-3/4	3-1/2	3-1/2	3-1/2	3-3/4	3-3/4	1-3/4	2-1/2	4	1-7/8	2-5/8	4-1/2
2	2-1/16	2-5/8	3-1/8	3-7/8	3-7/8	2-5/8	3-1/4	4-3/8	4-3/8	4-1/4	4-3/8	4-3/8	2-1/4	3-1/8	4-1/2	2-3/8	3-1/4	5
2-1/2	2-9/16	3-1/4	3-7/8	4-3/8	4-3/8	3-1/4	4	5-1/8	5-1/8	5	5	5	2-7/8	3-3/4	5	3	3-7/8	5-5/8
3	3-1/16	3-13/16	4-7/16	5-1/8	5-1/8	3-13/16	4-9/16	5-7/8	5-7/8	5-3/4	5-3/4	5-3/4	3-3/8	4-1/4	5-5/8	3-1/2	4-1/2	6-1/2
3-1/2	3-9/16	4-5/16	4-15/16	5-7/8	5-7/8	4-5/16	5-1/16	6-3/8	6-3/8	6-1/4	6-3/8	6-3/8	3-7/8	4-3/4	6-5/8	4	5-1/8	7-3/8
4	4-1/16	4-7/8	5-1/2	6-3/8	6-3/8	4-7/8	5-5/8	6-7/8	6-7/8	6-3/4	6-7/8	6-7/8	4-3/8	5-3/8	7	4-1/2	5-5/8	8-1/8
4-1/2	4-9/16	5-3/8	6	6-7/8	6-7/8	5-3/8	6-1/4	7-1/2	7-1/2	7-3/8	7-3/8	7-3/8	4-7/8	5-7/8	7-1/2	5	6-1/4	9
5	5-1/16	5-7/8	6-1/2	7-5/8	7-5/8	5-7/8	6-3/4	8-1/2	8-1/2	8-3/8	8-3/8	8-3/8	5-3/8	6-3/8	8-3/8	5-1/2	6-3/4	9-5/8
6	6-1/16	6-7/8	7-1/2	8-5/8	8-1/2	6-7/8	7-3/4	9-1/2	9-1/2	9-3/8	9-3/8	9-3/8	6-3/8	7-3/8	9-3/4	6-1/2	7-3/4	11-1/4
7	7-1/16	7-7/8	8-5/8	9-5/8	9-1/2	7-7/8	8-7/8	10-3/4	10-3/4	10-5/8	10-1/2	10-1/2	7-3/8	8-5/8	11-3/8	7-1/2	9	13-1/8
8	8-1/16	8-7/8	9-5/8	10-7/8	10-3/4	8-7/8	9-7/8	12	12	11-7/8	11-1/2	11-3/4	8-3/8	9-5/8	12-3/4	8-1/2	10	14-1/2
9	9-1/16	9-7/8	10-5/8	12-1/8	12	9-7/8	10-7/8	13-1/8	13-1/8	13	13	13	9-1/2	10-3/4	14-1/8	9-5/8	11-1/4	16-1/8
10	10-1/16	10-7/8	11-5/8	13-1/4	13-1/4	11	12	14-1/8	14-1/8	14	14	14-1/4	10-1/2	11-7/8	15-1/2	10-5/8	12-1/4	17-3/4
11	11-1/16	11-7/8	12-5/8	14-1/4	14-1/4	12	13	15-1/8	15-1/8	15	15-1/8	15-7/8	11-1/2	12-7/8	17-1/8	11-5/8	13-1/4	19-1/4
12	12-1/16	12-7/8	13-3/4	15-1/4	15-1/8	13	14-1/8	16-3/8	16-3/8	16-1/4	15 7/8	16-7/8	12-5/8	14	18-1/2	12-3/4	14-1/2	20-3/4
13	13-1/16	14-1/2	15-3/8	16-1/2	16-3/8	14-1/4	15-3/8	17-1/2	17-1/2	17-3/8	17 3/4	18-1/4	13-5/8	15-1/8	19 3/4	13 3/4	15 1/2	22
14	14-1/16	15-1/2	16-3/8	17-5/8	17-5/8	15-1/4	16-3/8	18-1/2	18-1/2	18-3/8	18-3/4	19-1/2	14-5/8	16-1/8	21-1/4	-	-	-
15	15-1/16	16-1/2	17-3/8	18-5/8	18-5/8	16-1/4	17-3/8	19-1/2	19-1/2	19-3/8	20	20-1/2	15-3/4	17-1/4	22-7/8	-	-	-
16	16-1/16	17-1/2	18-3/8	19-5/8	19-5/8	17-1/2	18-3/4	20-3/4	20-3/4	20-5/8	21	21-3/4	16-3/4	18-3/8	24-1/4	-	-	-
17	17-1/16	18-5/8	19-5/8	20-7/8	20-3/4	18-1/2	19-7/8	22	22	21-7/8	22-1/4	22-3/4	-	-	-	-	-	-
18	18-1/16	19-5/8	20-5/8	22-1/8	22-1/8	19-1/2	20-7/8	22-7/8	22-7/8	22-3/4	24-3/8	25-1/8	-	-	-	-	-	-
19	19-1/16	20-5/8	21-5/8	23-1/8	23-1/8	20-5/8	22-1/8	24-1/8	24-1/8	24	-	-	-	-	-	-	-	-
20	20-1/16	21-5/8	22-5/8	24-3/8	24-3/8	21-5/8	23-1/8	25-3/8	25-3/8	25-1/4	26-1/2	27-1/4	-	-	-	-	-	-
21	21-1/16	22-5/8	23-3/4	25-5/8	25-1/2	22-5/8	24-3/8	26-3/8	26-3/8	26-1/4	-	-	-	-	-	-	-	-
22	22-1/16	23-5/8	24-3/4	26-1/2	26-1/2	23-5/8	25-3/8	27-3/8	27-3/8	27-1/4	28-3/4	29-3/4	-	-	-	-	-	-
23	23-1/16	24-5/8	25-3/4	27-1/2	27-1/2	24-5/8	26-3/8	28-1/2	28-1/2	28-3/8	-	-	-	-	-	-	-	-
24	24-1/16	25-5/8	26-3/4	28-3/4	28-5/8	25-5/8	27-3/8	29-1/2	29-1/2	29-3/8	-	-	-	-	-	-	-	-

DIMENSIONS IN INCHES.

NOTE: Special gasket dimensions are required when an inner ring is fitted to gaskets for Tables S and T. Please request details.

SEMI-METALLIC SPIRAL WOUND GASKETS

PART NUMBERS

TYPE 'CGI' - 900# - CARBON STEEL OUTER RING, 316L WINDING, GRAPHITE FILLER, 316L INNER RING	
Description	Part No:
15mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0015-XFKX/M
20mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0020-XFKX/M
25mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0025-XFKX/M
40mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0040-XFKX/M
50mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0050-XFKX/M
65mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0065-XFKX/M
80mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ringx4.5	BE0080-XFKX/M
100mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0100-XFKX/M
125mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0125-XFKX
150mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0150-XFKX/M
200mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0200-XFKX/M
250mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0250-XFKX/M
300mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0300-XFKX/M
350mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0350-XFKX/M
400mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0400-XFKX/M
500mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0500-XFKX/M
600mm GASKET,SPIRAL WND, 900# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0600-XFKX/M
TYPE 'CGI' - 1500# - CARBON STEEL OUTER RING, 316L WINDING, GRAPHITE FILLER, 316L INNER RING	
Description	Part No:
15mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0015-XFKX/M
20mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0020-XFKX/M
25mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0025-XFKX/M
40mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0040-XFKX/M
50mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0050-XFKX/M
65mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0065-XFKX/M
80mm GASKET, SPIRAL WND, 900/1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ringx4.5	BE0080-XFKX/M
100mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0100-XFKX/M
125mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0125-XFKX
150mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0150-XFKX/M
200mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0200-XFKX/M
250mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0250-XFKX/M
300mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0300-XFKX/M
350mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0350-XFKX/M
400mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0400-XFKX/M
500mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0500-XFKX/M
600mm GASKET,SPIRAL WND, 1500# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0600-XFKX/M

Other materials available on request

SEMI-METALLIC SPIRAL WOUND GASKETS

PART NUMBERS

TYPE 'CGI' - 900# - 316L OUTER RING, 316L WINDING, GRAPHITE FILLER, 316L INNER RING

Description	Part No:
15mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0015-XFXX/M
20mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0020-XFXX/M
25mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0025-XFXX/M
40mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0040-XFXX/M
50mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0050-XFXX/M
65mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0065-XFXX/M
80mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ringx4.5	BE0080-XFXX/M
100mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0100-XFXX/M
125mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0125-XFXX
150mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0150-XFXX/M
200mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0200-XFXX/M
250mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0250-XFXX/M
300mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0300-XFXX/M
350mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0350-XFXX/M
400mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0400-XFXX/M
500mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0500-XFXX/M
600mm GASKET, SPIRAL WND, 900# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0600-XFXX/M

TYPE 'CGI' - 1500# - 316L OUTER RING, 316L WINDING, GRAPHITE FILLER, 316L INNER RING

Description	Part No:
15mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0015-XFXX/M
20mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0020-XFXX/M
25mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0025-XFXX/M
40mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0040-XFXX/M
50mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0050-XFXX/M
65mm GASKET, SPIRAL WND, 900/1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BE0065-XFXX/M
80mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ringx4.5	BF0080-XFXX/M
100mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0100-XFXX/M
125mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0125-XFXX
150mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0150-XFXX/M
200mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0200-XFXX/M
250mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0250-XFXX/M
300mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0300-XFXX/M
350mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0350-XFXX/M
400mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0400-XFXX/M
500mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0500-XFXX/M
600mm GASKET, SPIRAL WND, 1500# ASME16.20, 316L S/S Outer, 316L S/S Windings, Graphite Filler, 316L S/S Inner Ring x 4.5	BF0600-XFXX/M

Other materials available on request

TYPE 'CG' - 150# - CARBON STEEL OUTER RING, 316L WINDING, GRAPHITE FILLER

Description	Part No:
15mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0015-XFK+
20mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0020-XFK+
25mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0025-XFK+
40mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0040-XFK+
50mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0050-XFK+
65mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0065-XFK+
80mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0080-XFK+
100mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0100-XFK+
150mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0150-XFK+
200mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0200-XFK+
250mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0250-XFK+
300mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0300-XFK+
350mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0350-XFK+
400mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0400-XFK+
450mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0450-XFK+
500mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0500-XFK+
600mm GASKET, SPIRAL WND, 150# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AA0600-XFK+

TYPE 'CG' - 300# - CARBON STEEL OUTER RING, 316L WINDING, GRAPHITE FILLER

Description	Part No:
15mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0015-XFK+
20mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0020-XFK+
25mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0025-XFK+
40mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0040-XFK+
50mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0050-XFK+
65mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0065-XFK+
80mm GASKET, SPIRAL WND, 300/400/600# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0080-XFK+
100mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0100-XFK+
125mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0125-XFK+
150mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0150-XFK+
200mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0200-XFK+
250mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0250-XFK+
300mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0300-XFK+
350mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0350-XFK+
400mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0400-XFK+
450mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0450-XFK+
500mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0500-XFK+
600mm GASKET, SPIRAL WND, 300# ASME16.20, C/S Outer, 316L S/S Windings, Graphite Filler,	AB0600-XFK+

Other materials available on request

- For 316L outer ring – use suffix XFX

TYPE 'CGI' - CARBON STEEL OUTER RING, 316 WINDING, GRAPHITE FILLER, 316 INNER RING		TABLE E
Description	Part No:	
15mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0015-XFKX	
20mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0020-XFKX	
25mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0025-XFKX	
40mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0040-XFKX	
50mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0050-XFKX	
65mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0065-XFKX	
80mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0080-XFKX	
100mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0100-XFKX	
125mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0125-XFKX	
150mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0150-XFKX	
200mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0200-XFKX	
250mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0250-XFKX	
300mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0300-XFKX	
350mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0350-XFKX	
400mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0400-XFKX	
450mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0450-XFKX	
500mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0500-XFKX	
600mm GASKET, SPIRAL WND, Table E BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DE0600-XFKX	
TYPE 'CGI' - CARBON STEEL OUTER RING, 316 WINDING, GRAPHITE FILLER, 316 INNER RING		TABLE H
Description	Part No:	
15mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0015-XFKX	
20mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0020-XFKX	
25mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0025-XFKX	
40mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0040-XFKX	
50mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0050-XFKX	
65mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0065-XFKX	
80mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0080-XFKX	
100mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0100-XFKX	
125mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0125-XFKX	
150mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0150-XFKX	
200mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0200-XFKX	
250mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0250-XFKX	
300mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0300-XFKX	
350mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0350-XFKX	
400mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0400-XFKX	
500mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0500-XFKX	
600mm GASKET, SPIRAL WND, Table H BS10, C/S Outer, 316 S/S Windings, Graphite Filler, 316 S/S Inner Ring x 4.5	DH0600-XFKX	

Other materials available on request

- For CG style use CE & CH for prefix and XFK for suffix
- For 316L outer ring – use suffix XFX for CG
– use suffix XFX for CGI

Torque Table for CG Spiral Wound Gaskets

NPS (in.)	Class 150		Class 300		Class 400		Class 600	
	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque
0.5	30	40	30	40	30	40	30	40
0.75	30	40	60	70	60	70	60	70
1	30	40	60	70	60	70	60	70
1.25	30	40	60	70	60	70	60	70
1.5	30	60	100	120	100	120	100	120
2	60	90	60	70	60	70	60	70
2.5	60	110	100	120	100	120	100	120
3	90	120	100	120	100	120	100	120
3.5	60	90	100	120	160	190	170	210
4	70	120	100	140	160	200	190	240
5	100	160	110	160	210	260	280	360
6	130	200	110	160	190	240	260	330
8	180	200	180	260	310	400	400	510
10	170	320	250	290	340	440	500	590
12	240	320	360	420	510	640	500	610
14	300	490	360	420	500	890	680	800
16	310	490	500	590	680	800	800	940
18	500	710	500	680	680	810	1100	1290
20	430	710	500	740	800	940	1100	1290
24	620	1000	800	1030	1500	1750	2000	2340

NPS (in.)	Class 900		Class 1500		Class 2500	
	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque
0.5	70	120	70	120	50	100
0.75	70	120	70	120	70	100
1	110	190	110	190	110	160
1.25	110	190	135	190	210	250
1.5	170	290	200	290	310	360
2	110	190	130	190	220	250
2.5	170	290	190	290	300	360
3	140	230	265	360	460	500
4	255	420	415	520	Not Applicable Use CGI	
5	360	600	585	800		
6	300	500	530	680		
8	485	800	845	1100		
10	505	800	1565	2000		
12	570	850	Not Applicable Use CGI			
14	630	940				
16	910	1290				
18	1570	2340				
20	1745	2570				
24	Not Applicable Use CGI					

Torque Values are in ft.-lbs., and assume Alloy Steel Bolts (A193 B7 w/ 2H Nuts) with oil/graphite lubrication. (Nut factors used on these charts are within .15 to .19)

Flexitallic does not generally recommend a bolt stress above 60,000 PSI.

Torque values limit minimum and maximum gasket seating stresses based upon pressure class and certain operating conditions.(i.e: maximum pressure ratings for given pressure class,not hydrotest pressure), Extreme operating conditions such as high temperature may reduce bolt yield strength. Caution should be used in these applications. The above torque values are for general use only. For critical or extreme applications (high temperature/pressure) consult with Alliance Sealing. Flexitallic does not accept responsibility for the misuse of this information.

Torque Table for CGI Spiral Wound Gaskets

NPS (in.)	Class 150		Class 300		Class 400		Class 600	
	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque
0.5	30	50	30	40	30	40	30	40
0.75	30	50	60	80	60	80	60	80
1	30	60	60	80	60	80	60	80
1.25	30	60	60	80	60	80	60	80
1.5	30	60	100	140	100	140	100	140
2	60	120	60	80	60	80	60	80
2.5	60	120	100	140	100	140	100	140
3	90	120	100	150	100	150	100	150
3.5	60	120	100	170	160	290	170	290
4	70	120	100	200	160	320	190	320
5	100	200	110	200	210	320	280	490
6	130	200	110	200	190	320	260	460
8	180	200	180	320	310	490	400	700
10	170	320	250	460	360	710	500	800
12	240	320	360	700	510	1000	500	850
14	300	490	360	610	500	870	680	950
16	310	490	500	920	680	1250	800	1210
18	490	710	500	1000	680	1340	1100	1790
20	430	710	500	1000	800	1430	1100	1640
24	620	1000	800	1600	1500	2270	2000	2670

NPS (in.)	Class 900		Class 1500		Class 2500	
	Min Torque	Max Torque	Min Torque	Max Torque	Min Torque	Max Torque
0.5	70	120	70	120	50	100
0.75	70	120	70	120	63	100
1	110	190	110	190	110	160
1.25	110	190	140	190	210	250
1.5	170	290	200	290	310	360
2	110	190	130	190	220	250
2.5	170	290	190	290	300	360
3	140	230	270	360	460	500
4	260	420	420	520	710	800
5	360	600	590	800	1280	1500
6	300	500	530	680	1870	2200
8	485	800	850	1100	1780	2200
10	505	800	1570	2000	3040	4400
12	560	850	1500	2200	4610	5920
14	630	940	2120	3180		
16	910	1290	2940	4400		
18	1570	2340	3950	5920		
20	1745	2570	5150	7720		
24	2945	5140	8340	12500		

Torque Values are in ft.-lbs., and assume Alloy Steel Bolts (A193 B7 w/ 2H Nuts) with oil/graphite lubrication. (Nut factors used on these charts are within .15 to .19)

Flexitallic does not generally recommend a bolt stress above 60,000 PSI.

Torque values limit minimum and maximum gasket seating stresses based upon pressure class and certain operating conditions.(i.e: maximum pressure ratings for given pressure class,not hydrotest pressure), Extreme operating conditions such as high temperature may reduce bolt yield strength. Caution should be used in these applications. The above torque values are for general use only. For critical or extreme applications (high temperature/pressure) consult with Alliance Sealing. Flexitallic does not accept responsibility for the misuse of this information.

SOFT CUT MATERIALS

Simplicity. Savings. Efficiency.

In a market survey of end users and distributors, gasket universality was cited as the third most important characteristic above price, availability and source. Too many types of gaskets/gasket material were cited as a significant challenge faced by those surveyed.

End user concerns centered on less experienced contract workers installing the wrong gasket in the wrong application. Distributors listed sheet utilization and reduced stocking levels as an advantage to sheet product universality.

Alliance Sealing's Rationalised sheet products will reduce inventory and choice reduction maximizing performance and compatibility while still achieving cost effectiveness.

- No more gasket failures caused by installing the wrong gasket
- Simplify materials on the shelf
- Reduce inventory



SF5000

An NBR based, asbestos-free sheet sealing material, reinforced with carbon and aramid fibres. Complies with the requirements of the BS 7531 Grade X specification. Suitable for use in a wide range of industrial applications including oils, fuels, gas, steam, water, dilute acids and strong caustic liquor. Fire safe to API 6FB.

Max Temperature: 440 °C (825 °F)

Max Pressure: 14 MPa (140 bar; 2030 psi)

SIGMA 588

A high performance PTFE based sheet sealing material with highly conformable surface layers of controlled porosity PTFE and a strong core of biaxially orientated pure PTFE. Designed for use in flanges where only low bolt loading is available. Such flanges can be glass lined, ceramic, plastic or be so distorted that they include areas of low gasket stress. Suitable for sealing all chemicals across the whole pH range (0-14) with the exception of molten alkali metals and fluorine gas. Consisting entirely of pure PTFE, this material is suitable for use with hydrogen fluoride.

Max Temperature: 260 °C (500 °F)

Max Pressure: 8.5 MPa (85 bar; 1235 psi)

SIGMA 511

A high performance biaxially orientated sheet sealing material containing PTFE with silica filler. Suitable for sealing all chemicals across the whole pH range (0-14) with the exception of molten alkali metals, fluorine gas, hydrogen fluoride or materials which may generate these.

Max Temperature: 260 °C (500 °F)

Max Pressure: 8.5 MPa (85 bar; 1235 psi)

Thermiculite® 815

Exfoliated Vermiculite based, high temperature sheet reinforced with a 0.004", 316 stainless steel tanged core. Provides total freedom from oxidation. Chemical compatibility exceeds graphite. Fire safe with proven global track record.

Max Temperature: 1800 °F (982 °C)

Max Pressure: 2900 psi (200 bar)

RGS 3

A high purity graphite laminate reinforced with a tanged stainless steel Core. Recommended for applications involving high sealing stresses and where high blowout resistance is required. The inclusion of the steel reinforced layer gives rise to a robust sheet. RGS 3 can be used to seal a wide range of media, with the exception of strong oxidizing agents, at extremes of temperature and pressure. Typical industries where RGS 3 is used include power generation and petrochemical.

Max Temperature : Oxidising media 370 °C (700 °F)

Inert or reducing media 700 °C (1830 °F)

Max Pressure : 20 MPa (200 bar; 2900 psi)

Other sheet materials available on request.

Note: The parameters quoted above are guidelines only and should be treated as such. Maximum temperature and pressure cannot necessarily be applied simultaneously. As the applications and/or conditions of use of these products are beyond the manufacturers control, users should satisfy themselves that the product is suitable for the intended purpose.

SOFT CUT MATERIALS

Bonded Cork & Polymers

ACN60 (TD1049)

This is a firm nitrile bonded cork material suitable for high/medium bolt pressure, with good flexibility and resilience. The physical characteristics along with good fuel, solvent and oil resistance, make this a high qualified material for automotive, industrial and transformer gaskets.

NP50 (TD2052)

This is a neoprene bonded cork material suitable for medium bolt pressure, with good flexibility and resilience. The physical characteristics along with oil, fuel and heat resistance, make this a qualified material for automotive and industrial gaskets.

MR 31 (TS1521)

This is an economical, high compressible synthetic rubber bonded cork material suitable for low and medium bolt pressure, with good flexibility and resilience. The physical characteristics along with oil and fuel resistance make this a qualified material for automotive and industrial gaskets.

EPDM

A high grade synthetic rubber with excellent ozone and UV resistance. A higher temperature and chemical rating than natural or neoprene rubber.

Natural Insertion Rubber

Commercial grade natural rubber with cotton reinforcement. Suitable for mild service such as water.

Neoprene

Our premium grade chloroprene sheeting. It has good weathering, heat and fire resistance properties. Neoprene has moderate resistance to petroleum based fluids.

Nitrile

A multi-purpose premium grade synthetic rubber, with very good resistance to petroleum based fluids. It is also suitable for use with alcohols, mineral oils, hydraulic fluids, and animal or vegetable oils. This sheeting contains 100% NBR polymer content.

Viton A

Viton A sheeting offers a broad range of resistance to oils, fuels, lubricants and most mineral acids. It has very good resistance to atmospheric oxidation and sunlight, with excellent resistance to fungus and mould. Viton A is produced with a 66% Fluorine content. Viton B is also available on request.

Adhesive Backed PTFE Flange Sealant Tape

A universal joint sealant manufactured from 100% expanded PTFE and combined with a self-adhesive backing for easy application. Thanks to its unique properties, it can be compressed into a thin, wide ribbon which conforms to all surface irregularities, leaving a strong, inert, tough and universal sealant which resists high temperatures, pressures and corrosive environments.

Recommended temperature range : -240 °C (-400 °F) to 260 °C (500 °F)

Maximum recommended pressure : 14 MPa (2030 psi)

Available in the following sizes:



Width	3mm	5mm	7mm	10mm	12.5mm	14mm	17mm	20mm
Thickness	1.5mm	2mm	2.5mm	4mm	5mm	5mm	6mm	7mm
Roll Length	Part Numbers							
50 MTR	ADHEFLONX3MM	ADHEFLONX5MM	ADHEFLONX7MM					
30 MTR	FLUROSEALX3MM							
25 MTR				ADHEFLONX10MM	ADHEFLONX12.5MM	ADHEFLONX14MM		
20 MTR		FLUROSEALX5MM					ADHEFLONX17MM	
15 MTR			FLUROSEALX7MM					ADHEFLONX20MM
8 MTR				FLUROSEALX10MM				
5 MTR					FLUROSEALX12.5	FLUROSEALX14MM	FLUROSEALX17MM	FLUROSEALX20MM

Sheet Materials Chemical Compatibility Chart

Key: **Y** = Suitable
O = Depends on operating conditions
N = Not suitable

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Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Abietic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetaldehyde	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetamide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetic Acid (Crude, Glacial, Pure)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetic Anhydride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acetonitrile	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acetophenone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
2-Acetylaminofluorene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acetylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acrolein	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acrylamide	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acrylic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acrylic Anhydride	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Acrylonitrile	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Adipic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adiponitrile	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Air	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Alkaline lye	O	O	Y	Y	Y	Y	O	Y	N	N	Y
Allyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Allyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Allyl Methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Aluminum Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Aluminum Fluoride	N	N	Y	Y	Y	Y	Y	Y	N	N	N
Aluminum Hydroxide (solid)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aluminum Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aluminum Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Alums	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4-Aminodiphenyl	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ammonia, Gas, 65°C and below	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gas, above 65°C	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Liquid, Anhydrous	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ammonium Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ammonium Hydroxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ammonium Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ammonium Phosphate, Monobasic	O	O	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dibasic	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tribasic	Y	Y	Y	Y	Y	Y	Y	Y	O	O	Y
Ammonium Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Amyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Amyl Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Aniline, Aniline Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aniline Dyes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o-Anisidine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Antimony Trichloride	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Aqua Regia	Y	Y	Y	Y	Y	Y	O	N	N	N	N
Arsenic Acid	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Arsenous Acid	Y	Y	Y	Y	Y	Y	O	Y	Y	Y	Y

Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Aroclors	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Asphalt	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aviation Gasoline	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Barium Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Barium Hydroxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Barium Sulphide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Baygon	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Beer	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzaldehyde	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzene, Benzol	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Benzene Sulphonic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Benzidine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzoic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzonitrile	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Benzoquinones	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Benzotrichloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Benzoyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Benzyl Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Benzyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Biphenyl	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Bis(2-chloroethyl)ether	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Bis(chloromethyl)ether	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Bis(2-ethylhexyl)phthalate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Black Sulphate Liquor	O	O	Y	Y	Y	Y	O	Y	O	O	O
Blast Furnace Gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bleaching Agents											
Calcium Hypochlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chlorine Dioxide, Wet	Y	Y	Y	Y	Y	O	O	O	N	N	N
Chlorine Water	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Chlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrosulphite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lithium Hypochlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Peroxides Dilute	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Sodium Hypochlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Boiler Feed Water	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Borax	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Boric Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brine (Sodium Chloride)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bromine	Y	Y	Y	Y	Y	N	N	O	N	N	N
Bromine Trifluoride	N	N	N	N	N	N	N	Y	N	N	N
Bromoform	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Bromomethane	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Butadiene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Butane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2-Butanone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
iso-Butyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
n-Butyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
n-Butyl Acrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Butyl Alcohol, Butanol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
n-Butyl Amine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
tert-Butyl Amine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
n-Butyl Methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Butyric Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium BiSulphite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium Chlorate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium Cyanamide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium Hydroxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calcium Hypochlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Y = Suitable, O = Depends/consult Flexitallic, N = Unsuitable

Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Calcium Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calflo AF	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calflo FG	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calflo HTF	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Calflo LT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cane Sugar Liquors	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Caprolactam	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Captan	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Carbaryl	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carbolic Acid, Phenol	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Carbon Dioxide, Dry	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wet	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carbon DiSulphide	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Carbon Monoxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carbon Tetrachloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Carbonic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carbonyl Sulphide	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Castor Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Catechol	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Caustic Soda	O	O	Y	Y	Y	Y	O	Y	O	O	O
Caustic Potash	O	O	Y	Y	Y	Y	O	Y	O	O	O
Cetane (Hexadecane)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chile saltpetre	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
China Wood Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chloramben	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chlorazotic Acid (Aqua Regia)	Y	Y	Y	Y	Y	Y	O	N	N	N	N
Chlordane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorinated hydrocarbons	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorinated Solvents, Dry	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorinated Solvents, Wet	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorine, Dry	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorine, Wet	Y	Y	Y	Y	Y	Y	O	Y	N	N	N
Chlorine Dioxide	Y	Y	Y	Y	Y	O	O	O	N	N	N
Chlorine Trifluoride	N	N	N	N	N	N	N	Y	N	N	N
Chloro benzene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chloroacetic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
2-Chloroacetophenone	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorobenzilate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chloroethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chloroethylene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chloroform	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chloromethyl Methyl Ether	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chloronitrous Acid (Aqua Regia)	Y	Y	Y	Y	Y	Y	O	N	N	N	N
Chloroprene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chlorosulfonic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Chrome Plating Solutions	O	O	Y	Y	Y	Y	O	Y	O	O	O
Chromic Acid	Y	Y	Y	Y	Y	Y	O	O	N	N	N
Chromic Anhydride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Chromium Trioxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Citric Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Coke Oven Gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Copper Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Copper Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Corn Oil 10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cotton Seed Oil 10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Creosote	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cresols, Cresylic Acid	Y	Y	Y	Y	Y	Y	Y	O	N	N	N
Crotonic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Crude Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Cumene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Cyclohexane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cyclohexanone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Cyclohexanone 2,4-D, Salts and Esters	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Cyclohexanol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Detergent Solutions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diazomethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dibenzofuran	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dibenzylether	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1,2-Dibromo-3-chloropropane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dibromoethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dibutyl Phthalate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dibutyl Sebacate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o-Dichlorobenzene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,4-Dichlorobenzene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
3,3-Dichlorobenzidene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dichloroethane (1,1 or 1,2)	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,1-Dichloroethylene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dichloroethyl Ether	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dichloromethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,2-Dichloropropane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,3-Dichloropropene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dichlorvos	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diesel Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diethanolamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N,N-Diethylaniline	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diethyl Carbonate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diethyl Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3,3-Dimethoxybenzidene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethylamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethylaminoazobenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethylamino Ethyl Acrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
N,N-Dimethyl Aniline	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3,3-Dimethylbenzidine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethyl Carbamoyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dimethyl Ether	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethylformamide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethyl Hydrazine, Unsymmetrical	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethyl Phthalate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dimethyl Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4,6-Dinitro-o-Cresol and Salts	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
2,4-Dinitrophenol	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
2,4-Dinitrotoluene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dioxane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1,2-Diphenylhydrazine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Diphyl DT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowanol DB	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowanol EB	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowanol PM	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowfax 2AO	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowfax 2A1	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowfrost	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowfrost HD	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dowtherm 4000	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm A	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm E	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm G	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm HT	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm J	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O

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Dowtherm Q	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dowtherm SR-1	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Dye Liquor	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Epichlorohydrin	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,2-Epoxybutane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethers	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ethyl Acrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ethyl Alcohol10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylbenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Carbamate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Cellulose	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Ethyl Ether	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Hexacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ethyl Hexanol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyl Hexanoate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2-Ethylhexyl Acrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ethylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Ethylene Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethylene Diamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylene Bromide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethylene Dibromide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethylene Dichloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethylene ether	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylene Glycol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethyleneimine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylene Oxide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Ethylene Thiourea	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ethylidene Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Fatty Acids	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ferric Chloride	Y	Y	Y	Y	Y	Y	Y	O	Y	Y	Y
Ferric Phosphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ferric Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fluorine, Gas	N	N	N	N	N	N	N	Y	N	N	N
Fluorine, Liquid	N	N	N	N	N	N	N	Y	N	N	N
Fluorine Dioxide	N	N	N	N	N	N	N	Y	N	N	N
Fluorosilicic acid	N	N	N	Y	Y	N	N	Y	N	N	N
Formaldehyde	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Formic Acid 85%	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Formic Acid 10%	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Freons	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Fuel Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fuel Oil, Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Furfural	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gasoline, Refined	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sour Gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Gelatin	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glucose	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glue, Protein Base	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glycerine, Glycerol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glycol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Glyoxillic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grain Alcohol10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Grease, Petroleum Base	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Green Sulphate Liquor	O	O	Y	Y	Y	Y	O	Y	O	O	O
Heating oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Heptachlor	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Heptane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hexachlorobenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hexachlorobutadiene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexachlorocyclopentadiene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexachloroethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexadecane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hexamethylene Diisocyanate	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexamethylphosphoramide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hexone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Hydraulic Oil, glycol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydraulic Oil, Mineral	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydraulic Oil, phosphate ester	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Synthetic Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrazine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrocarbons (aromatic)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrocarbons aliphatic (sat.)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrocarbons aliphatic (unsat.)	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Hydrobromic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hydrochloric Acid	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Hydrocyanic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrofluoric Acid, up to Anhydrous, 65°C & below	N	N	Y	Y	Y	N	N	Y	N	N	N
Less than 65%, Above 65°C	N	N	Y	Y	Y	N	N	Y	N	N	N
65% to Anhydrous, Above 65°C	N	N	O	Y	Y	N	N	Y	N	N	N
Anhydrous	N	N	N	Y	Y	N	N	Y	N	N	N
Hydrofluorosilicic Acid	N	N	Y	Y	Y	N	N	Y	N	N	N
Hydrofluosilicic Acid	N	N	Y	Y	Y	N	N	Y	N	N	N
Hydrogen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hydrogen Bromide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Hydrogen Chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Hydrogen Fluoride	N	N	N	Y	Y	N	N	Y	N	N	N
Hydrogen Peroxide, 10%	Y	Y	Y	Y	Y	Y	Y	O	O	O	O
10-90%	Y	Y	Y	Y	Y	Y	O	O	N	N	N
Hydrogen Sulphide, Dry or Wet	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Hydroquinone	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Iodomethane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Isobutane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Isooctane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Isophorone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Isopropyl acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Isopropyl Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Jet Fuels (JP Types)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kerosene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lacquer Solvents	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Lacquers	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Lactic Acid, 65°C and below	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Above 65°C	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lime	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lime Saltpeter (Calcium Nitrates)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lindane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Linseed Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lithium Bromide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lithium, Elemental	N	N	N	N	N	N	N	Y	N	N	N
Lubricating Oils, Mineral or Petroleum Types	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Refined	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sour	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Lye	O	O	Y	Y	Y	Y	O	Y	O	O	O
Machine oils	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Magnesium Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Magnesium Hydroxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Magnesium Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Maleic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Maleic Anhydride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mercuric Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mercury	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methacrylic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Methane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methanol, Methyl Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methoxychlor	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Methyl Acrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
2-Methylaziridine	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Methyl Bromide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Methyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Methyl Chloroform	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
4,4 Methylene Bis(2-chloroaniline)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methylene Chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
4,4-Methylene Dianiline	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methylene Diphenyldiisocyanate	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Methyl Ethyl Ketone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Methyl Hydrazine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methyl Iodide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methyl Isobutyl Ketone (MIBK)	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Methyl Isocyanate	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Methyl Methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
N-Methyl-2-Pyrrolidone	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methyl Tert. Butyl Ether (MTBE)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Methylene methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Methylene chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Milk10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mineral Oils	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mobiltherm 600	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mobiltherm 603	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mobiltherm 605	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mobiltherm Light	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Molten Alkali Metals	N	N	N	N	N	N	N	Y	N	N	N
Monoethylene Glycol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Monomethylamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MultiTherm 100	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MultiTherm 503	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MultiTherm IG-2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MultiTherm PG-1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Muriatic Acid (Hydrochloric Acid)	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Naphtha	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Naphthalene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Naphthols	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Natural Gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nickel Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nickel Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitric Acid, Less than 30%	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Above 30%	Y	Y	Y	Y	Y	Y	O	O	N	N	N
Red Fuming	Y	Y	Y	Y	Y	Y	N	N	N	N	N
Crude Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitrobenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4-Nitrobiphenyl	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2-Nitro-Butanol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitrocalcite (Calcium Nitrate)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitrogen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitrogen Tetroxide	Y	Y	Y	Y	Y	Y	Y	O	O	O	O

Y = Suitable, O = Depends/consult Flexitallic, N = Unsuitable

Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Nitrohydrochloric Acid (Aqua Regia)	Y	Y	Y	Y	Y	Y	O	N	N	N	N
Nitromethane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2-Nitro-2-Methyl Propanol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nitromuriatic Acid (Aqua Regia)	Y	Y	Y	Y	Y	Y	O	N	N	N	N
4-Nitrophenol	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
2-Nitropropane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N-Nitrosodimethylamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N-Nitroso-N-Methylurea	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N-Nitrosomorpholine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Norge Niter (Calcium Nitrate)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Norwegian Saltpeter (Calcium Nitrate)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N-Octadecyl Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Octane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oil, Petroleum	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oils, Animal and Vegetable ¹⁰	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oleic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oleum	Y	Y	N	Y	Y	Y	O	N	N	N	N
Orthodichlorobenzene (1,2 - Dichlorobenzene)	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Oxalic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Oxygen, Gas	Y	Y	Y	Y	Y	Y	Y	O	Y	Y	Y
Ozone	Y	Y	Y	Y	Y	Y	Y	O	O	N	O
Palmitic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Paraffin	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Paratherm HE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Paratherm NF	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Parathion	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Paraxylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pentachloronitrobenzene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pentachlorophenol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pentane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Perchloric Acid	Y	Y	Y	Y	Y	Y	N	N	N	N	N
Perchloroethylene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Petroleum Oils, Crude	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Petrol (Gasoline)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Phenol	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
p-Phenylenediamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Phosgene	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Phosphate Esters	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Phosphine	Y	Y	Y	Y	Y	Y	O	Y	N	N	N
Phosphoric Acid, Crude	N	O	Y	Y	Y	Y	O	Y	N	N	N
Pure, Less than 45%	O	Y	Y	Y	Y	Y	O	Y	O	O	O
Pure, Above 45%, 65°C and below	N	O	Y	Y	Y	Y	O	Y	N	N	N
Pure, Above 45%, Above 65°C	N	O	Y	Y	Y	Y	O	Y	N	N	N
Phosphorus, Elemental	Y	Y	Y	Y	Y	O	O	O	N	N	N
Phosphorus Pentachloride	Y	Y	Y	Y	Y	O	O	O	O	O	O
Phthalic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Phthalic Anhydride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Picric Acid, Molten	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Water Solution	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Pinene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Piperidine	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Plating Solutions											
Cadmium	O	O	Y	Y	Y	Y	O	Y	O	O	O
Chrome	O	O	Y	Y	Y	Y	O	Y	O	O	O
Copper	O	O	Y	Y	Y	Y	O	Y	O	O	O
Gold	O	O	Y	Y	Y	Y	O	Y	O	O	O
Silver	O	O	Y	Y	Y	Y	O	Y	O	O	O
Tin	O	O	Y	Y	Y	Y	O	Y	O	O	O
Zinc	O	O	Y	Y	Y	Y	O	Y	O	O	O

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Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Polyacrylonitrile	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Polychlorinated Biphenyls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potash, Potassium Carbonate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Bichromate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Chromate, Red	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Cyanide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Dichromate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium, Elemental	N	N	N	N	N	N	N	Y	N	N	N
Potassium Hydroxide	O	O	Y	Y	Y	Y	O	Y	O	O	O
Potassium Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Permanganate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potassium Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Producer Gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Propane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1,3-Propane Sultone	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Beta-Propiolactone	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Propionaldehyde	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Propoxur (Baygon)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Propyl Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Propylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Propylene Dichloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Propylene Oxide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,2-Propylenimine	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Prussic Acid, Hydrocyanic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pyridine	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Quinoline	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quinone	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Refrigerants											
10	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
11	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
12	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
13	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
13B1	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
21	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
22	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
23	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
31	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
32	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
112	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
113	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
114	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
114B2	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
115	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
123	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
124	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
125	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
134a	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
141b	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
142b	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
143a	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
152a	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
218	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
290	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
500	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
502	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
503	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
C316	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
C318	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O

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Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
HP62	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
HP80	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Refrigerant HP81	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Salt Water	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Saltpeter, Potassium Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sewage	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Silver Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Silicone oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Skydrols	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Soap Solutions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Soda Ash, Sodium Carbonate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Bicarbonate, Baking Soda	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Bisulphate, Dry	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Bisulphite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Chlorate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Chloride	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Cyanide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium, Elemental	N	N	N	N	N	N	N	Y	N	N	N
Sodium Hydroxide	O	O	Y	Y	Y	Y	O	Y	O	O	O
Sodium Hypochlorite	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Metaborate Peroxyhydrate	Y	Y	Y	Y	Y	Y	Y	O	O	O	O
Sodium Metaphosphate	O	O	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Nitrate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Perborate	Y	Y	Y	Y	Y	Y	Y	O	O	O	O
Sodium Peroxide	Y	Y	Y	Y	Y	Y	Y	O	O	O	O
Sodium Phosphate, Monobasic	O	O	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dibasic	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tribasic	Y	Y	Y	Y	Y	Y	Y	Y	O	O	Y
Sodium Silicate	O	O	Y	Y	Y	Y	Y	Y	O	O	Y
Sodium Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Sulphide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sodium Superoxide	O	O	Y	Y	Y	Y	O	Y	O	O	O
Sodium ThioSulphate, "Hypo"	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Soybean Oil10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Starch	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stannic Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Steam, Saturated, to 10 bar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stearic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stearyl Methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Stoddard Solvent	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Styrene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Styrene Oxide	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Sulphur Chloride	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Sulphur Dioxide	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sulphur, Molten	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Sulphur Trioxide, Dry	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Wet	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Sulphuric Acid, 10%, 65°C and below	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10%, Above 65°C	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
10-75%, 65°C and below	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
75-98%, 65°C and below	Y	Y	O	Y	Y	Y	O	N	N	N	N
75-98%, 65°C to 260°C	Y	Y	O	Y	Y	Y	O	N	N	N	N
Sulphuric Acid, Fuming	Y	Y	N	Y	Y	Y	O	N	N	N	N
Sulphurous Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Syltherm 800	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Syltherm XLT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tall Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tannic Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tar	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Tartaric Acid	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2,3,7,8-TCDB-p-Dioxin	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tertiary Butyl Amine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tetrabromoethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Tetrachlorethane	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Tetrachloroethylene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Tetrahydrofuran, THF	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tetra Isopropyl Titanate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 44	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 55	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 59	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 60	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 66	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol 75	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol D12	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol LT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol VP-1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Therminol XP	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Thionyl Chloride	Y	Y	Y	Y	Y	Y	O	Y	O	O	O
Titanium Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Titanium Tetrachloride	Y	Y	Y	Y	Y	Y	O	Y	N	N	N
Toluene	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
2,4-Toluenediamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2,4-Toluenediisocyanate	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Toluene Sulfonic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Towns gas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
o-Toluidine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Toxaphene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Transformer Oil (Mineral Type)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Transmission Fluid A	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tributyl phosphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trichloroacetic Acid	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,2,4- Trichlorobenzene	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
1,1,2-Trichloroethane	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
Trichloroethylene	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
2,4,5-Trichlorophenol	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
2,4,6-Trichlorophenol	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Tricresylphosphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Triethanolamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Triethyl Aluminum	Y	Y	Y	Y	Y	Y	O	N	N	N	N
Triethylamine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trifluralin	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2,2,4-Trimethylpentane	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tung Oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Turpentine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UCON Heat Transfer Fluid 500	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UCON Process Fluid WS	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Urea	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Varnish	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Vegetable oil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Vinegar10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Vinyl Acetate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Vinyl Bromide	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Vinyl Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Vinylidene Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Vinyl Methacrylate	Y	Y	Y	Y	Y	Y	Y	Y	Y	O	Y
Water	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Deionised	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Desalinated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

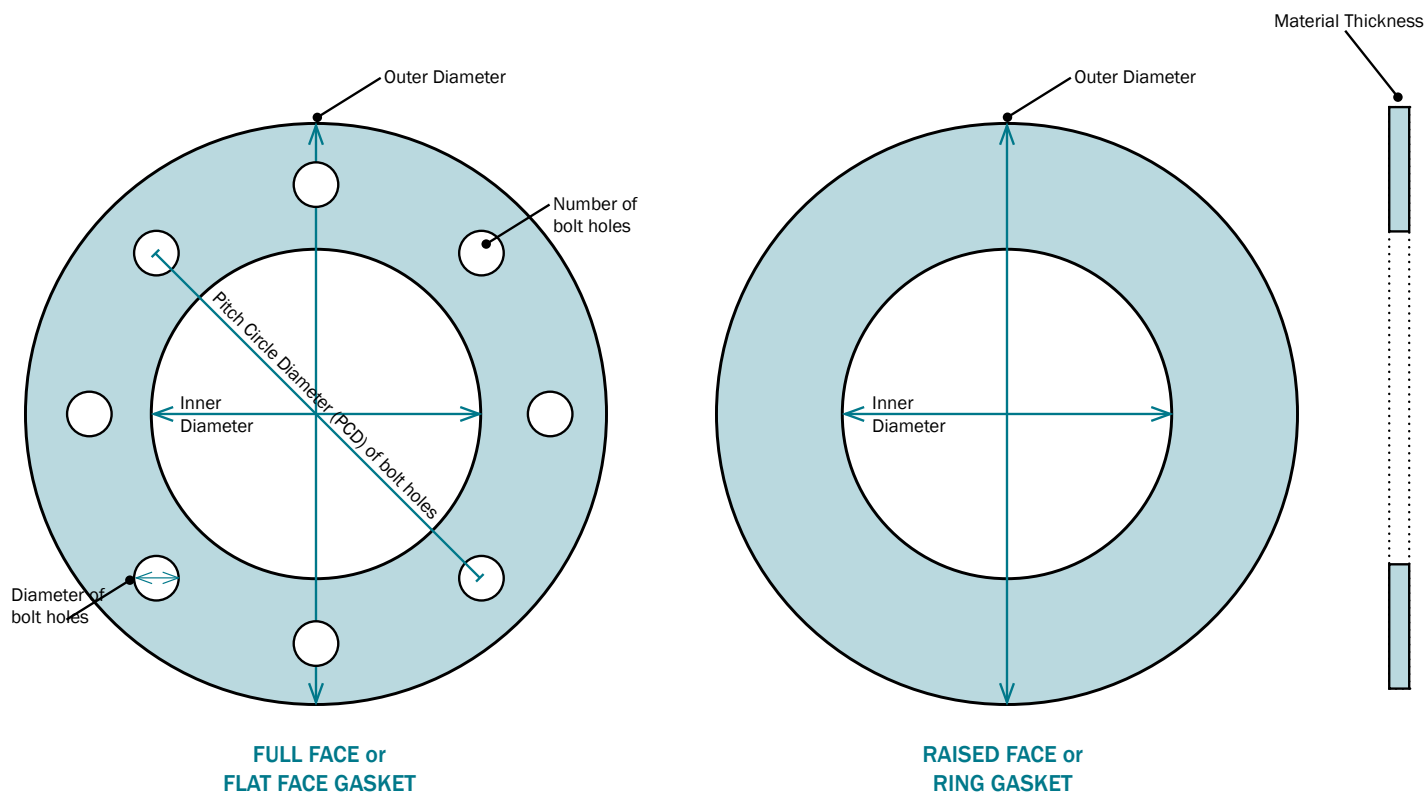
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Medium	SIGMA®					Thermiculite		Flexicarb (FG)	Compressed Fiber		
	500/501	511	533	588	600	815	715		SF2401 SF3300 SF3500	SF2420	SF5000
Distilled	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mine	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Potable	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Return Condensate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seawater	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Whiskey and Wines10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
White spirit	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wood Alcohol	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Xceltherm 550	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Xceltherm 600	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Xceltherm MK1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Xceltherm XT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Xylene	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Zinc Chloride	Y	Y	Y	Y	Y	Y	Y	Y	O	O	O
Zinc Sulphate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

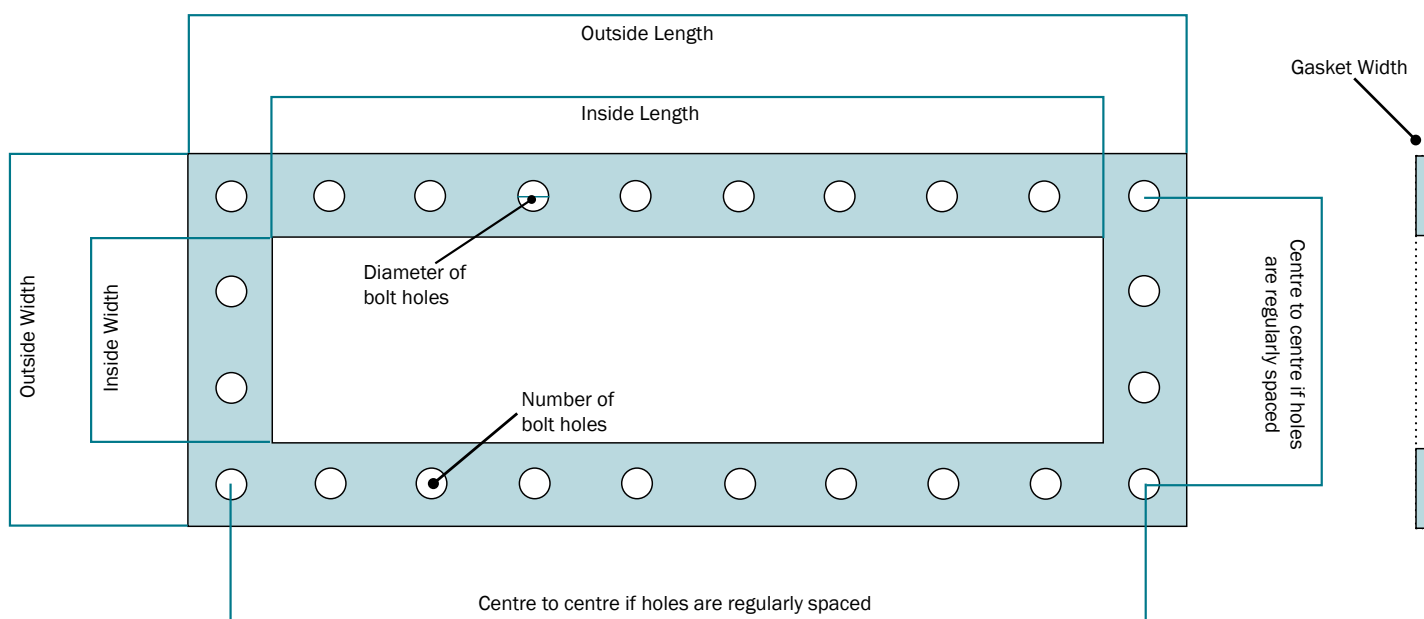
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SOFT CUT MATERIALS

Measuring Circular Soft-Cut Gaskets



Measuring Square Or Rectangular Soft-Cut Gaskets



ASME B16.21 Class 150lb Dimensions

Nominal Bore	Flat Ring and Full Face Gasket	Flat Ring Gasket	Full Face Gasket			
	Inner Diameter (mm)	Outer Diameter (mm)	Outer Diameter (mm)	Bolt Circle Diameter (mm)	Diameter of Holes (mm)	Number of Bolt Holes
1/2	21.4	47.6	88.9	60.3	15.9	4
3/4	27.0	57.2	98.0	69.9	15.9	4
1	33.3	66.7	108.0	79.4	15.9	4
1 1/4	42.1	76.2	117.5	88.9	15.9	4
1 1/2	48.4	85.7	127.0	98.4	15.9	4
2	60.3	104.8	152.4	120.7	19.1	4
2 1/2	73.0	123.8	177.8	139.7	19.1	4
3	88.9	136.5	190.5	152.4	19.1	4
3 1/2	101.6	161.9	215.9	177.8	19.1	8
4	114.3	174.6	228.6	190.5	19.1	8
5	141.3	196.9	254.0	215.9	22.2	8
6	168.3	222.3	279.4	241.3	22.2	8
8	219.1	279.4	342.9	298.5	22.2	8
10	273.1	339.7	406.4	362.0	25.4	12
12	323.9	409.6	482.6	431.8	25.4	12
14	355.6	450.9	533.4	476.3	28.6	12
16	406.4	514.4	596.9	539.8	28.6	16
18	457.2	549.3	635.0	577.9	31.8	16
20	508.0	606.4	698.5	635.0	31.8	20
24	609.6	717.6	812.8	749.3	34.9	20

ASME B16.21 Class 300lb Dimensions)

Nominal Bore	Flat Ring and Full Face Gasket	Flat Ring Gasket	Full Face Gasket			
	Inner Diameter (mm)	Outer Diameter (mm)	Outer Diameter (mm)	Bolt Circle Diameter (mm)	Diameter of Holes (mm)	Number of Bolt Holes
1/2	21.4	54.0	95.3	66.7	15.9	4
3/4	27.0	66.7	117.5	82.6	19.1	4
1	33.3	73.0	123.8	88.9	19.1	4
1 1/4	42.1	82.6	133.4	98.4	19.1	4
1 1/2	48.4	95.3	155.6	114.3	22.2	4
2	60.3	111.1	165.1	127.0	19.1	8
2 1/2	73.0	130.2	190.5	149.2	22.2	8
3	88.9	149.2	209.6	168.3	22.2	8
3 1/2	101.6	165.1	228.6	184.2	22.2	8
4	114.3	181.0	254.0	200.0	22.2	8
5	141.3	215.9	279.4	235.0	22.2	8
6	168.3	250.8	317.5	269.9	22.2	12
8	219.1	308.0	381.0	330.2	28.6	12
10	273.1	362.0	444.5	387.4	28.6	16
12	323.9	422.3	520.7	450.9	25.4	16
14	355.6	485.8	584.2	514.4	31.8	20
16	406.4	539.8	647.7	571.5	34.9	20
18	457.2	596.9	711.2	628.7	34.9	24
20	508.0	654.1	774.7	685.8	34.9	24
24	609.6	774.7	914.4	812.8	41.3	24

BS10 Table E Dimensions - Full Face

NOMINAL BORE SIZE	GASKET OUTSIDE DIAMETER	GASKET INSIDE DIAMETER	PC DIAMETER OF BOLT HOLES	NUMBER OF BOLT HOLES	BOLT HOLE DIAMETER	GASKET ALSO SUITABLE FOR TABLES
1/2"	95.3	21.4	66.7	4	14.3	A-D-F
3/4"	101.6	27.0	73.0	4	14.3	A-D-F
1"	114.3	34.1	82.6	4	14.3	A-D
1 1/4"	120.7	42.9	87.3	4	14.3	A-D
1 1/2"	133.4	48.4	98.4	4	14.3	A-D
2"	152.4	60.3	114.3	4	19.1	A-D
2 1/2"	165.1	76.2	127.0	4	19.1	A-D
3"	184.2	88.9	146.1	4	19.1	A-D
3 1/2"	203.2	101.6	165.1	8	19.1	-
4"	215.9	114.3	177.8	8	19.1	-
5"	254.0	139.7	209.6	8	19.1	D
6"	279.4	168.3	235.0	8	22.2	-
7"	304.8	193.7	260.4	8	22.2	-
8"	336.6	219.1	292.1	8	22.2	-
9"	368.3	244.5	323.9	12	22.2	-
10"	406.4	273.1	355.6	12	22.2	-
12"	457.2	323.9	406.4	12	25.4	-
13"	489.0	355.6	438.2	12	25.4	-
14"	527.1	381.0	469.9	12	25.4	D
15"	552.5	406.4	495.3	12	25.4	D
16"	577.9	431.8	520.7	12	25.4	A-D
17"	609.6	457.2	552.5	12	25.4	A-D
18"	641.4	482.6	584.2	16	25.4	-
19"	673.1	508.0	609.6	16	25.4	-
20"	704.9	533.4	641.4	16	25.4	D
21"	736.6	558.8	673.1	16	28.6	-
22"	762.0	584.2	698.5	16	28.6	D
23"	787.4	609.6	723.9	16	28.6	D
24"	825.5	635.0	755.7	16	31.8	-
27"	908.1	711.2	844.6	20	31.8	-
29"	971.6	762.0	901.7	20	34.9	-
30"	997.0	787.4	927.1	20	34.9	-
33"	1092.2	863.6	1016.0	20	34.9	D
35"	1143.0	914.4	1066.8	24	34.9	D
36"	1174.8	939.8	1092.2	24	34.9	D
39"	1257.3	1016.0	1174.8	24	38.1	-
42"	1333.5	1092.2	1251.0	28	38.1	-
45"	1416.1	1168.4	1333.5	28	38.1	-
48"	1492.3	1244.6	1409.7	32	38.1	-

BS10 Table H Dimensions - Full Face

NOMINAL BORE SIZE	GASKET OUTSIDE DIAMETER	GASKET INSIDE DIAMETER	PC DIAMETER OF BOLT HOLES	NUMBER OF BOLT HOLES	BOLT HOLE DIAMETER	GASKET ALSO SUITABLE FOR TABLES
1/2"	114.3	21.4	82.6	4	19.1	-
3/4"	114.3	27.0	82.6	4	19.1	-
1"	120.7	34.1	87.3	4	19.1	F
1 1/4"	133.4	42.9	98.4	4	19.1	F
1 1/2"	139.7	48.4	104.8	4	19.1	F
2"	165.1	60.3	127.0	4	19.1	F
2 1/2"	184.2	76.2	146.1	8	19.1	F
3"	203.2	88.9	165.1	8	19.1	F
3 1/2"	215.9	101.6	177.8	8	19.1	F
4"	228.6	114.3	190.5	8	19.1	F
5"	279.4	139.7	235.0	8	22.2	F
6"	304.8	168.3	260.4	12	22.2	F
7"	336.6	193.7	292.1	12	22.2	F
8"	368.3	219.1	323.9	12	22.2	F
9"	406.4	244.5	355.6	12	25.4	F
10"	431.8	273.1	381.0	12	25.4	F
12"	489.0	323.9	438.2	16	25.4	F
13"	527.1	355.6	469.9	16	28.6	F
14"	552.5	381.0	495.3	16	28.6	F
15"	577.9	406.4	520.7	16	28.6	F
16"	609.6	431.8	552.5	20	28.6	F
17"	641.4	457.2	584.2	20	28.6	F
18"	673.1	482.6	609.6	20	31.8	F
19"	704.9	508.0	641.4	20	31.8	F
20"	736.6	533.4	673.1	24	31.8	F
21"	762.0	558.8	698.5	24	31.8	F
22"	787.4	584.2	723.9	24	31.8	F
23"	825.5	609.6	755.7	24	34.9	F
24"	850.9	635.0	781.1	24	34.9	F

ANSI 150LB - Raised Face/Ring Gaskets

SIZE	SF5000	RGS3	Simga511	Rub Ins	Thermiculite 815
15NB	HP0015-ZG150	HP0015-W-TS150	HP0015-S150	HP0015-E320	HP0015-TH150
20NB	HP0020-ZG150	HP0020-W-TS150	HP0020-S150	HP0020-E320	HP0020-TH150
25NB	HP0025-ZG150	HP0025-W-TS150	HP0025-S150	HP0025-E320	HP0025-TH150
32NB	HP0032-ZG150	HP0032-W-TS150	HP0032-S150	HP0032-E320	HP0032-TH150
40NB	HP0040-ZG150	HP0040-W-TS150	HP0040-S150	HP0040-E320	HP0040-TH150
50NB	HP0050-ZG150	HP0050-W-TS150	HP0050-S150	HP0050-E320	HP0050-TH150
65NB	HP0065-ZG150	HP0065-W-TS150	HP0065-S150	HP0065-E320	HP0065-TH150
80NB	HP0080-ZG150	HP0080-W-TS150	HP0080-S150	HP0080-E320	HP0080-TH150
100NB	HP0100-ZG150	HP0100-W-TS150	HP0100-S150	HP0100-E320	HP0100-TH150
125NB	HP0125-ZG150	HP0125-W-TS150	HP0125-S150	HP0125-E320	HP0125-TH150
150NB	HP0150-ZG150	HP0150-W-TS150	HP0150-S150	HP0150-E320	HP0150-TH150
200NB	HP0200-ZG150	HP0200-W-TS150	HP0200-S150	HP0200-E320	HP0200-TH150
250NB	HP0250-ZG150	HP0250-W-TS150	HP0250-S150	HP0250-E320	HP0250-TH150
300NB	HP0300-ZG150	HP0300-W-TS150	HP0300-S150	HP0300-E320	HP0300-TH150
350NB	HP0350-ZG150	HP0350-W-TS150	HP0350-S150	HP0350-E320	HP0350-TH150
400NB	HP0400-ZG150	HP0400-W-TS150	HP0400-S150	HP0400-E320	HP0400-TH150
450NB	HP0450-ZG150	HP0450-W-TS150	HP0450-S150	HP0450-E320	HP0450-TH150
500NB	HP0500-ZG150	HP0500-W-TS150	HP0500-S150	HP0500-E320	HP0500-TH150
600NB	HP0600-ZG150	HP0600-W-TS150	HP0600-S150	HP0600-E320	HP0600-TH150

ANSI 300LB - Raised Face/Ring Gaskets

SIZE	SF5000	RGS3	Simga511	Rub Ins	Thermiculite 815
15NB	HQ0015-ZG150	HQ0015-W-TS150	HQ0015-S150	HQ0015-E320	HQ0015-TH150
20NB	HQ0020-ZG150	HQ0020-W-TS150	HQ0020-S150	HQ0020-E320	HQ0020-TH150
25NB	HQ0025-ZG150	HQ0025-W-TS150	HQ0025-S150	HQ0025-E320	HQ0025-TH150
32NB	HQ0032-ZG150	HQ0032-W-TS150	HQ0032-S150	HQ0032-E320	HQ0032-TH150
40NB	HQ0040-ZG150	HQ0040-W-TS150	HQ0040-S150	HQ0040-E320	HQ0040-TH150
50NB	HQ0050-ZG150	HQ0050-W-TS150	HQ0050-S150	HQ0050-E320	HQ0050-TH150
65NB	HQ0065-ZG150	HQ0065-W-TS150	HQ0065-S150	HQ0065-E320	HQ0065-TH150
80NB	HQ0080-ZG150	HQ0080-W-TS150	HQ0080-S150	HQ0080-E320	HQ0080-TH150
100NB	HQ0100-ZG150	HQ0100-W-TS150	HQ0100-S150	HQ0100-E320	HQ0100-TH150
125NB	HQ0125-ZG150	HQ0125-W-TS150	HQ0125-S150	HQ0125-E320	HQ0125-TH150
150NB	HQ0150-ZG150	HQ0150-W-TS150	HQ0150-S150	HQ0150-E320	HQ0150-TH150
200NB	HQ0200-ZG150	HQ0200-W-TS150	HQ0200-S150	HQ0200-E320	HQ0200-TH150
250NB	HQ0250-ZG150	HQ0250-W-TS150	HQ0250-S150	HQ0250-E320	HQ0250-TH150
300NB	HQ0300-ZG150	HQ0300-W-TS150	HQ0300-S150	HQ0300-E320	HQ0300-TH150
350NB	HQ0350-ZG150	HQ0350-W-TS150	HQ0350-S150	HQ0350-E320	HQ0350-TH150
400NB	HQ0400-ZG150	HQ0400-W-TS150	HQ0400-S150	HQ0400-E320	HQ0400-TH150
450NB	HQ0450-ZG150	HQ0450-W-TS150	HQ0450-S150	HQ0450-E320	HQ0450-TH150
500NB	HQ0500-ZG150	HQ0500-W-TS150	HQ0500-S150	HQ0500-E320	HQ0500-TH150
600NB	HQ0600-ZG150	HQ0600-W-TS150	HQ0600-S150	HQ0600-E320	HQ0600-TH150

Other Materials and thicknesses available on request. All material listed above are 1.5mm thick with the exception of the Natural Insertion Rubber which is 3mm.

- For Sigma 588 1.5mm use suffix ZZA150
- For Neoprene 3mm use suffix U320
- For EPDM 3mm use suffix ZR320
- For Nitrile 3mm use suffix Z320

ANSI 150LB - Flat Face/Full Face

SIZE	SF5000	RGS3	Simga511	Rub Ins	Thermiculite 815
15NB	IP0015-ZG150	IP0015-W-TS150	IP0015-S150	IP0015-E320	IP0015-TH150
20NB	IP0020-ZG150	IP0020-W-TS150	IP0020-S150	IP0020-E320	IP0020-TH150
25NB	IP0025-ZG150	IP0025-W-TS150	IP0025-S150	IP0025-E320	IP0025-TH150
32NB	IP0032-ZG150	IP0032-W-TS150	IP0032-S150	IP0032-E320	IP0032-TH150
40NB	IP0040-ZG150	IP0040-W-TS150	IP0040-S150	IP0040-E320	IP0040-TH150
50NB	IP0050-ZG150	IP0050-W-TS150	IP0050-S150	IP0050-E320	IP0050-TH150
65NB	IP0065-ZG150	IP0065-W-TS150	IP0065-S150	IP0065-E320	IP0065-TH150
80NB	IP0080-ZG150	IP0080-W-TS150	IP0080-S150	IP0080-E320	IP0080-TH150
100NB	IP0100-ZG150	IP0100-W-TS150	IP0100-S150	IP0100-E320	IP0100-TH150
125NB	IP0125-ZG150	IP0125-W-TS150	IP0125-S150	IP0125-E320	IP0125-TH150
150NB	IP0150-ZG150	IP0150-W-TS150	IP0150-S150	IP0150-E320	IP0150-TH150
200NB	IP0200-ZG150	IP0200-W-TS150	IP0200-S150	IP0200-E320	IP0200-TH150
250NB	IP0250-ZG150	IP0250-W-TS150	IP0250-S150	IP0250-E320	IP0250-TH150
300NB	IP0300-ZG150	IP0300-W-TS150	IP0300-S150	IP0300-E320	IP0300-TH150
350NB	IP0350-ZG150	IP0350-W-TS150	IP0350-S150	IP0350-E320	IP0350-TH150
400NB	IP0400-ZG150	IP0400-W-TS150	IP0400-S150	IP0400-E320	IP0400-TH150
450NB	IP0450-ZG150	IP0450-W-TS150	IP0450-S150	IP0450-E320	IP0450-TH150
500NB	IP0500-ZG150	IP0500-W-TS150	IP0500-S150	IP0500-E320	IP0500-TH150
600NB	IP0600-ZG150	IP0600-W-TS150	IP0600-S150	IP0600-E320	IP0600-TH150

ANSI 300LB - Flat Face/Full Face

SIZE	SF5000	RGS3	Simga511	Rub Ins	Thermiculite 815
15NB	IQ0015-ZG150	IQ0015-W-TS150	IQ0015-S150	IQ0015-E320	IQ0015-TH150
20NB	IQ0020-ZG150	IQ0020-W-TS150	IQ0020-S150	IQ0020-E320	IQ0020-TH150
25NB	IQ0025-ZG150	IQ0025-W-TS150	IQ0025-S150	IQ0025-E320	IQ0025-TH150
32NB	IQ0032-ZG150	IQ0032-W-TS150	IQ0032-S150	IQ0032-E320	IQ0032-TH150
40NB	IQ0040-ZG150	IQ0040-W-TS150	IQ0040-S150	IQ0040-E320	IQ0040-TH150
50NB	IQ0050-ZG150	IQ0050-W-TS150	IQ0050-S150	IQ0050-E320	IQ0050-TH150
65NB	IQ0065-ZG150	IQ0065-W-TS150	IQ0065-S150	IQ0065-E320	IQ0065-TH150
80NB	IQ0080-ZG150	IQ0080-W-TS150	IQ0080-S150	IQ0080-E320	IQ0080-TH150
100NB	IQ0100-ZG150	IQ0100-W-TS150	IQ0100-S150	IQ0100-E320	IQ0100-TH150
125NB	IQ0125-ZG150	IQ0125-W-TS150	IQ0125-S150	IQ0125-E320	IQ0125-TH150
150NB	IQ0150-ZG150	IQ0150-W-TS150	IQ0150-S150	IQ0150-E320	IQ0150-TH150
200NB	IQ0200-ZG150	IQ0200-W-TS150	IQ0200-S150	IQ0200-E320	IQ0200-TH150
250NB	IQ0250-ZG150	IQ0250-W-TS150	IQ0250-S150	IQ0250-E320	IQ0250-TH150
300NB	IQ0300-ZG150	IQ0300-W-TS150	IQ0300-S150	IQ0300-E320	IQ0300-TH150
350NB	IQ0350-ZG150	IQ0350-W-TS150	IQ0350-S150	IQ0350-E320	IQ0350-TH150
400NB	IQ0400-ZG150	IQ0400-W-TS150	IQ0400-S150	IQ0400-E320	IQ0400-TH150
450NB	IQ0450-ZG150	IQ0450-W-TS150	IQ0450-S150	IQ0450-E320	IQ0450-TH150
500NB	IQ0500-ZG150	IQ0500-W-TS150	IQ0500-S150	IQ0500-E320	IQ0500-TH150
600NB	IQ0600-ZG150	IQ0600-W-TS150	IQ0600-S150	IQ0600-E320	IQ0600-TH150

Other Materials and thicknesses available on request. All material listed above are 1.5mm thick with the exception of the Natural Insertion Rubber which is 3mm.

- For Sigma 588 1.5mm use suffix ZZA150
- For Neoprene 3mm use suffix U320
- For EPDM 3mm use suffix ZR320
- For Nitrile 3mm use suffix Z320

Table D/E - Full Face

SIZE	Natural Rubber Insertion 3mm	EPDM 3mm	SF5000 1.5mm
15NB	IE0015-E320	IE0015-ZR320	IE0015-ZG150
20NB	IE0020-E320	IE0020-ZR320	IE0020-ZG150
25NB	IE0025-E320	IE0025-ZR320	IE0025-ZG150
32NB	IE0032-E320	IE0032-ZR320	IE0032-ZG150
40NB	IE0040-E320	IE0040-ZR320	IE0040-ZG150
50NB	IE0050-E320	IE0050-ZR320	IE0050-ZG150
65NB	IE0065-E320	IE0065-ZR320	IE0065-ZG150
80NB	IE0080-E320	IE0080-ZR320	IE0080-ZG150
100NB	IE0100-E320	IE0100-ZR320	IE0100-ZG150
125NB	IE0125-E320	IE0125-ZR320	IE0125-ZG150
150NB	IE0150-E320	IE0150-ZR320	IE0150-ZG150
200NB	IE0200-E320	IE0200-ZR320	IE0200-ZG150
250NB	IE0250-E320	IE0250-ZR320	IE0250-ZG150
300NB	IE0300-E320	IE0300-ZR320	IE0300-ZG150
350NB	IE0350-E320	IE0350-ZR320	IE0350-ZG150
400NB	IE0400-E320	IE0400-ZR320	IE0400-ZG150
450NB	IE0450-E320	IE0450-ZR320	IE0450-ZG150
500NB	IE0500-E320	IE0500-ZR320	IE0500-ZG150
600NB	IE0600-E320	IE0600-ZR320	IE0600-ZG150

Table H - Full Face

SIZE	RGS3	SF5000
15NB	IH0015-W-TS150	IH0015-ZG150
20NB	IH0020-W-TS150	IH0020-ZG150
25NB	IH0025-W-TS150	IH0025-ZG150
32NB	IH0032-W-TS150	IH0032-ZG150
40NB	IH0040-W-TS150	IH0040-ZG150
50NB	IH0050-W-TS150	IH0050-ZG150
65NB	IH0065-W-TS150	IH0065-ZG150
80NB	IH0080-W-TS150	IH0080-ZG150
100NB	IH0100-W-TS150	IH0100-ZG150
125NB	IH0125-W-TS150	IH0125-ZG150
150NB	IH0150-W-TS150	IH0150-ZG150
200NB	IH0200-W-TS150	IH0200-ZG150
250NB	IH0250-W-TS150	IH0250-ZG150
300NB	IH0300-W-TS150	IH0300-ZG150
350NB	IH0350-W-TS150	IH0350-ZG150
400NB	IH0400-W-TS150	IH0400-ZG150
450NB	IH0450-W-TS150	IH0450-ZG150
500NB	IH0500-W-TS150	IH0500-ZG150
600NB	IH0600-W-TS150	IH0600-ZG150

- For Table D please use prefix ID
- Table D&E are interchangeable on certain sizes as referenced on p40

PN16 - Full Face

SIZE	Natural Rubber Insertion 3mm	EPDM 3mm	SF5000 1.5mm
15NB	IY0015-E320	IY0015-ZR320	IY0015-ZG150
20NB	IY0020-E320	IY0020-ZR320	IY0020-ZG150
25NB	IY0025-E320	IY0025-ZR320	IY0025-ZG150
32NB	IY0032-E320	IY0032-ZR320	IY0032-ZG150
40NB	IY0040-E320	IY0040-ZR320	IY0040-ZG150
50NB	IY0050-E320	IY0050-ZR320	IY0050-ZG150
65NB	IY0065-E320	IY0065-ZR320	IY0065-ZG150
80NB	IY0080-E320	IY0080-ZR320	IY0080-ZG150
100NB	IY0100-E320	IY0100-ZR320	IY0100-ZG150
125NB	IY0125-E320	IY0125-ZR320	IY0125-ZG150
150NB	IY0150-E320	IY0150-ZR320	IY0150-ZG150
200NB	IY0200-E320	IY0200-ZR320	IY0200-ZG150
250NB	IY0250-E320	IY0250-ZR320	IY0250-ZG150
300NB	IY0300-E320	IY0300-ZR320	IY0300-ZG150
350NB	IY0350-E320	IY0350-ZR320	IY0350-ZG150
400NB	IY0400-E320	IY0400-ZR320	IY0400-ZG150
450NB	IY0450-E320	IY0450-ZR320	IY0450-ZG150
500NB	IY0500-E320	IY0500-ZR320	IY0500-ZG150
600NB	IY0600-E320	IY0600-ZR320	IY0600-ZG150

- For Sigma 588 1.5mm use suffix ZZA150
- For EPDM 3mm use suffix ZR320
- For Neoprene 3mm use suffix U320
- For Nitrile 3mm use suffix Z320

Other Materials and thicknesses available on request. All material listed above are 1.5mm thick with the exception of the Natural Insertion Rubber which is 3mm.

Sheet Materials 1500mm x 1500mm

	SF5000	RGS3	RGS1	Sigma 511	Sigma588
0.5mm	569050				
0.8mm	569075		360505A	880008*	
1.5mm	569150	94.011A	360755A	880010	892150
2mm	569200				
3mm	569300	94.012A	360855A	880020	892300

* sheet size is 940mm x 940mm

Polymer Materials 1200mm x 1000mm

	Natural Rubber	Natural Ins Rubber	EPDM	Nitrille	Neoprene	Viton
0.8mm		630150		580080	545101	751508A
1.6mm	615150	630300	320150	580300	545200	751511A
2.4mm	615180			580240	545250	
3.2mm	615200	630450	320320	580550	545300	753011A
4.5/4.8mm	615250	630600	320450	580700	545400	754511A
6mm	615500	630750	320600A	580750	545500	756011A
9.5mm	615750	630850	320900	580900	545600	

Bonded Cork 1270mm x 762mm

	MR31+	ACN60	NP50
0.8mm		33.950/0.8	33.970/0.8
1.6mm	33.920/1.6	33.950/1.6	33.970/1.6
3.2mm	33.920/3.2	33.950/3.2	33.970/3.2
4.8mm	33.920/4.8	33.950/4.8	33.970/4.8
6.0mm	33.920/6.0	33.950/6.0	33.970/6.4
9.5mm	33.920/9.6	33.950/9.6	33.970/9.5

1270mm x 1040mm

	MR31**	ACN60	NP50
	33.910/0.8	33.940/0.8	33.975/0.8
	33.910/1.6	33.940/1.6	33.975/1.6
	33.910/3.2	33.940/3.2	33.975/3.2
	33.910/4.8	33.940/4.8	33.975/4.8
	33.910/6.4	33.940/6.4	33.975/6.4
	33.910/9.5	33.940/9.5	33.975/9.5

** sheet size is 1000mm x 1000mm

Oil Jointing 1000mm x 1000mm

0.15mm	585050
0.2mm	585100
0.25mm	585150
0.3mm	585200
0.4mm	585300
0.8mm	585450
1mm	585500
1.6mm	585600
3.2mm	585750

Other Materials Available on Request:

White Hygenic Nitrille
 Butyl
 Silicone
 Chutex/Linatex
 Gum Rubber
 Diaphragm Rubber
 and many others

All materials also available with insertion

Gasket Materials

SF5000 300mmx750mm	
0.5mm	5000-.5X.75X.3
0.75mm	5000-.75X.75X.3
1.5mm	5000-1.5X.75X.3
3mm	5000-3X.75X.3

ACN60 300mm x 1000mm	
0.75mm	NC-.75X1X0.3
1.5mm	NC-1.5X1X0.3
3mm	NC-3X1X0.3

Insertion Rubber	
1.5mm	IR1.5X1X0.3
3mm	IR3-1X0.3

Oil Jointing	
0.4mm	166-.4x1x0.3M
0.75mm	166-.75x1x0.3m
1.5mm	166-1.5X1X0.3M
3mm	166-3X1X0.3M

Gland Packing

8113	
3mm	8113-3X1M
5mm	8113-5X1M
6.5mm	8113-6.5X1M
8mm	8113-8X1M
9.5mm	8113-9.5X1M
12.5mm	8113-12.5X1M
14.5mm	8113-14.5X1M

7099	
5mm	7099-5X1M
6.5mm	7099-6.5X1M
8mm	7099-8X1M
9.5mm	7099-9.5X1MM
12.5mm	7099-12.5X1M
14.5mm	7099-14.5X1M

GLAND PACKING

Pilotsil 8113

Construction

Pumps, Valves and Reciprocating Applications

BCX yarn crossplait packing. Each strand of the high temperature yarn is impregnated with a graphite lubricant to provide a firm, uniformly lubricated packing with a low coefficient of friction. Square section 3mm to 25mm.

Applications

Petroleum products, gases and oils. Pumping stations, power plants and the steel industry. For steam applications consult our technical advice.

Max Temperature

400 °C

Max Pressure

10 MPa

pH Range

3-13

Max Shaft Speed

10 m/s



Pilotpack 7099

Construction

Multipurpose Pump and Valve

High tensile specialised acrylic yarn, firm crossplait packing. The yarn is pre-coated with PTFE, the packing is then impregnated with a PTFE dispersion before final treatment with a food grade lubricant. Square section 3mm to 25mm.

Applications

Water, abrasive products, oils and foodstuffs. Widely used in the paper, brewing, food, water and chemical industries.

Temperature Range

-100 °C to 260 °C

Max Pressure

10 MPa

pH Range

1-13

Max Shaft Speed

15 m/s



Pilotpack 3480

Construction

Pumps, Valves and Mixers

PTFE multi-filament crossplait packing fully impregnated and specially treated with graphite for excellent heat dissipation and further treated with lubricants for initial bedding-in. Square section 3mm to 25mm.

Applications:

Mild acids and alkalis, water, steam, oils, effluent, paperstock, sludge and solvents. Industries include paper, water, refinery and chemical.

Temperature Range

-200 °C to 280 °C

Max Pressure

20 MPa

pH Range

1-14

Max Shaft Speed

20 m/s



Pilotpack 5020

Construction

Pumps, Valves - Abrasive Slurries

Aramid fibre yarn firm crossplait packing. Fully impregnated with PTFE and silicone lubricant for initial bedding-in purposes. High mechanical strength yarn, ideally suitable for high pressures. Square section 3mm to 25mm.

Applications

Water, weak acids, alkalis, oils and abrasive slurries. Suitable for foodstuffs, cement dust, abrasive pigments, effluent, boiler feed water, and coal and ash slurries.

Temperature Range

-200 °C to 300 °C

Max Pressure

30 MPa

pH Range

2-13

Max Shaft Speed

20 m/s



Note: The parameters quoted above are guidelines only and should be treated as such. Maximum temperature and pressure cannot necessarily be applied simultaneously. As the applications and/or conditions of use of these products are beyond the manufacturers control, users should satisfy themselves that the product is suitable for the intended purpose.

GLAND PACKING

Pilotpack 3410

Pumps, Valves and Agitators

Construction	PTFE filament yarn, firm crossplait packing impregnated with a PTFE dispersion and silicone oil. Square section 3mm to 25mm.
Applications	Strong acids and alkalis, foodstuffs and solvents. Chemical plants, food and beverage. For oxygen applications use Pilotpack 3408 - see specific data sheets.
Note	Both 3410 & 3408 are not suitable for use with fluorine or molten alkali metals.
Temperature Range	-240°C to 280°C
Max Pressure	20 MPa
pH Range	0-14
Max Shaft Speed	15 m/s



Pilotpack 5417 .Pumps, Mixers and Valves

Construction	Crossplait packing, aramid fibre corners for high strength to resist extrusion and abrasion. PTFE centre has high lubricity and chemical resistance. Square section 3mm to 25mm.
Applications	Food stuffs, fine powders including sugar. Resistant to oils, acids and alkalis. Suitable for use in pumps, valves and mixers handling abrasive media.
Max Temperature	280°C
Max Pressure	30 MPa
pH Range	2-13
Max Shaft Speed	20 m/s



Pilotpack 5035 High Speed Rotary and Reciprocating

Construction	Crossplait packing, aramid fibre corners for high strength to resist extrusion and abrasion. Graphite impregnated PTFE centre. Water Fitting Bylaw Scheme - Ref No.9906503.
Applications	Abrasive/chemical slurry, rotary pumps, high pressure reciprocating actions and piston sealing on chemical pumps. Ideal for rotary kilns handling abrasive slurry. Square section 3mm to 25mm.
Max Temperature	290°C
Max Pressure	35 MPa
pH Range	1-14
Max Shaft Speed	25 m/s



Pilotgraph

4000 (valves) and 4001 Super (pumps/reciprocating)

Construction	Exfoliated graphite crossplait, corrosion inhibitors; protects s/steel. High thermal conductivity, self-lubricating. 4000 is Inconel reinforced. Square section 3mm to 25mm.
Applications	Petrochemicals, refineries, power stations and steel works. High temp steam, solvent, hydrocarbon, acids and alkalis, except strong oxidising agents.
Max Temperature	500°C air 650°C steam
Max Pressure	35 MPa (4000) 30 MPa (4001)
pH Range	0-14
Max Shaft Speed	2 m/s (4000) 25 m/s (4001)



Note: The parameters quoted above are guidelines only and should be treated as such. Maximum temperature and pressure cannot necessarily be applied simultaneously. As the applications and/or conditions of use of these products are beyond the manufacturers control, users should satisfy themselves that the product is suitable for the intended purpose.

GLAND PACKING

FLEX 803

Description

Pump and Valve - Chemical, Economical

Synthetic fibre packing. Impregnated with PTFE and lubricated with PTFE dispersion and lubricated

Construction

X braid

Applications

Petrochemical, food and general industrial use

Temperature Range

-85 °C to 150 °C

Max Pressure

14 MPa

pH Range

3-12

Max Shaft Speed

10 m/s



FLEX 900

Description

Pump and Valve - Chemical, Pulp and Paper

High quality lubricated and graphite impregnated PTFE yarn

Construction

X braid

Applications

Petrochemical, chemical, brewing, chemical, pulp and paper industries

Temperature Range

-85 °C to 260 °C

Max Pressure

20 MPa

pH Range

0-14

Max Shaft Speed

20 m/s



FLEX 2001

Description

Pump and Valve - Abrasive Slurry

PTFE impregnated aramid packing treated with a high temperature lubricant

Construction

X braid

Applications

Steel, chemical, paper, sewage, pulp, and cement industries; abrasive slurries

Temperature Range

-85 °C to 260 °C

Max Pressure

25 MPa

pH Range

2-12

Max Shaft Speed

15 m/s



FLEX 304

Description

Pump and Valve - Power Generation/Chemical

High quality carbon yarn packing treated with high performance lubricant, corrosion inhibitors and sacrificial metal. Reinforced with inconel wire

Construction

X braid

Applications

Power generation, chemical and petrochemical industrial

Temperature Range

-85 °C to 430 °C

Max Pressure

21 MPa

pH Range

0-14

Max Shaft Speed

20 m/s



Note: The parameters quoted above are guidelines only and should be treated as such. Maximum temperature and pressure cannot necessarily be applied simultaneously. As the applications and/or conditions of use of these products are beyond the manufacturers control, users should satisfy themselves that the product is suitable for the intended purpose.

GLAND PACKING

FLEX 713L

Description

Pump and Valve – General Industrial, Slurry

Continuous filament Fortaglas* packing. Impregnated with PTFE dispersion and lubricated

Construction

X braid

Applications

Petrochemical, chemical, food, pharmaceutical, paint and brewing industries

Temperature Range

-85 °C to 290 °C

Max Pressure

14 MPa

pH Range

3-12

Maximum Shaft Speed

10 m/s



* Fortaglas is a Trademark of TBA TEXTILES LTD

FLEX 774

Description

Pump and Valve – General Industrial

Continuous filament Fortaglas* packing. Impregnated with PTFE and lubricated with mineral oil and graphite

Construction

X braid

Applications

Petrochemical and general industrial use

Temperature Range

-85 °C to 480 °C

Max Pressure

14 MPa

pH Range

3-12

Maximum Shaft Speed

15 m/s



FLEX 26L

Description

Pump and Valve - Chemical

Pure PTFE yarn impregnated with PTFE dispersion and lubricant

Construction

X braid

Applications

Petrochemical, chemical, food, pharmaceutical and brewing industries

Temperature Range

-85 °C to 260 °C

Max Pressure

7 MPa

pH Range

0-14

Maximum Shaft Speed

8 m/s



FLEX 30

Description

Pump and Valve - Marine

Traditional hemp packing, heavily greased

Construction

Solid braid

Applications

Marine, hydraulic, water and oil

Temperature Range

120 °C

Max Pressure

8 MPa

pH Range

6-9

Maximum Shaft Speed

5 m/s



FLEX 45

Description

Pump and Valve - Mining, Irrigation

Cotton packing heavily greased and graphited

Construction

Solid braid

Applications

Mining, irrigation, sewage, paper and hydraulic industries

Max Temperature

120 °C

Max Pressure

7 MPa

pH Range

5-10

Maximum Shaft Speed

5 m/s



Note: The parameters quoted above are guidelines only and should be treated as such. Maximum temperature and pressure cannot necessarily be applied simultaneously. As the applications and/or conditions of use of these products are beyond the manufacturers control, users should satisfy themselves that the product is suitable for the intended purpose.

	7099	8113	Flex45	Flex30	Flex774	Flex900
3mm		8113-3X15M			TBA774-032-20M	TBA900-032-20M
5mm	7099-5x8M	8113-5x8M	TBA45-050-20M	TBA30-050-20M	TBA774-050-20M	TBA900-050-20M
6.5mm	7099-6.5X8M	8113-6.5X8M	TBA45-065-8M	TBA30-065-8M	TBA774-065-8M	TBA900-065-8M
8mm	7099-8X8M	8113-8X8M	TBA45-080-8M	TBA30-080-8M	TBA774-080-8M	TBA900-080-8M
9.5mm	7099-9.5X8M	8113-9.5X8M	TBA45-095-8M	TBA30-095-8M	TBA774-095-8M	TBA900-095-8M
12.5mm	7099-12.5X8M	8113-12.5X8M	TBA45-125-8M	TBA30-125-8M	TBA774-125-8M	TBA900-125-8M
14.5mm	7099-14.5X8M	8113-14.5X8M				
16mm	7099-16X8M	8113-16X8M	TBA45-160-8M	TBA30-160-8M	TBA774-160-8M	TBA900-160-8M
19mm	7099-19X8M	8113-19X8M	TBA45-190-8M	TBA30-190-8M	TBA774-190-8M	TBA900-190-8M
22mm						TBA900-220-8M
25mm	7099-25X8M	8113-25X8M	TBA45-250-8M	TBA30-250-8M	TBA774-250-8M	TBA900-250-8M

	Flex2001	Flex26L	3480	4001	4000
3mm	TBA2001-032-20M	TBA26L-032-20M	3480-3X15M	4001-3X15M	4000-3X15M
5mm	TBA2001-050-20M	TBA26L-050-20M	3480-5x8M	4001-5x8M	4000-5x8M
6.5mm	TBA2001-065-8M	TBA26L-065-8M	3480-6.5X8M	4001-6.5X8M	4000-6.5X8M
8mm	TBA2001-080-8M	TBA26L-080-8M	3480-8X8M	4001-8X8M	4000-8X8M
9.5mm	TBA2001-095-8M	TBA26L-095-8M	3480-9.5X8M	4001-9.5X8M	4000-9.5X8M
12.5mm	TBA2001-125-8M	TBA26L-125-8M	3480-12.5X8M	4001-12.5X8M	4000-12.5X8M
14.5mm			3480-14.5X8M	4001-14.5X8M	4000-14.5X8M
16mm	TBA2001-160-8M	TBA26L-160-8M	3480-16X8M	4001-16X8M	4000-16X8M
19mm	TBA2001-190-8M	TBA26L-190-8M	3480-19X8M	4001-19X8M	4000-19X8M
22mm	TBA2001-220-8M				
25mm	TBA2001-250-8M	TBA26L-250-8M	3480-25X8M	4001-25X8M	4000-25X8M

	5020	5035	3410	Flex304	5417	Flex713L
3mm			3410-3X8M	TBA304-032-20M		TBA713L-032-20M
5mm	5020-5x8M	5035-5x8M	3410-5x8M	TBA304-050-20M	5417-5x8M	TBA713L-050-20M
6.5mm	5020-6.5X8M	5035-6.5X8M	3410-6.5X8M	TBA304-065-8M	5417-6.5X8M	TBA713L-065-8M
8mm	5020-8X8M	5035-8X8M	3410-8X8M	TBA304-080-8M	5417-8X8M	TBA713L-080-8M
9.5mm	5020-9.5X8M	5035-9.5X8M	3410-9.5X8M	TBA304-095-8M	5417-9.5X8M	TBA713L-095-8M
12.5mm	5020-12.5X8M	5035-12.5X8M	3410-12.5X8M	TBA304-125-8M	5417-12.5X8M	TBA713L-125-8M
14.5mm	5020-14.5X8M	5035-14.5X8M	3410-14.5X8M		5417-14.5X8M	
16mm	5020-16X8M	5035-16X8M	3410-16X8M	TBA304-160-8M	5417-16X8M	TBA713L-160-8M
19mm	5020-19X8M	5035-19X8M	3410-19X8M	TBA304-190-8M	5417-19X8M	TBA713L-190-8M
22mm				TBA304-220-8M		TBA713L-220-8M
25mm	5020-25X8M	5035-25X8M	3410-25X8M	TBA304-250-8M	5417-25X8M	TBA713L-250-8M

THERMAL TEXTILE PRODUCTS

Insulation, Sealing and Vibration

Alliance Sealing offers Thermal Textile Products manufactured from a broad range of advanced fibres including glass, aramid, ceramic and silica.

Thermal products (including cloth, ropes, webbings and yarns) are supplied in raw form, bulk or fabricated, treated or coated to suit the application and chemical environment.



Braided Thermal Packing

Premium grade dry glass or ceramic packing for static sealing applications. Medium or hard braids can be supplied plain or treated with graphite or silicone from 6mm to 80mm round or square.

Thermal insulation covers, expansion and flexible joints which serve as well to absorb sound and vibration are manufactured to suit a range of temperatures and environments to 700°C.



Glass Fibre



Ceramic Fibre



Fabric expansion joints

Glass Fibre Rope

Thickness	
12.5mm	TGFR1-125-30M
15mm	TGFR1-150-30M
19mm	TGFR1-190-30M
25mm	TGFR1-250-30M
30mm	TGFR1-300-30M
40mm	TGFR1-400-30M
50mm	TGFR1-500-30M

Ceramic Fibre Rope

Thickness	
6.5mm	TCFR1-065-274M
13mm	TCFR1-130-91M
16mm	TCFR1-160-100M
19mm	TCFR1-190-114M
25mm	TCFR1-250-68M
32mm	TCFR1-320-25M

Glass Fibre Webbing

Width	
25mm	TGW304-025-30M
40mm	TGW304-040-30M
50mm	TGW304-050-30M
75mm	TGW304-075-30M
100mm	TGW304-100-30M
150mm	TGW304-150-30M

Glass Fibre Ladder Tape

Width	
25mm	TGLW305-025-30M
40mm	TGLW305-040-30M
50mm	TGLW305-050-30M
75mm	TGLW305-075-30M
100mm	TGLW305-100-30M

FLEXPRO (KAMMPROFILE) GASKET

The Flexpro, also known as the kammprofile gasket, offers a safe and effective seal under the most severe operating conditions for use in both standard pipe and equipment flanges. Flexpro gaskets are suitable for use in Class 150 to 2500 service. They are frequently selected as a favorable replacement for jacketed gaskets commonly used on heat exchangers. The Flexpro gasket features excellent tightness providing high seal integrity and reduced emissions.

The Flexpro gasket consists of a solid grooved metal core with soft conformable facing materials bonded on both sealing surface faces.

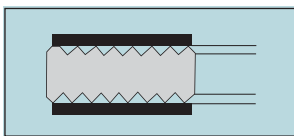
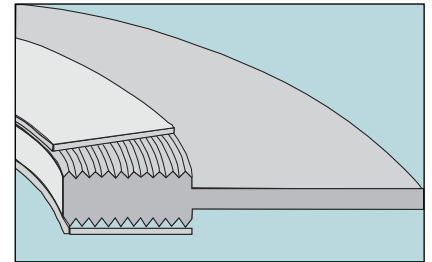
The precise concentric machined grooves enhance sealing performance by means of inducing high stress concentrations across the peaks of the grooves during the seating of the gasket. Due to the precise machining of the grooves consistent and repeatable gasket stresses are achieved. It is robust, blow out resistant, and does not require a compression stop to prevent over-compression. The soft conformable facings require initial low stress for gasket seating, and the facing material is trapped within the grooves minimizing flow or extrusion.

Graphite is offered as the standard sealing face material and the metal core is grade 316L stainless steel. Other soft conformable facings offered are Thermiculite®, PTFE, Sigma®, compressed fiber, and soft metals.

Selection of facing and metal core material is dependent on application and design conditions, such as chemical compatibility and/or temperature.

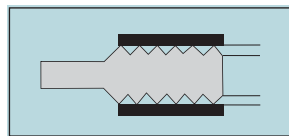
The Flexpro gaskets are manufactured with two types of core profiles: DIN and the more commonly used "shallow profile".

Note: Flexpro gaskets can be manufactured in a wide range of shapes in addition to round, e.g. square, rectangular, triangular, and other non-standard shapes



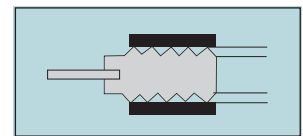
Style PN

Style PN Flexpro gaskets are selected for use in confined locations, including male and female, tongue and groove, and recessed flange arrangements.



Style ZG

Variation of the PN Flexpro, utilizing an integral outer locating ring for correct gasket positioning within the mating flange bolt circle. Style ZG Flexpro gaskets are recommended for use on standard raised face and flat face flange assemblies.



Style ZA

The Style ZA Flexpro is a slight variation of the Style ZG. The integral outer locating ring is replaced by a loose fitting independent ring which is preferred where flange differential radial thermal expansion may be encountered. These rings may also be spot welded.

FLEXPRO GASKET MATERIALS			
Metallic Core Materials			Soft Facing Materials
Type 316L SS	Carbon Steel	Hastelloy C276	Flexicarb
Type 304 SS	Monel	Aluminum	Thermiculite® 845
Type 309 SS	Inconel 600	Copper	Compressed Fiber
Type 310 SS	Inconel 625	Brass	PTFE*
Type 317L SS	Inconel X-750	Nickel 200	Sigma®
Type 321 SS	Incoloy 800	Alloy 20	Soft Metals
Type 347 SS	Incoloy 825	Duplex	
Type 430 SS	Hastelloy B2	Titanium	

* Available in several types of soft facing PTFE.

METAL REINFORCED GASKET (MRG)

An MRG is a laminated gasket consisting of a metal core, covered with soft conformable sealing materials on each face of the core.

While the solid metal core prevents gasket blowout, it provides high strength and rigidity; and the soft facings provide for an exceptional seal.

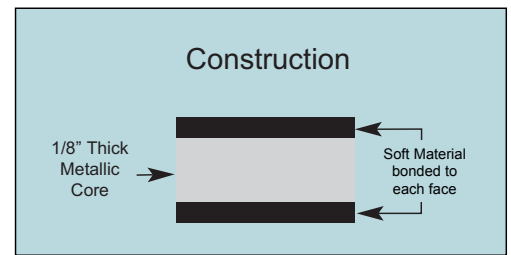
The metal core material is selected to suit the media to be sealed. A wide range of core materials is available. For chemical resistance and temperature stability purposes, the correct core material must always be selected.

Standard core material is either 304 or 316L stainless steel, and standard core thickness is 1/8".

The soft gasket facings can be Flexicarb, PTFE, Sigma®, Thermiculite®, or compressed fiber gasket material. However, Flexicarb is the standard and most widely used facing material supplied with the MRG gasket.

Suitable up to pressure Class 300, the MRG is widely used in the chemical and petrochemical industries, where a high temperature, corrosion resistant, high integrity joint is required. Although the MRG gasket can be utilized on standard flange applications in place of conventional compressed fiber sheet gaskets, or in some instances spiral wound gaskets, it is on special type assemblies where the MRG is mainly utilized. Due to laser manufacturing techniques, any type of gasket shape can be produced.

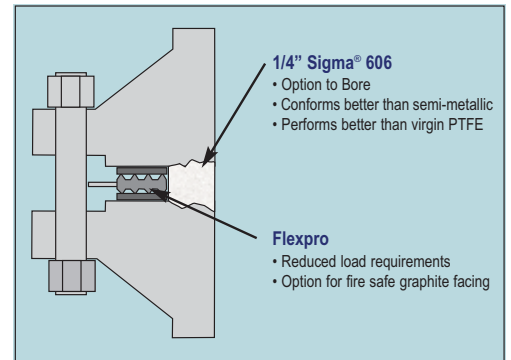
Where restricted or limited space precludes the use of spiral wound gaskets or limited bolt load is available to seat the gasket, the MRG's narrow cross sectional width makes it ideal for use in floating head arrangements of heat exchangers.



Flange Rescue Gasket (FRG)

For Asset Managers and Engineers in the oil and gas industries, the fight against corrosion is a constant battle. Internal corrosion of flanges are responsible for a significant number of hydrocarbon and corrosive chemical releases and can have a major impact on operation costs, particularly on older assets.

The FRG has been created in direct response to this problem. Utilizing Flexitallic's Flexpro sealing element and 1/4" Sigma® 606 inner ring, the FRG is capable of adapting to extensively damaged flange sealing surfaces. Full closure of the corroded area prevents further damage, with operators able to open flanges for future inspection and then confidently resume operation using a new FRG. Contact Alliance Sealing for additional design details.



Creating a new industry standard in the care of flanges and joints, the FRG reduces the potential for hydrocarbon or chemical releases due to corrosion and erosion on flange faces. For the first time, operators will have the confidence to fit a gasket on a damaged flange, without the immediate risk of loss of containment.

- Immediate sealing of existing damage, and prevention against further damage
- Eliminates the expense of in-situ machining and reworking or replacing flanges
- No need for hot work permits or specialized equipment
- Reduced downtime, increased production, reduced costs
- Easy installation
- Excellent tightness
- Low seating stress
- Suitable for all standard ASME Class 150 - 2500 flanges
- Non standard sizes also available
- Core and facing available in wide range of materials to suit almost any type of application

RING TYPE JOINT (RTJ)

The ring type joint was initially developed for use in the petroleum industry, where high pressure/temperature applications necessitated the need for a high integrity seal. They are mainly used in the oil field on drilling and completion equipment. Ring type joints are also commonly used on valves and pipework assemblies, along with some high integrity pressure vessel joints.

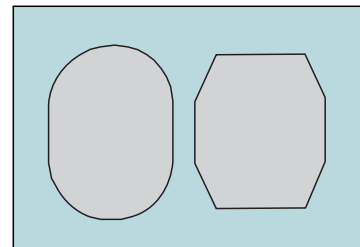
Style R

The Style R ring type joint is manufactured in accordance with API 6A and ASME B16.20, to suit API 6B and ASME B16.5 flanges.

Style R ring type joints are manufactured in both oval and octagonal configurations. Both styles are interchangeable on the modern flat bottom groove, however only the oval style can be used in the old type round bottom groove.

Style R ring type joints are designed to seal pressure up to 6,250 psi in accordance with ASME B16.5 pressure ratings and up to 5,000 psi in accordance with API 6A pressure ratings.

Style R



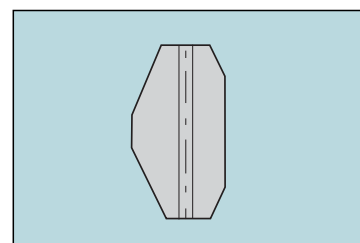
Style RX

The Style RX ring type joint is manufactured in accordance with API 6A and ASME B16.20, to suit API 6B and ASME B16.5 flanges.

The Style RX is designed to fit the modern flat bottom groove, and is interchangeable with the standard Style R ring type joint. However, since the Style RX is significantly taller than a Style R, larger flange make up distances will result.

Style RX ring type joints are designed to seal pressures up to 6,250 psi in accordance with ASME B16.5 pressure ratings, and up to 5,000 psi in accordance with API 6A pressure ratings. Selected sizes incorporate a pressure passage hole to allow for pressure equalization each side of the sealing faces.

Style RX

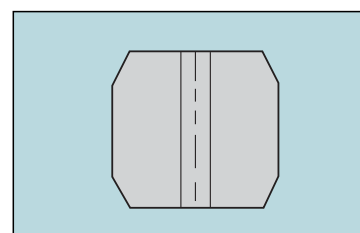


Style BX

The Style BX ring type joint is manufactured in accordance with API 6A.

All BX ring type joints incorporate a pressure passage hole to allow for pressure equalization each side of the sealing faces. On assembly, metal to metal contact of the flange faces is achieved. The Style BX is not interchangeable with any other style, and is only suited for API 6BX flanges. Style BX ring type joints are designed to seal pressure up to 20,000 psi in accordance with API 6A pressure ratings.

Style BX



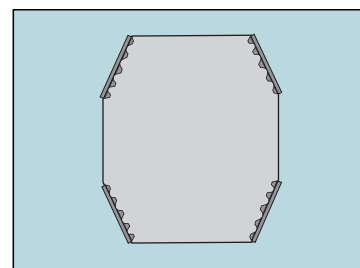
Styles SRX and SBX

Styles SRX and SBX are derived from Styles RX and BX, and are produced in line with the API Standard 17 D for use on subsea wellhead and Christmas tree equipment.

Octagonal with Grooves

This style is an octagonal ring with serrations machined on the flat corners as shown in the diagram. The serrated surface then is faced with soft conformable facing.

Octagonal with Grooves



How They Work

Under axial compressive load, ring type joints plastically deform and flow into the irregularities of the flange groove. Since the load bearing area of the ring type joint is relatively small, very high surface stresses result between the sealing faces of the ring type joint and the groove. These stresses are further increased on the Style RX and BX rings which allows for very high internal pressures to be sealed.

Since ring type joints are solid metal, their recovery characteristics are poor. The seal is maintained by the action of axial load upon the gasket.

Surface Finish Requirements

With all metal to metal type seals, it is imperative that the gasket and groove sealing faces are free from indentations, score marks, tool/chatter marks and other imperfections. The surface finish of the gasket and groove sealing faces is also critical and should not exceed the following:

Style R and RX 63 microinches Ra maximum (1.6 micrometer Ra)

Style BX 32 microinches Ra maximum (0.8 micrometer Ra)

Reuse

Ring type joints are designed to have a limited amount of positive interference, which ensures that the ring type joint seats correctly into the groove on compression. Their reuse is not recommended for two reasons:

- The initial seating of the gasket will be impaired.
- When the gasket is plastically deformed, work hardening of the external metal surface occurs. This may result in permanent damage to the groove.

Hardness of Materials

On compression of the flange assembly, it is imperative that the ring type joint be significantly softer than the flange groove so that the gasket plastically deforms and not the groove. The use of harder ring type joints can result in flange groove damage. For this reason, ring type joints are supplied with the following maximum hardness values:

Material	Werkstoff Number	Maximum Hardness		Identification
		Brinell*	Rockwell B†	
Soft Iron		90	56	D
Low Carbon Steel		120	68	S
4 - 6% Chrome 1/2% Moly.		130	72	F5
Type 304 Stainless Steel	1.4301	160	83	S304
Type 316 Stainless Steel	1.4401	160	83	S316
Type 347 Stainless Steel	1.4550	160	83	S347
Type 410 Stainless Steel	1.4006	170	86	S410

* Measured with 3000Kg load except soft iron which is measured with 500Kg load
 † Measured with 100 Kg load and 1/16" diameter ball.

METAL JACKETED GASKET

Metal Jacketed Gaskets, as the name suggests, consist of a metallic outer shell with either a metallic or non-metallic compressed fiber filler. The filler material gives the gasket resilience, while the metal jacket protects the filler and resists pressures, temperatures and corrosion.

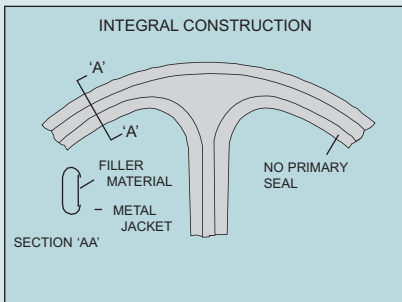
A wide range of materials are available to suit specific temperature and corrosive conditions.

Metallic:	Soft Iron	Inconel®	Aluminum	Non-Metallic:	Compressed Fiber Millboard
	Carbon Steel	Monel®	Brass		PTFE
	Stainless Steel	Nickel	Copper		Flexicarb®
	(Other materials on request)				Ceramic

Metal Jacketed Gaskets are available in a wide range of sizes and configurations. They are traditionally used for heat exchanger applications, pumps, and valves, however the resilience and recovery properties of these gaskets are limited. Metal Jacketed Gaskets require smooth flange surface finishes, high bolt loads, and flange flatness in order to seal effectively.

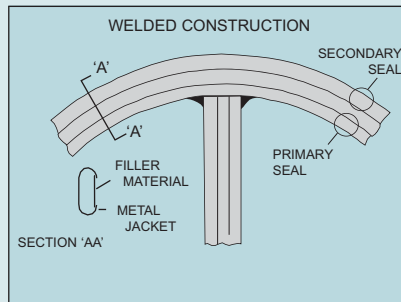
When pass partition bars are required, it is sufficient to use a gasket with a welded pass bar construction, as opposed to an integral pass bar construction.

<i>Jacketed Gaskets Standard Tolerances</i>		
<i>Gasket Outer Diameter</i>	<i>I.D.</i>	<i>O.D.</i>
Up to 6"	+1/32" / -0	+0 / -1/32"
6" to 60"	+1/16" / -0	+0 / -1/16"
Above 60"	+1/8" / -0	+0 / -1/8"

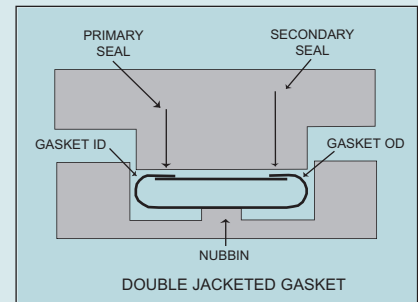


If leakage occurs across the pass partition bar, the fluid will flow along the length of the pass bar arrangements, and then flow to the outer diameter of the gasket being retained only by the secondary seal.

The intermediate part of the gasket does very little to effect the sealing capabilities of the gasket.



With a welded pass bar arrangement the fluid is retained by the primary seal at the inner diameter of the gasket. Thus the primary seal maintains its function, providing a seal of higher integrity.



Due to the high bolt loads required to seat metal jacketed gaskets, designers often incorporate stress raising nubbins on the flange sealing face, the principle being that the majority of the applied bolt load is acting on a relatively small proportion of the gasket surface area, thus high surface stresses result. It is essential that the gasket is installed with the smooth side toward the nubbins.

INSULATING SETS

Insulating sets comprise a Type E and Type F insulating gasket which is located between the flange sealing faces, phenolic laminate bolt sleeves, two insulating washers per bolt for maximum protection and two plated mild steel washers per bolt. Stainless steel washers can be supplied upon request.

Insulating sets are essentially used for pipeline flange corrosion protection, where a seal is required between dissimilar flange materials. The use of dissimilar metallic flanges with a conductive gasket material accompanied with a suitable electrolyte may set up a galvanic cell which will corrode the anodic metal. Insulating sets are also used to electrically isolate flange joints, preventing the flow of electrostatic charge along pipelines.

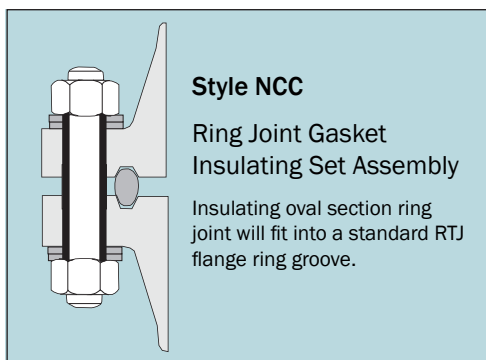
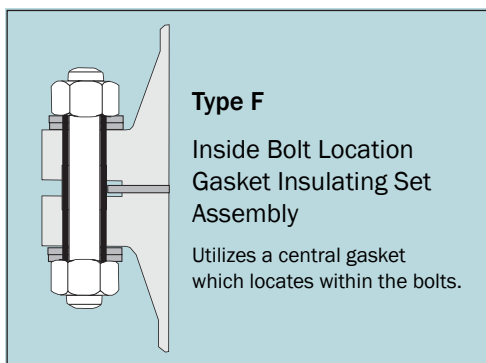
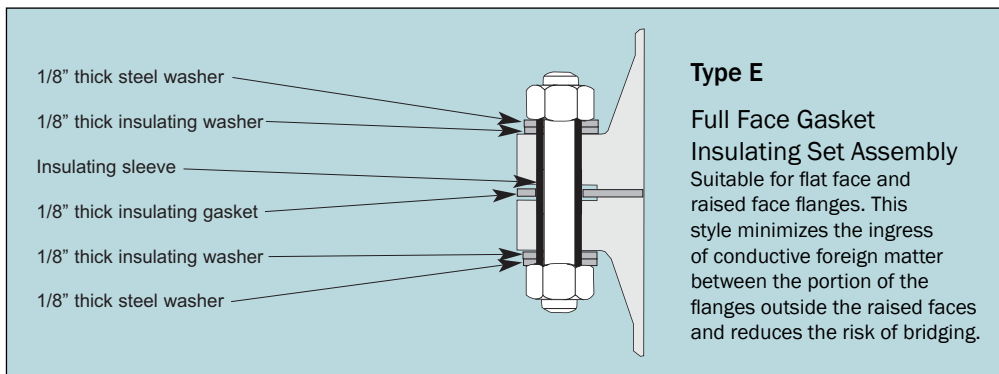
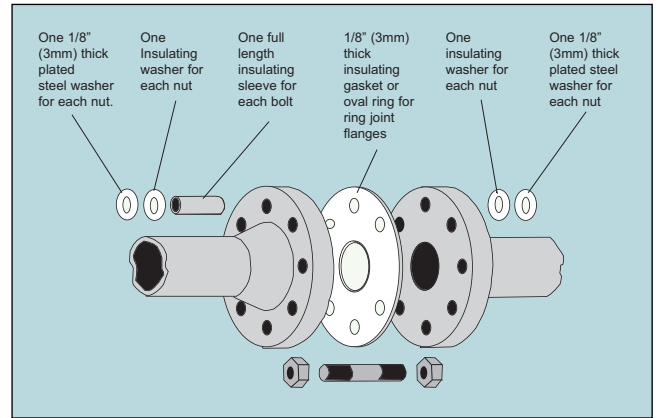
There are three standard styles of insulating sets available to suit raised face, flat face, and ring grooved flanges, as illustrated below.

Standard Styles

It is also recommended that for complete electrical insulation protection that self-adhesive tape is wrapped around the outside diameter of the flange to prevent the ingress of foreign matter.

With Type E and Type F insulating sets it is imperative that the bore of the gasket is equal to that of the pipe. This will prevent any foreign matter from accumulating in the annular space between the bore of the gasket and the bore of the pipe thus preventing bridging.

As standard, Flexitallic insulating kits are dimensioned to suit schedule 80 pipe suitable for use on standard and non-standard flange assemblies up to and inclusive of Class 2500.



INSULATING SETS - SPECIALISED APPLICATIONS

Flexpro Insulating Gaskets

Common sheet gaskets used to insulate low pressure low temperature applications can not tolerate internal high pressures or high temperature media. Common insulating gaskets are limited to 250 °F maximum and are usually only suitable for 150 and 300 pressure classes.

Flexitallic special Insulating Flexpro gaskets are capable of sealing very high internal pressures (as high as Class 2500). The solid metal core gives the gasket excellent blowout resistance and stability for ease of handling and installation. The soft, relatively thin facing material requires only a low minimum seating stress in combination with minimal relaxation compared to other soft sheet materials, such as skived Teflon. The low minimum seating stress ($y = 2,500$ PSI) makes it ideal for use with low pressure flanges or flanges with limited bolting, yet with the solid metal core, the gasket can support high stresses without crushing of the gasket.

Sigma facing can be used for temperatures as high as 500 °F. Sigma is the Flexitallic brand name for biaxially reinforced PTFE with low creep relaxation.

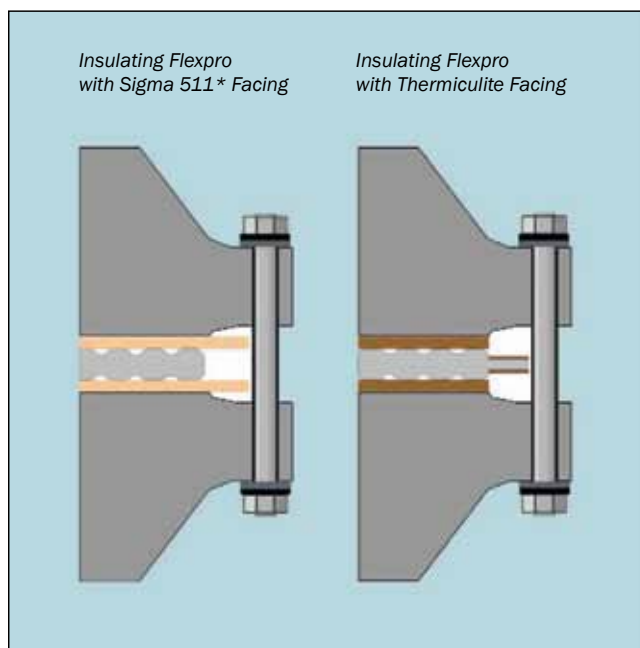
For higher temperature applications Thermiculite facing is recommended.

Thermiculite is Flexitallic brand name for a proprietary vermiculite based material capable of temperatures as high as 1800 °F.

- Available for standard or specially designed flanges
- Soft conformable facing
- Robust, easy to handle
- Blowout resistant
- Creep resistant; better torque retention
- May be refurbished by Flexitallic
- Available with full face design

Typical Applications

Offshore installations, sea water environments, hydrocarbon service, chemical installations, oil refining pipelines requiring galvanic corrosion protection and electrical insulation.



**Sigma 500 can be used also.*

SPECIAL APPLICATION GASKETS

Spiral Wound Gaskets for Boiler Cap and Manhole Cover Assemblies

Gaskets for boiler handhole, tubecap and manhole covers incorporating the unique Flexitallic Spiral Wound profile and specially manufactured with Flexicarb® filler, are ideal for corrosive, high pressure or temperature duties. Flexitallic's anticipation of developments in modern steam generating and engineering equipment and ability to design to specific requirements are the guarantee of the perfect seal at minimum maintenance cost with consistently high standards of performance.

- High safety factor related to specific operating conditions
- Compression loadings proportional to safe stresses of cover assemblies
- Resilient under concentrated and fluctuating loads
- Prolonged trouble-free service
- Reduced seat cleaning time



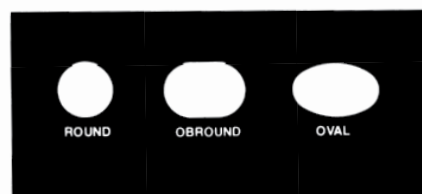
Style M & MC & MCS

Spiral Wound Gaskets for Boiler Manhole Cover Assemblies.

The Flexitallic manhole gasket spiral constructions incorporate modified compression values to provide seating loads within the normal range of cover assemblies.

Size/Range Specification

Available in circular, obround, and oval shapes to suit standard manhole plate configurations.



Style T

Spiral Wound Gaskets for Boiler Handhole and Tubecap Assemblies.

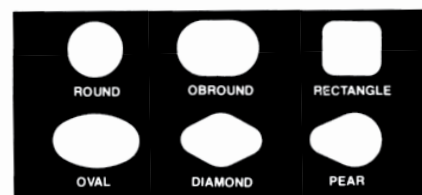
The design features of the basic Flexitallic spiral wound construction alleviate the need for sealing compound. Particularly suitable where old and pitted faces have rendered other gaskets ineffective.

Size/Range Specification

Available in several standard shapes: Supplied in thicknesses of 3.2mm (0.125in.) or 4.5mm (0.175 in.). The standard thickness of 4.5mm (0.175in.) is recommended for use in assemblies where the seat is relatively broad and bolting load is low.



Basic spiral construction of Style T Gaskets



Materials

Standard materials are Type 304 Stainless Steel and Flexicarb windings. Special materials to suit specific operating conditions are available.

- High safety factor related to specific operating conditions
- Compression loadings proportional to safe stresses of cover assemblies
- Resilient under concentrated and fluctuating loads
- Prolonged trouble-free service
- Reduced seat cleaning time

To Order

With all orders or inquiries please submit following:

- a) Name of boiler or equipment manufacturer
- b) Gasket style
- c) Dimensions of gasket
- d) Gasket thickness
- e) Flange width of gasket
- f) Pressure service rating
- g) Gasket material preference

ORDERING FLEXITALLIC GASKETS FOR SPECIAL FLANGE DESIGNS

In order for FLEXITALLIC to design a gasket suitable for the application, it is imperative that complete details be submitted for review. The following information is required:

1. Type of flange facing
2. Dimensions of the gasket seating surfaces
3. Number, size and material of bolts
4. Bolt circle diameter
5. Operating pressure & temperature (process media if known)
6. Hydrostatic test pressure
7. Initial bolt pre-stress
8. Customer preference on gasket materials

FLEXITALLIC supplies engineering data sheets at no cost on which this information may be submitted. As a gasket manufacturer, it is impossible for us to review every flange design to make certain that flange rotation and flange stresses are within allowable limits defined in the Code. We proceed on the assumption the design engineer has followed the design criteria established by the ASME Boiler Code and that the flanges are sufficiently rigid under the most severe condition to preclude the possibility the gasket could become unloaded either during operating conditions or hydrostatic test conditions. We are aware that most flange designers do not take into consideration flange rotation at test conditions prior to finalizing their design. We also, of a practical necessity, must assume the bolt material being used is adequate for all conditions including operating pressure at operating temperature and hydrostatic test pressure at ambient temperature.

The use of the optimum material for bolts is a very complex subject and we suggest reviewing currently available technical literature for guidance in the proper selection of bolting material for piping and pressure vessel applications.

GASKET ENGINEERING DATA

Company _____ Date _____
 Address _____ Order/Inquiry No. _____

SERVICE CONDITIONS

Operating Pressure _____ psi
 Operating Temp _____ °F
 Substance to be sealed _____
 Unusual condition _____

CUSTOMER PREFERENCE

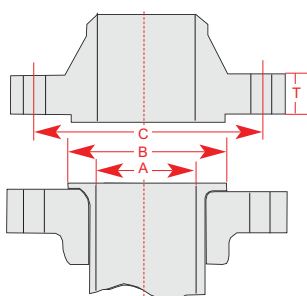
Gasket Material _____
 Gasket Filler _____
 Ring Metal _____
 Gasket Style _____

FLANGE DESCRIPTION

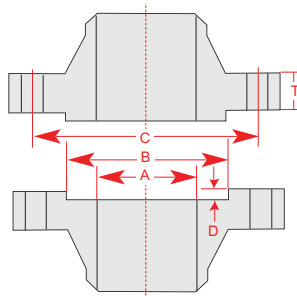
Figure _____
 Welding Neck _____
 Lap Joint _____
 Slip On _____
 Blind _____

FLANGE DIMENSIONS

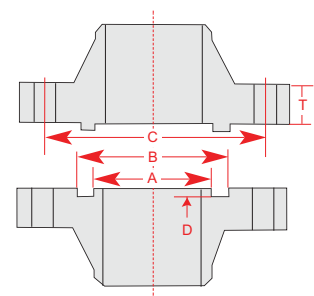
Material _____ A _____" T _____
 Threaded _____ B _____" No. of Bolts _____
 Sketch (Back) _____ C _____" Size of Bolts _____
 Print Attached _____ D _____" Bolt Material _____
 Surface Finish _____ rms



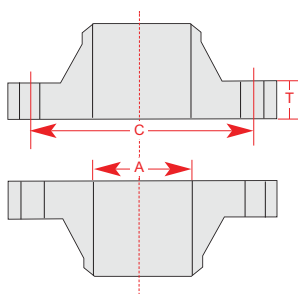
Raised Face or Van Stone



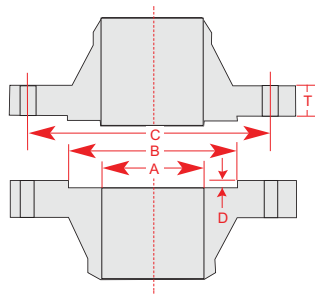
Male and Female



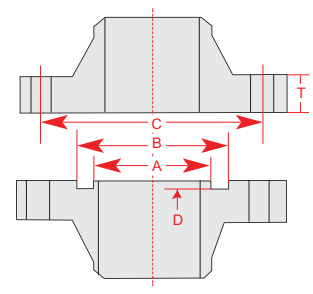
Tongue and Groove



Smooth Face



Male & Female with Spigot



Groove to Flat Face

ORDERING FLEXITALLIC GASKETS FOR SPECIAL FLANGE DESIGNS

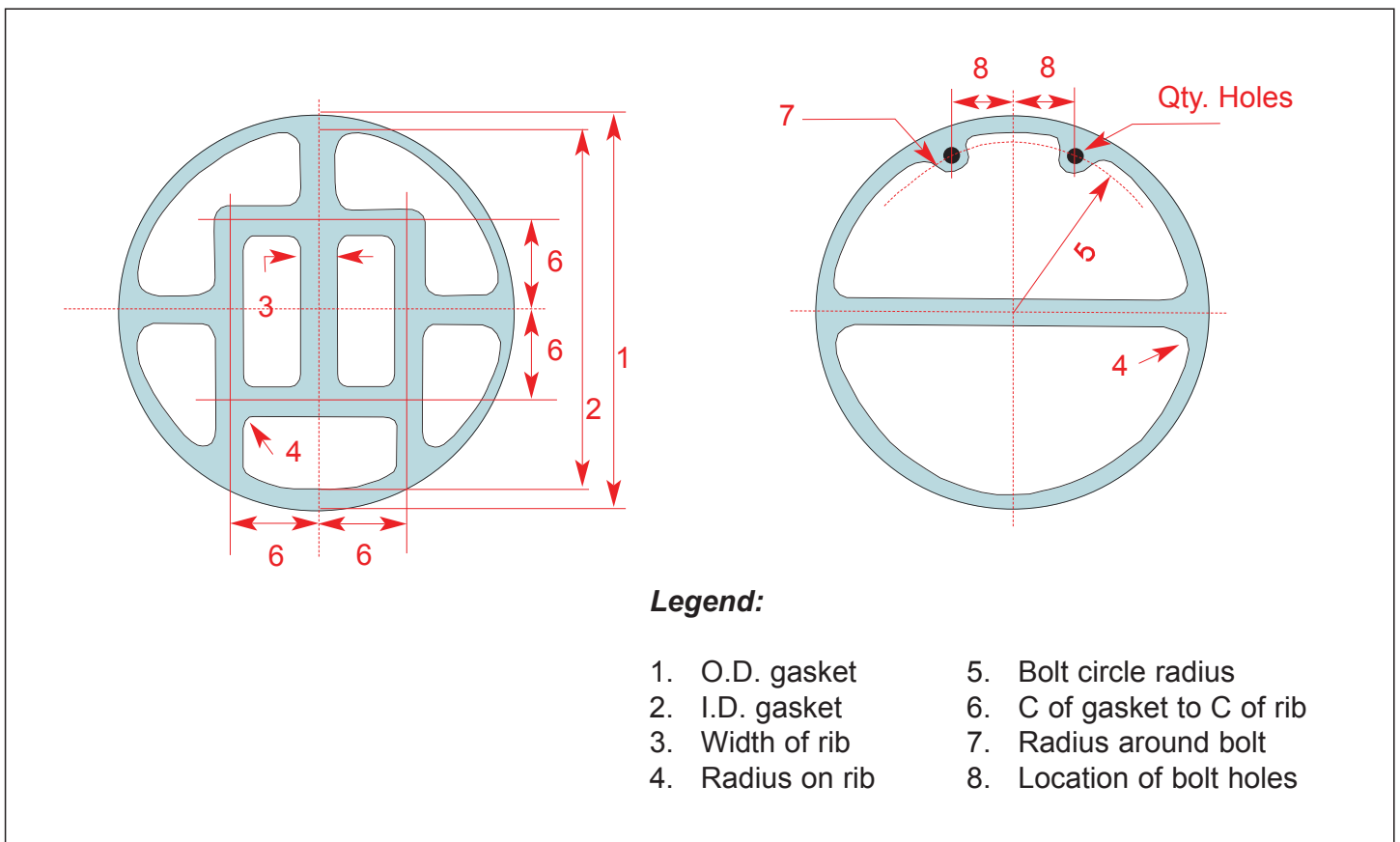
Overall Dimensional Limits

In general, the only limits on the dimensions of heat exchanger gaskets are the limits of sizes of material available.

Note: In addition to the above information, drawings of your application are always helpful for proper dimensioning of gaskets.

Dimensions

- Outside Diameter
- Inside Diameter
- Shape
- Style Number
- Thickness
- Material (metal or metal and filler)
- Rib width
- Distance from centerline of gasket to centerline of ribs
- Radii
- Specify number, placement, bolt circle radius and size of bolt holes





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