Xin Laisen Engineering Technology (Shanghai) CO., Ltd

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XINLAISEN

Xinlaisen Engineering Technology (Shanghai) Co., Ltd

欣莱森工程技术(上海)有限公司

Availability Priority Efficiency Xtra

Contents

Xin Laisen Engineering Technology(Shanghai)Co.,Ltd— China sealing crystallization, specializing in production of spiral wound gaskets, kammprofile gaskets, RTJ, corrugated gaskets, graphite composite gaskets and various non-metallic gaskets. The company has passed the ISO 9001 system certification. As a professional sealing production and export enterprises, Xin Laisen provide a full range of static sealing products. In order to meet the special needs of domestic customers, but also agent foreign famous brands. Xin Laisen has a fast computerized quotation system, adequate inventory and well-trained customer service team.

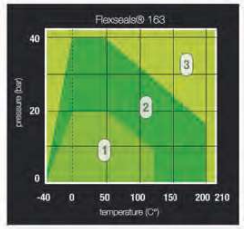
Xin Laisen provides reliable quality and stable performance gaskets for many famous international oil companies. Xin Laisen is a qualified global gasket supplier approved by EXXON MOBIL Corporation (ExxonMobil) after an on-site audit. It is the largest gasket supplier of international famous oil companies such as EXXON MOBIL, SHELL and Saudi Aramco. The most famous gasket companies in the United States LAMONS, GARLOCK, TEADIT, Europe JAMES WALK and Saudi Delmon Sealing Company, etc., have set Jihong as the largest OEM production base in China. Saudi Delmon Sealing Company is a major gasket supplier to Saudi Aramco. Stable and reliable product quality fully meet the global High standards for petrochemical companies. Xin Laisen has become a leading international company in the gasket industry.

As a high-tech enterprise, Xin Laisen sealing has a strong product research capability, and the level of production research technology has always been in the forefront of the industry.

Xin Laisen produces the most widely used spiral wound gaskets in the petrochemical industry, product quality and production capacity has been widely praised by customers around the world. In the United States petrochemical base Houston, Xin Laisen have been recognized as the preferred gasket supplier, with a very high reputation. The current production capacity of metal wound gaskets has reached 40,000 pieces per day. Xin Laisen has developed into the world's largest gasket manufacturer and supplier. As quality first Enterprises, Xin Laisen also become the main gasket supplier of domestic petrochemical giant Wanhua Chemical Group Co., LTD., Zhejiang Petrochemical Co., LTD., Jiangsu Shenghong (Lianyungang) Co., LTD., Shandong Hualu Hengsheng Chemical Co., LTD. Xin Laisen has a fast computer quotation system, reasonable and sufficient inventory and well-trained customer service team.

Our mission is to:
The seal of China to the world, the seal of the world to China.
Our goals are:
Where needs seals, theres an Xin Laisen!

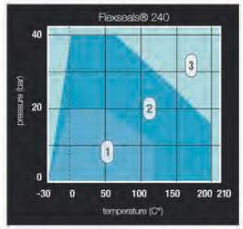
The Flexseals series products are made by bonding organic fibers and rubber, and due to their extremely flexible anti chemical and physical properties, they have great versatility. This series of products can provide different types of products formed by different internal fillers, so the sealing gasket can ensure excellent sealing performance under most chemicals and most temperatures and operating pressures, thanks to the addition of internal reinforcement fillers. Flexseals series panels can provide fillers based on synthetic fibers, mineral fibers, aramid fibers, and carbon fibers. All products in this series are made of the highest quality materials and have maximum versatility, ensuring maximum reliability and durability even in critical sealing applications.



FMI®163

Components	Organic fiber bonded with NBR/SBR
Density DIN 28090-2 (g/cm3)	1.7 - 2.1
Maximum operating temperature - Continuous temperature (℃)	140
Maximum operating temperature - Peak temperature (℃)	210
Maximum operating pressure (Mpa)	7
Leakage rate is 3535-6 (mg*s-1* m-1)	0,1
Stress resistance *-16h/175℃ Din 52913 (MPa)	20
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	10
ASTM Fuel B 5h/23°C max (%) ASTM F 146	15
Sheet dimensions (mm)	1.500x1.000,1.500x1.500 1.500x3.000
Sheet thickness (mm)	0.5-5.0
Tolerance	
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	Green

Use environment:
It is suitable for low-temperature and medium-pressure applications, especially for sealing cold water, hot water and general chemicals.



FMI®240

Components	Organic fiber bonded with NBR
Density DIN 28090-2 (g/cm3)	1.6-1.9
Maximum operating temperature - Continuous temperature (℃)	140
Maximum operating temperature - Peak temperature (℃)	350
Maximum operating pressure (Mpa)	10
Leakage rate is 3535-6 (mg*s-1* m-1)	0,1
Stress resistance *-16h/175℃ Din 52913 (MPa)	20
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	5
ASTM Fuel B 5h/23°C max (%) ASTM F 146	5
Sheet dimensions (mm)	1.500x1.000,1.500x1.500 1.500x3.000
Sheet thickness (mm)	0.5-5.0
Tolerance	
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	Blue

Use environment:
It is suitable for sealing cold water, hot water, steam, oil, fuel, gas and general chemicals.

（1）Applicable scope （2）Recommend technical consultation
（3）Technical consultation is required

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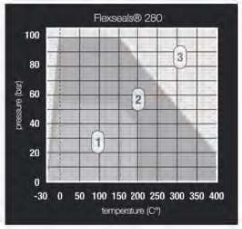


FMI®280

Components	Organic fiber bonded with NBR
Density DIN 28090-2 (g/cm3)	1.7 - 2.0
Maximum operating temperature - Continuous temperature (℃)	250
Maximum operating temperature - Peak temperature (℃)	400
Maximum operating pressure (Mpa)	10
Leakage rate is 3535-6 (mg*s-1* m-1)	0,06
Stress resistance *-16h/175℃ Din 52913 (MPa)	30
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	3
ASTM Fuel B 5h/23°C max (%) ASTM F 146	5
Sheet dimensions (mm)	1.500x1.000,1.500x1.500
Sheet thickness (mm)	1.500x3.000
Tolerance	0.5-5.0
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	Black

Use environment:
It is suitable for sealing steam (including superheated steam), water, oil, solvent, fuel, gas, general chemicals, dilute acids and alkalis and many other industrial applications.

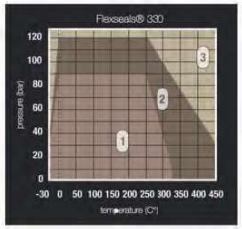
FMI280®Metallic

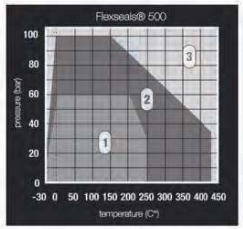
Components	Organic fiber bonded with NBR and added with metal mesh
Density DIN 28090-2 (g/cm3)	1.9 - 2.2
Maximum operating temperature - Continuous temperature (℃)	250
Maximum operating temperature - Peak temperature (℃)	400
Maximum operating pressure (Mpa)	12
Leakage rate is 3535-6 (mg*s-1* m-1)	0,08
Stress resistance *-16h/175℃ Din 52913 (MPa)	32
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	3
ASTM Fuel B 5h/23°C max (%) ASTM F 146	5
Sheet dimensions (mm)	1.500x1.000,1.500x1.500
Sheet thickness (mm)	1.500x3.000
Tolerance	1.0-5.0
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	Black

Use environment:
It is suitable for a wide range of industrial applications, such as sealing steam (including superheated steam), water, oil, solvent, fuel, gas, general chemicals, dilute acids and alkalis.

We can provide customized sizes and thicknesses according to customer requirements. The maximum temperature and pressure values cannot be used simultaneously. The above parameters are the parameter values for products with a thickness of 2mm* The above parameter values are also applicable to products with a thickness of 1.5mm.

（1）Applicable scope （2）Recommend technical consultation
（3）Technical consultation is required





FMI®330

Components	High quality mineral and aramid fiber bonded with NBR
Density DIN 28090-2 (g/cm3)	1.7 - 2.0
Maximum operating temperature - Continuous temperature (℃)	330
Maximum operating temperature - Peak temperature (℃)	450
Maximum operating pressure (Mpa)	12
Leakage rate is 3535-6 (mg*s-1* m-1)	0,04
Stress resistance *-16h/175℃ Din 52913 (MPa)	32
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	3
ASTM Fuel B 5h/23°C max (%) ASTM F 146	5
Sheet dimensions (mm)	1.500x1.000,1.500x1.500 1.500x3.000
Sheet thickness (mm)	0.5-5.0
Tolerance	
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	White

Use environment:
It is suitable for general industrial applications with asbestos-free sheets, to replace CAF materials with the same thickness.

FMI®500

Components	Carbon fiber bonded with high quality nitrile rubber
Density DIN 28090-2 (g/cm3)	1.6 -1.9
Maximum operating temperature - Continuous temperature (℃)	250
Maximum operating temperature - Peak temperature (℃)	400
Maximum operating pressure (Mpa)	10
Leakage rate is 3535-6 (mg*s-1* m-1)	0,05
Stress resistance *-16h/175℃ Din 52913 (MPa)	32
Compression rate ASTM F 36-J (%)	5-15
Rebound rate ASTM F 36-J (%) min.	50
ASTM Oil-IRM 903 5h/150°C max (%) ASTM F 146	3
ASTM Fuel B 5h/23°C max (%) ASTM F 146	5
Sheet dimensions (mm)	1.500x1.000,1.500x1.500
Sheet thickness (mm)	1.500x3.000
Tolerance	0.5-5.0
Sheet dimensions (mm)	+/- 50
Sheet thickness (mm)	+/-10
Color	Black

Use environment:
It is suitable for various industrial applications, including sealing oil, fuel, steam, water and dilute acids, especially for sealing highly corrosive liquids.

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	FLEXSEALS® 163	FLEXSEALS® 240	FLEXSEALS® 280	FLEXSEALS® 330	FLEXSEALS® 500
100% acetic acid	●	●	●	●	●
Acetone	●	●	●	●	●
Acetylene	●	●	●	●	●
Air	●	●	●	●	●
Aluminium chloride	●	●	●	●	●
Ammonia	●	●	●	●	●
Ammonium hydrogen phosphate	●	●	●	●	●
Barium chloride	●	●	●	●	●
Benzene	●	●	●	●	●
Boric acid	●	●	●	●	●
Calcium hydroxide	●	●	●	●	●
Carbon dioxide	●	●	●	●	●
Cupric sulfate	●	●	●	●	●
Crude oil	●	●	●	●	●
Cyclohexanol	●	●	●	●	●
Cyclohexanone	●	●	●	●	●
Dibutyl phthalate	●	●	●	●	●
Ethyl ether	●	●	●	●	●
Ethene	●	●	●	●	●
Ethylene glycol	●	●	●	●	●
10% formic acid	●	●	●	●	●
Glycerin	●	●	●	●	●
Hydraulic oil (mineral)	●	●	●	●	●
Dried hydrogen chloride	●	●	●	●	●
20% hydrochloric acid	●	●	●	●	●
Dry chlorine gas	●	●	●	●	●
Chloroform	●	●	●	●	●
Isooctane	●	●	●	●	●
Kerosene	●	●	●	●	●
Dichloromethane	●	●	●	●	●
Natural gas	●	●	●	●	●
20% nitric acid	●	●	●	●	●
Nitrogen	●	●	●	●	●
Gasoline	●	●	●	●	●
Petroleum	●	●	●	●	●
Phenol	●	●	●	●	●
Purified water	●	●	●	●	●
Potassium cyanide	●	●	●	●	●
Potassium iodide	●	●	●	●	●
Saturated steam	●	●	●	●	●
Silicone oil	●	●	●	●	●
Sodium carbonate	●	●	●	●	●
Sodium bicarbonate	●	●	●	●	●
Sodium bisulfite	●	●	●	●	●
Sodium hydroxide	●	●	●	●	●
Sodium chloride	●	●	●	●	●
Sodium sulfate	●	●	●	●	●
Sugar	●	●	●	●	●
65% sulfuric acid	●	●	●	●	●
Tartaric acid	●	●	●	●	●
Tetrachloromethane	●	●	●	●	●
Toluene	●	●	●	●	●
Transformer oil	●	●	●	●	●
Turpentine	●	●	●	●	●
Xylene	●	●	●	●	●

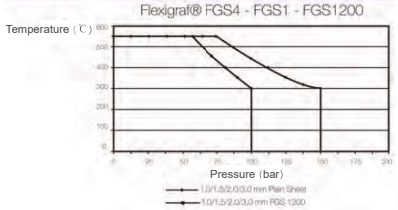
● Applicable
● Not applicable
● Depending on operating conditions

Flexigraf FGS is a multi–layer sheet product based on high–purity graphite, reinforced with stainless steel, nickel, aluminum, and many other materials. This product series is particularly suitable for sealing high–temperature saturated steam and corrosive non oxidizing chemical reagents with a pressure of 200 bar up to 700 ° C Multiflex is a multi–layer board that can withstand pressures of up to 300 bar. Unigraph is a product series based on high–purity graphite, which can provide different densities and stress resistance. High temperature resistance is achieved by coating polymers on both sides of the graphite sheet. This series of products is very easy to cut and process. It also has good sealing effect at high temperatures, suitable for use on saturated steam and corrosive non oxidizing chemical reagents not exceeding 650 ° C and 120 bar. Flexigraf FGS is a multi–layer sheet product based on high–purity graphite, reinforced with stainless steel, nickel, aluminum, and many other materials. This product series is particularly suitable for sealing high–temperature saturated steam and corrosive non oxidizing chemical reagents with a pressure of 200 bar up to 700 ° C Multiflex is a multi–layer board that can withstand pressures of up to 300 bar. Unigraph is a product series based on high–purity graphite, which can provide different densities and stress resistance. High temperature resistance is achieved by coating polymers on both sides of the graphite sheet. This series of products is very easy to cut and process. It also has good sealing effect at high temperatures, suitable for use on saturated steam and corrosive non oxidizing chemical reagents not exceeding 650 ° C and 120 bar.

FMI®FGS1

Components	Graphite laminate reinforced with pure nickel foil core sheets
Density DIN 28090-2 (g/cm3)	1 – 1,2
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	150
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1
Stress resistance DIN 3535-6 (%)	<5
Compression rate DIN 3535-6 (%)	30 – 45
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000x1.000,1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/-10
Color	Black

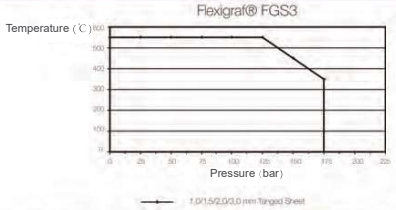
Use environment:
It is suitable for general gasket applications and can be used for sealing steam and most chemical categories excluding strong oxidants, especially for cutting.



FMI®FGS3

Components	Graphite laminate reinforced with stainless steel core sheets
Density DIN 28090-2 (g/cm3)	1,2-1,5
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	200
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1
Stress resistance DIN 3535-6 (%)	<5
Compression rate DIN 3535-6 (%)	30 – 45
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000x1.000,1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/-10
Color	Black

Use environment:
It is recommended for sealing applications under high temperature and high pressure. A strong sheet is formed by adding steel reinforcement layer. FGS 3 can be used for sealing a wide range of substances, excluding strong oxidants at extreme temperatures and pressures. FGS3 is suitable for power plant and petrochemical fields.



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FMI®FGS4

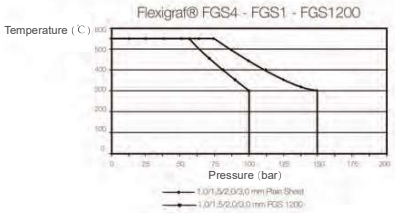
Components	Graphite laminate reinforced with flat stainless steel core sheets
Density DIN 28090-2 (g/cm3)	1,15 – 1,45
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	150
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1
Stress resistance DIN 3535-6 (%)	<5
Compression rate DIN 3535-6 (%)	30 – 45
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000×1.000, 1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black

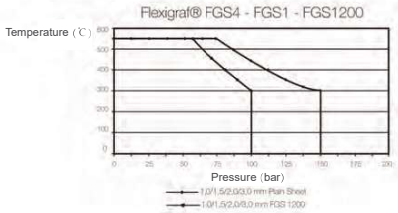
Use environment:
It is recommended for sealing applications under high temperature and high pressure. A solid sheet with good processing characteristics is formed by adding core reinforcements. FGS 4 can be used for sealing various media excluding strong oxidants at extreme temperatures and pressures. With the soft properties of the graphite surface coating, FGS 4 is suitable for sealing between frayed or dented flanges. FG4 is suitable for power plant and petrochemical fields.

FMI FGS 1200

Components	Graphite laminate reinforced with pure aluminum alloy core sheets
Density DIN 28090-2 (g/cm3)	1-1,2
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	100
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1
Stress resistance DIN 3535-6 (%)	<5
Compression rate DIN 3535-6 (%)	30 – 50
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000×1.000, 1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black

Use environment:
It is recommended for sealing applications under high temperature and high pressure. It can be used for sealing various media, excluding strong oxidants and acetic acid. With the soft properties of the graphite surface coating, FGS 1200 is suitable for sealing between frayed or dented flanges.





FMI®Multiflex HPT

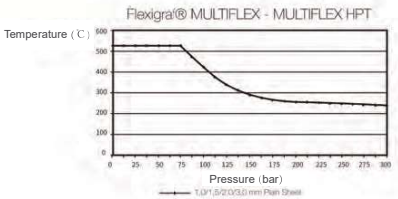
Components	Graphite laminate reinforced with stainless steel multilayer core sheets
Density DIN 28090-2 (g/cm3)	1,4-1,6
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	300
Leakage rate DIN 3535-6 (mg*s-rm-1)	⩽0.1
Stress resistance DIN 3535-6 (%)	⩽5
Compression rate DIN 3535-6 (%)	30 – 45
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000x1.000 1.500x1.000, 1.500x1.500
Sheet thickness (mm)	1-6
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black

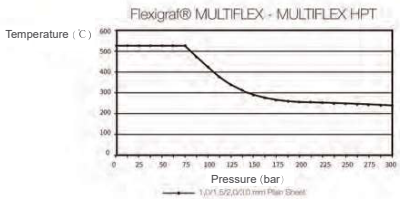
Use environment:
Multiflex is a multilayer sheet made of graphite with a thickness of 0.5mm and a density of 1.1 added with SS316L flat sandwich with a thickness of 0.05mm. Depending on the desired sheet thickness, different amounts of SS316L and graphite foil layers are used. For example, for a final thickness of 3mm, 5 SS316L layers and 6 graphite layers will be used.

FMI®Multiflesx

Components	Graphite laminate reinforced with flat stainless steel multilayer core sheets
Density DIN 28090-2 (g/cm3)	1,3-1,6
Recommended min/max operating temperature - Peak temperature (℃)	-200/+550
Maximum operating pressure (bar)	300
Leakage rate DIN 3535-6 (mg*s-rm-1)	⩽0.1
Stress resistance DIN 3535-6 (%)	⩽5
Compression rate DIN 3535-6 (%)	30 – 45
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.000x1.000 1.500x1.000, 1.500x1.500
Sheet thickness (mm)	1-6
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black

Use environment:
The joint is made of a special hot processed adhesive. Multiflex is a sealing material with excellent mechanical properties, and is suitable for applications with high bolt torque. In order to obtain the lowest leakage rate, some gaskets with inner and outer hole rings can be produced.





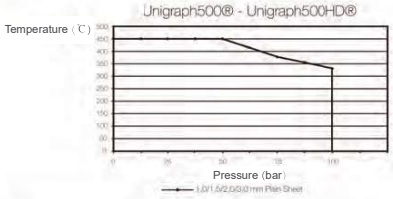
Unigraph It is a unique product series in the field of sheet metal. It is made of graphite plates coated with polymer on both sides, achieving a discontinuous process. The composition of this material makes it suitable for high temperature (up to 450 ° C) applications and low temperature (-196 ° C) applications. Due to its chemical inertness, which comes with being made of graphite, it is also widely used. Unigraph At temperatures as high as 450 ° C, stability and creep relaxation are less than 10/12%. The following chart fully describes Unigraph Usage during thermal cycling and continuous exposure to high temperatures, as well as Unigraph Comparison of creep values between compressed non asbestos boards. This patented process enables Unigraph Very easy to cut, while also possessing the characteristics of flexibility, sturdiness, and durability.

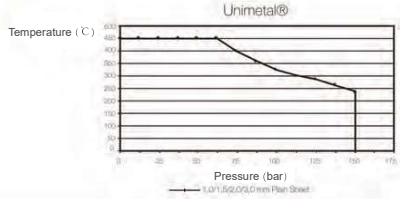
FMI®Unigraph 500

Components	Graphite sheet coated with polymer layers on both sides
Density DIN 28090-2 (g/cm3)	0,9 – 1,1
Recommended min/max operating temperature - Peak temperature (℃)	-200/+450
Maximum operating pressure (bar)	100
Leakage rate DIN 3535-6 (mg*s-rm-1)	⩽0.1
Stress resistance DIN 3535-6 (%)	⩽8
Compression rate DIN 3535-6 (%)	40 – 50
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.500x1.000 1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black

FMI®Unimetal

Components	Graphite sheet coated with polymer layers on both sides and reinforced with wire mesh
Density DIN 28090-2 (g/cm3)	0,9 – 1,1
Recommended min/max operating temperature - Peak temperature (℃)	-200/+450
Maximum operating pressure (bar)	150
Leakage rate DIN 3535-6 (mg*s-rm-1)	⩽0.1
Stress resistance DIN 3535-6 (%)	⩽8
Compression rate DIN 3535-6 (%)	40 – 50
Rebound rate DIN 3535-6 (%)	3 - 7
Sheet dimensions (mm)	1.500x1.000 1.500x1.500
Sheet thickness (mm)	0.5-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Black





We can provide customized sheets of other sizes and thicknesses according to customer requirements.
The maximum temperature and pressure values cannot be used simultaneously.
The above parameters are the parameter values for products with a thickness of 1.5mm.

PLANI CHEM
SICHEM SOLUTIONS

Flexigraf® And Unigraph® Chemical Compatibility Guidelines

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Acetaldehyde	●	●	●	●
Acetamide	●	●	●	●
Acetic acid	●	●	●	●
Arabic anhydride	●	●	●	●
Acetone	●	●	●	●
Acetone alcohol	●	●	●	●
Acetophenone	●	●	●	●
Acetaminofluorene	●	●	●	●
Acetylene	●	●	●	●
Acrolein	●	●	●	●
Acrylamide	●	●	●	●
Acrylic acid	●	●	●	●
Acrylic anhydride	●	●	●	●
Acrylonitrile	●	●	●	●
Adipic acid	●	●	●	●
Adipic dinitrile	●	●	●	●
Air	●	●	●	●
Allyl acetate	●	●	●	●
Propylene chloride	●	●	●	●
Allyl methacrylate	●	●	●	●
Aluminium chloride	●	●	●	●
Aluminium fluoride	●	●	●	●
Aluminium hydroxide (solid)	●	●	●	●
Molten aluminium	●	●	●	●
Aluminium nitrate	●	●	●	●
Aluminium sulfate	●	●	●	●
Vitriol	●	●	●	●
Paracetamol	●	●	●	●
Ammonia, below 70 °C	●	●	●	●
Ammonia, above 70 °C	●	●	●	●
Ammonia, liquid, anhydrous	●	●	●	●
Ammonium chloride	●	●	●	●
Ammonium hydroxide	●	●	●	●
Ammonium nitrate	●	●	●	●
Ammonium monophosphate	●	●	●	●
Diammonium phosphate	●	●	●	●
Ammonium phosphate	●	●	●	●
Ammonium sulfate	●	●	●	●
Amyl acetate	●	●	●	●
Ammonium sulfate	●	●	●	●
Aniline, aniline oil	●	●	●	●
Aniline hydrochloride	●	●	●	●
Aniline dye	●	●	●	●
Anisylamine	●	●	●	●
Antimony trichloride	●	●	●	●
Aqua regia	●	●	●	●
Polychlorinated biphenyls or alachlor	●	●	●	●
Aromatic hydrocarbon	●	●	●	●
Arsenate acid	●	●	●	●
Arsenous acid	●	●	●	●
Asphalt	●	●	●	●
Aviation gasoline	●	●	●	●
Barium chloride	●	●	●	●
Barium hydroxide	●	●	●	●
Barium sulfide	●	●	●	●
Baikon	●	●	●	●
Beer	●	●	●	●
Benzaldehyde	●	●	●	●
Benzene	●	●	●	●
Benethane sulfonic acid	●	●	●	●
Benzidine	●	●	●	●
Benzoic acid	●	●	●	●
Benzonitrile	●	●	●	●
Benzoquinone	●	●	●	●
Benzene trichloride	●	●	●	●
Benzoyl chloride	●	●	●	●
Benzyl alcohol	●	●	●	●
Benzyl chloride	●	●	●	●
Biodiesel (B100)	●	●	●	●
Buffenny	●	●	●	●
Bis (2-chloroethyl) ether	●	●	●	●
Bis (chloromethyl) ether	●	●	●	●
Di-(2-ethylhexyl) phthalate	●	●	●	●
Black vitriol	●	●	●	●
Blast furnace gas	●	●	●	●
Bleach (sodium hypochlorite)	●	●	●	●
Boiler feed water	●	●	●	●
Borax	●	●	●	●
Boric acid	●	●	●	●
Salt water (sodium oxide)	●	●	●	●
Bromine	●	●	●	●
Bromine trifluoride	●	●	●	●
Bromoform	●	●	●	●
Bromomethane	●	●	●	●
Butadiene	●	●	●	●
Butane	●	●	●	●
Butanone	●	●	●	●
Butyl acetate	●	●	●	●
Butanol	●	●	●	●
Butylamine	●	●	●	●
Tert-butyl amine	●	●	●	●
Butyl methacrylate	●	●	●	●
Butyric acid	●	●	●	●
Calcium bisulfite	●	●	●	●
Calcium chloride	●	●	●	●
Calcium cyanamide	●	●	●	●

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Calcium hydroxide	●	●	●	●
Calcium hypochlorite	●	●	●	●
Calcium nitrate	●	●	●	●
Sucrose wine	●	●	●	●
Caprolactam	●	●	●	●
Captan	●	●	●	●
Carbarb	●	●	●	●
Carboxylic acid, phenol	●	●	●	●
Dry carbon dioxide	●	●	●	●
Wet carbon dioxide	●	●	●	●
Carbon disulfide	●	●	●	●
Carbon monoxide	●	●	●	●
Carbon tetrachloride	●	●	●	●
Carbon addition	●	●	●	●
Carboxysulfide	●	●	●	●
Castor oil	●	●	●	●
Catechol	●	●	●	●
Caustic soda	●	●	●	●
Cetane	●	●	●	●
Chinese wood oil	●	●	●	●
Chloramine	●	●	●	●
Chlorazolac (Aqua regia)	●	●	●	●
Chlordane	●	●	●	●
Dry chlorinated solvent	●	●	●	●
Wet chlorinated solvent	●	●	●	●
Dry chlorine	●	●	●	●
Wet chlorine	●	●	●	●
Chlorine dioxide	●	●	●	●
Chlorine trifluoride	●	●	●	●
Chloroacetic acid	●	●	●	●
Chlorophenone	●	●	●	●
Chlorobenzene	●	●	●	●
Chlorobenzoate	●	●	●	●
Chloroethane	●	●	●	●
Vinyl chloride	●	●	●	●
Chloroform	●	●	●	●
Chloromethyl methyl ether (CMME)	●	●	●	●
Chloric acid	●	●	●	●
Chloroprene	●	●	●	●
Chlorosulfonic acid	●	●	●	●
Chromic acid	●	●	●	●
Chromic anhydride	●	●	●	●
Chromium sesquioxide	●	●	●	●
Citric acid	●	●	●	●
Coke oven gas	●	●	●	●
Cupric chloride	●	●	●	●
Cupric sulfate	●	●	●	●
Corn oil	●	●	●	●
Cottonseed oil 10	●	●	●	●
Creosote	●	●	●	●
Cresol, cresol acid	●	●	●	●
Crotonic acid	●	●	●	●
Crude oil	●	●	●	●
Isopropylbenzene	●	●	●	●
Cyclohexane	●	●	●	●
Cyclohexanol	●	●	●	●
Cyclohexanone	●	●	●	●
Diazomethane	●	●	●	●
Dibenzofuran	●	●	●	●
Dibenzyl ether	●	●	●	●
Bromopropane	●	●	●	●
Dibromoethane	●	●	●	●
Dibutyl phthalate	●	●	●	●
Dibutyl sebacate	●	●	●	●
Dichlorobenzene	●	●	●	●
Dichlorobendiene	●	●	●	●
Dichloroethane	●	●	●	●
Dichloroethylene	●	●	●	●
Dichloroethyl ether	●	●	●	●
Dichloromethane	●	●	●	●
Dichloropropane	●	●	●	●
Dichloropropylene	●	●	●	●
Dichlorphos	●	●	●	●
Diesel oil	●	●	●	●
Diethanolamine	●	●	●	●
Diethylaniline	●	●	●	●
Diethyl carbonate vinegar	●	●	●	●
Diethyl sulfate	●	●	●	●
Dimethoxybenzaldehyde	●	●	●	●
Dimethylaminoazobenzene	●	●	●	●
Dimethylaniline	●	●	●	●
Dimethylbenzidine	●	●	●	●
Dimethylcarbamyl chloride	●	●	●	●
Dimethyl ether	●	●	●	●
Dimethylformamide	●	●	●	●
Dimethyl phthalate	●	●	●	●
Dimethyl sulfate	●	●	●	●
Dinitrophenol	●	●	●	●
Dinitrotoluene	●	●	●	●
Dioxane	●	●	●	●
Epichlorohydrin	●	●	●	●
E85 (85% ethanol, 15% gas)	●	●	●	●
Butane oxide	●	●	●	●
Ethane	●	●	●	●
Ethers	●	●	●	●
Ethyl acetate	●	●	●	●

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Ethyl acrylate	●	●	●	●
Ethyl alcohol	●	●	●	●
Ethylbenzene	●	●	●	●
Ethyl carbamate	●	●	●	●
Ethyl cellulose	●	●	●	●
Chloroethane	●	●	●	●
Ethyl ether	●	●	●	●
Ethyl caproate	●	●	●	●
Ethene	●	●	●	●
Vinyl bromide	●	●	●	●
Ethylene dibromide	●	●	●	●
Dichloroethane	●	●	●	●
Ethylene glycol	●	●	●	●
Ethylimide	●	●	●	●
Ethylene oxide	●	●	●	●
Vinyl thiourea	●	●	●	●
Ethynidine chloride	●	●	●	●
Ferric chloride	●	●	●	●
Ferric phosphate	●	●	●	●
Ferric sulfate	●	●	●	●
Fluorine gas	●	●	●	●
Fluorine, liquid	●	●	●	●
Fluorine dioxide	●	●	●	●
Formaldehyde	●	●	●	●
Formic acid	●	●	●	●
Fuel	●	●	●	●
Fuel, acid	●	●	●	●
Refined gasoline	●	●	●	●
Gelatin	●	●	●	●
Glucose	●	●	●	●
Glycerin	●	●	●	●
Ethylene glycol	●	●	●	●
Grain wine	●	●	●	●
Grease, oil base	●	●	●	●
Green sult	●	●	●	●
Heptachlor	●	●	●	●
Heptane	●	●	●	●
Hexachlorobenzene	●	●	●	●
Hexachloroprene	●	●	●	●
Hexachlorocyclopentadiene	●	●	●	●
Hexachloroethane	●	●	●	●
Cetane	●	●	●	●
Hexamethylene hexacyanate	●	●	●	●
Hexamethylphosphamide	●	●	●	●
n-hexane	●	●	●	●
Hexanone	●	●	●	●
Mineral hydraulic oil	●	●	●	●
Phosphate ester	●	●	●	●
Hydrazine	●	●	●	●
Hydrobromic acid	●	●	●	●
Hydrochloric acid	●	●	●	●
Hydrochloric acid, dry	●	●	●	●
Hydrochloric acid, 20%	●	●	●	●
Hydrocyanic acid	●	●	●	●
Anhydrous hydrofluoric acid	●	●	●	●
Hydrofluoric acid, below 65%, above 70 °C	●	●	●	●
Hydrofluoric acid, 65% to anhydrous, above 70 °C	●	●	●	●
Hydrofluoric acid, maximum anhydrous, 70 °C and below	●	●	●	●
Hydrofluorosilicate acid	●	●	●	●
Hydrofluorosilicate acid	●	●	●	●
Hydrogen	●	●	●	●
Hydrogen bromide	●	●	●	●
Chlorine fluoride	●	●	●	●
Hydrogen dioxide 10%	●	●	●	●
Hydrogen peroxide, 10-90%	●	●	●	●
Dry or wet hydrogen sulfide	●	●	●	●
Hydroquinone	●	●	●	●
Iodine pentafluoride	●	●	●	●
Chloromethane	●	●	●	●
Isobutane	●	●	●	●
Isooctane	●	●	●	●
Isophorone	●	●	●	●
Isopropyl alcohol	●	●	●	●
Aviation fuel	●	●	●	●
Kerosene	●	●	●	●
Lacquer solvent	●	●	●	●
Lacquerware	●	●	●	●
Lactic acid below 70 °C	●	●	●	●
Lactic acid above 70 °C	●	●	●	●
Lime saltpeter	●	●	●	●
Lindane	●	●	●	●
Flaxseed oil	●	●	●	●
Liquefied petroleum gas	●	●	●	●
Lithium bromide	●	●	●	●
Lithium	●	●	●	●
Refined oil	●	●	●	●
Lubricate mineral or petroleum type	●	●	●	●
Acid	●	●	●	●
Alkali	●	●	●	●
Magnesium chloride	●	●	●	●
Magnesium hydroxide	●	●	●	●
Magnesium sulfate	●	●	●	●
Maleic acid	●	●	●	●
Maleic anhydride	●	●	●	●
Mercuric chloride	●	●	●	●
Mercury	●	●	●	●

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Methane	●	●	●	●
Methanol	●	●	●	●
Methoxychlor	●	●	●	●
Methacrylic acid	●	●	●	●
Carbinol	●	●	●	●
Methylaziridine	●	●	●	●
Bromomethane	●	●	●	●
Chloromethane	●	●	●	●
Methyl chloroform	●	●	●	●
4, 4-methylene bis (2-chloroaniline)	●	●	●	●
Dichloromethane	●	●	●	●
Methylene diphenylamine	●	●	●	●
Methylene diphenyl diisocyanate	●	●	●	●
Methyl ethyl ketone (MEK)	●	●	●	●
Methylhydrazine	●	●	●	●
Iodomethane	●	●	●	●
Methyl isobutyl ketone (MIBK)	●	●	●	●
Methyl isocyanate	●	●	●	●
Methyl methacrylate	●	●	●	●
Methylpyrrolidone	●	●	●	●
Methyl butyl ether (MTBE)	●	●	●	●
Cow's milk	●	●	●	●
Mineral oil	●	●	●	●
Molten alkali metal	●	●	●	●
Monomethylamine	●	●	●	●
Thiocyanic acid	●	●	●	●
Naphtha	●	●	●	●
Naphthalene	●	●	●	●
Naphthol	●	●	●	●
Natural gas	●	●	●	●
Nickel chloride	●	●	●	●
Nickel sulfate	●	●	●	●
Nitric acid, less than 30%	●	●	●	●
Nitric acid, greater than 30%	●	●	●	●
Nitric acid, coarse	●	●	●	●
Nitric acid, red smoke	●	●	●	●
Nitrobenzene	●	●	●	●
Nitrobiphenyl	●	●	●	●
Nitrobutanol	●	●	●	●
Calcium nitrite	●	●	●	●
Nitrogen	●	●	●	●
Nitrogen tetraoxide	●	●	●	●
Nitrile hydrochloride	●	●	●	●
Nitromethane	●	●	●	●
2-nitro-2-methylpropanol	●	●	●	●
Nitrite (Aqua Regia)	●	●	●	●
Nitrophenol	●	●	●	●
Nitropropane	●	●	●	●
Nitrosodimethylamine	●	●	●	●
Nitroso-methylurea	●	●	●	●
Nitroso-morpholine	●	●	●	●
Nickel nitrate (calcium nitrate)	●	●	●	●
Norwegian saltpeter (calcium nitrate)	●	●	●	●
Octadecyl alcohol	●	●	●	●
Octane	●	●	●	●
Oil	●	●	●	●
Oils, animals and vegetables	●	●	●	●
Oleic acid	●	●	●	●
Oiliness	●	●	●	●
o-chlorobenzene	●	●	●	●
Oxalic acid	●	●	●	●
Oxygen, gas (BAM approved)	●	●	●	●
Ozone	●	●	●	●
Palmitic acid	●	●	●	●
Paraffin	●	●	●	●
Parathion	●	●	●	●
p-xylene	●	●	●	●
Pentachloronitrobenzene	●	●	●	●
Pentachlorophenol	●	●	●	●
Pentane	●	●	●	●
Perchloric acid	●	●	●	●
Perchloroethylene	●	●	●	●
Crude oil	●	●	●	●
Refined petroleum	●	●	●	●
Phenol	●	●	●	●
Phenylenediamine	●	●	●	●
Phosgene	●	●	●	●
Phosphate ester	●	●	●	●
Phosphine	●	●	●	●
Crude phosphoric acid	●	●	●	●
Phosphoric acid, with a purity of less than 45%	●	●	●	●
Phosphoric acid, with a purity of greater than 45%	●	●	●	●
Phosphoric acid, with a purity of greater than 45%, more than 70%	●	●	●	●
Phosphorus	●	●	●	●
Phosphorus pentachloride	●	●	●	●
Phthalic acid	●	●	●	●
Phthalic anhydride	●	●	●	●
Picric acid	●	●	●	●
Picric acid solution	●	●	●	●
Pinene	●	●	●	●
Polyacrylonitrile	●	●	●	●
Polychlorinated biphenyls	●	●	●	●
Potassium carbonate. Potassium carbonate	●	●	●	●
Potassium acetate	●	●	●	●
Potassium dichlorate	●	●	●	●

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Potassium acetate	●	●	●	●
Potassium dichlorate	●	●	●	●
Potassium chlorate, red	●	●	●	●
Potassium cyanide	●	●	●	●
Potassium dichlorate	●	●	●	●
Potassium	●	●	●	●
Potassium hydroxide	●	●	●	●
Potassium iodide	●	●	●	●
Potassium nitrate	●	●	●	●
Potassium permanganate	●	●	●	●
Potassium sulfite	●	●	●	●
Gas production	●	●	●	●
Propane	●	●	●	●
Propane sulfonolactone	●	●	●	●
β-propanolactone	●	●	●	●
Propanal	●	●	●	●
Propyl alcohol	●	●	●	●
Propyl nitrate	●	●	●	●
Propylene	●	●	●	●
Propylene dichloride	●	●	●	●
Propanediol	●	●	●	●
Propylene oxide	●	●	●	●
Premine	●	●	●	●
Alginic acid, hydrocyanic acid	●	●	●	●
Pyridine	●	●	●	●
Quorino	●	●	●	●
Quinone	●	●	●	●
Type 10 refrigerant	●	●	●	●
Type 11 refrigerant	●	●	●	●
Type 12 refrigerant	●	●	●	●
Type 13 refrigerant	●	●	●	●
Type 13B1 refrigerant	●	●	●	●
Type 21 refrigerant	●	●	●	●
Type 22 refrigerant	●	●	●	●
Type 23 refrigerant	●	●	●	●
Type 31 refrigerant	●	●	●	●
Type 32 refrigerant	●	●	●	●
Type 112 refrigerant	●	●	●	●
Type 113 refrigerant	●	●	●	●
Type 114 refrigerant	●	●	●	●
Type 114B2 refrigerant	●	●	●	●
Type 115 refrigerant	●	●	●	●
Type 123 refrigerant	●	●	●	●
Type 124 refrigerant	●	●	●	●
Type 125 refrigerant	●	●	●	●
Type 134a refrigerant	●	●	●	●
Type 141b refrigerant	●	●	●	●
Type 142b refrigerant	●	●	●	●
Type 143a refrigerant	●	●	●	●
Type 152a refrigerant	●	●	●	●
Type 218 refrigerant	●	●	●	●
Type 290 refrigerant (Propane)	●	●	●	●
Type 500 refrigerant	●	●	●	●
Type 502 refrigerant	●	●	●	●
Type 503 refrigerant	●	●	●	●
Type 507 refrigerant	●	●	●	●
Type 717 refrigerant (Ammonia)	●	●	●	●
Type 744 refrigerant (Carbon dioxide)	●	●	●	●
Type C316 refrigerant	●	●	●	●
Type C318 refrigerant	●	●	●	●
Type HP62 refrigerant	●	●	●	●
Type HP80 refrigerant	●	●	●	●
Type HP81 refrigerant	●	●	●	●
Salt water	●	●	●	●
Saltpeter, potassium nitrate	●	●	●	●
Sewage treatment	●	●	●	●
Silicone oil	●	●	●	●
Silver nitrate	●	●	●	●
Baking soda, sodium carbonate	●	●	●	●
Baking soda	●	●	●	●
Sodium bisulfate (dry)	●	●	●	●
Sodium bisulfite	●	●	●	●
Sodium chlorate	●	●	●	●
Sodium chloride	●	●	●	●
Sodium cyanide	●	●	●	●
Sodium	●	●	●	●
Sodium bisulfite	●	●	●	●
Sodium hydroxide	●	●	●	●
Sodium hypochlorite	●	●	●	●
Sodium melaborate peroxyhydrate	●	●	●	●
Sodium metaphosphate	●	●	●	●
Sodium nitrate	●	●	●	●
Sodium perborate	●	●	●	●
Sodium peroxide	●	●	●	●
Sodium dihydrogen phosphate	●	●	●	●
Disodium hydrogen phosphate	●	●	●	●
Sodium ternary phosphate	●	●	●	●
Sodium silicate	●	●	●	●
Sodium sulfate	●	●	●	●
Sodium sulfide	●	●	●	●
Sodium superoxide	●	●	●	●
Sodium thiosulfate	●	●	●	●
Soybean oil	●	●	●	●
Stannic chloride	●	●	●	●
Saturated steam	●	●	●	●
Superheating	●	●	●	●

	UNIGRAPH 500 UNIGRAPH 500 HD	FGS3 - FGS4 - MULTIFLEX MULTIFLEX HPT UNIMETAL	FGS 1200	FGS1
Stearic acid	●	●	●	●
Stoddard solvent	●	●	●	●
Styrene	●	●	●	●
Styrene oxide	●	●	●	●
Sugar	●	●	●	●
Sulfur oxide	●	●	●	●
Sulfur dioxide	●	●	●	●
Quebrith	●	●	●	●
Dry sulfur trioxide	●	●	●	●
Wet sulfur trioxide	●	●	●	●
Sulfuric acid, 10%, below 70 °C	●	●	●	●
Sulfuric acid, 10%, above 70 °C	●	●	●	●
Sulfuric acid, 10-75%, below 260 °C	●	●	●	●
Sulfuric acid, 75-89%, below 270 °C	●	●	●	●
Sulfuric acid, 75-89%, 70 °C-260°C	●	●	●	●
Fuming sulfuric acid	●	●	●	●
Sulfurous acid	●	●	●	●
Tannic acid	●	●	●	●
Tartaric acid	●	●	●	●
TCDB versus dioxins	●	●	●	●
Tert-butyl amine	●	●	●	●
Tetrabromoethane	●	●	●	●
Tetrachloroethane	●	●	●	●
Tetrachloroethylene	●	●	●	●
Tetrahydrofuran, THF	●	●	●	●
Sulfoxide chloride	●	●	●	●
Titanium sulfate	●	●	●	●
Titanium tetrachloride	●	●	●	●
Toluene	●	●	●	●
Toluidine amine	●	●	●	●
Toluene diisocyanate	●	●	●	●
Toluene sulfonic acid	●	●	●	●
Toluidine amine	●	●	●	●
Toxic film	●	●	●	●
Transformer mineral oil	●	●	●	●
Transmission oil A	●	●	●	●
Trichloroacetic acid	●	●	●	●
Trichlorobenzene	●	●	●	●
Trichloroethane	●	●	●	●
Hulk Taylomer	●	●	●	●
Trichlorophenol	●	●	●	●
Tricresyl phosphate	●	●	●	●
Triethanolamine	●	●	●	●
Aluminium triethyl	●	●	●	●
Triethylamine	●	●	●	●
Trifluralin	●	●	●	●
Trimethylpentane	●	●	●	●
Turpentine	●	●	●	●
Urea, below 70°F	●	●	●	●
Urea, above 70°F	●	●	●	●
Paint	●	●	●	●
Vegetable oil	●	●	●	●
Acerbic	●	●	●	●
Vinyl acetate	●	●	●	●
Vinyl bromide	●	●	●	●
Vinyl chloride	●	●	●	●
Vinylidene chloride	●	●	●	●
Vinyl methacrylate	●	●	●	●
Water, acid ore, containing oxidized salt	●	●	●	●
Water, acid ore, no oxidized salt	●	●	●	●
Distillated water	●	●	●	●
Return condensate	●	●	●	●
Seawater	●	●	●	●
Tap water	●	●	●	●
Whiskey	●	●	●	●
Spirit	●	●	●	●
Xylene	●	●	●	●
Zinc chloride	●	●	●	●
Zinc sulfate	●	●	●	●

- apply
- Not applicable
- Depending on operating conditions
- No reference

- apply
- Not applicable
- Depending on operating conditions
- No reference

FM–HIGH And Micatherm It is a material designed and manufactured to meet the most stringent sealing requirements. Its unique chemical formula is unmatched by other materials, and these patented materials (which can act on flat, wound, and toothed pads) have durability and reliability that can be used in all critical applications up to 1000 ° C.

FM–HIGH ® And Micatherm ® Free of oxides.

Mica Micatherm® S15

Components	SS316L steel core plate bonded with mica containing a special resin
Density DIN 28090-2 (g/cm3)	1,65-1,95
Recommended max operating temperature (℃)	900
Maximum operating pressure (bar)	60
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1*
Stress resistance DIN 3535-6 (%)	<12
Compression rate DIN 3535-6 (%)	>16
Rebound rate DIN 3535-6 (%)	>3
Sheet dimensions (mm)	1.500x1.500 1.000x1.000
Sheet thickness (mm)	1-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Gold brown

Use environment:
It is recommended for applications in high temperature environment.

Mica FM High

Components	SS316L steel core plate bonded with biosoluble fibers and mica
Density DIN ASTMF1315 (g/cm3)	1,6 -1,9
Recommended max operating temperature (℃)	950
Maximum operating pressure (bar)	200
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.1*
Stress resistance DIN 3535-6 (%)	<18
Compression rate DIN 3535-6 (%)	>20
Rebound rate DIN 3535-6 (%)	>2.2
Sheet dimensions (mm)	1.500x1.500 1.000x1.000
Sheet thickness (mm)	1-3
Tolerance Sheet dimensions (mm) Sheet thickness (%)	 +/- 50 +/- 10
Color	Gold

Use environment:
It is specially designed for applications in low temperature operating environment and pressure applications with strong oxidizing media.

We can provide customized sheets of other sizes and thicknesses according to customer requirements.
The maximum temperature and pressure values cannot be used simultaneously.
The above parameters are the parameter values for products with a thickness of 1.5mm.

PLANI CHEM
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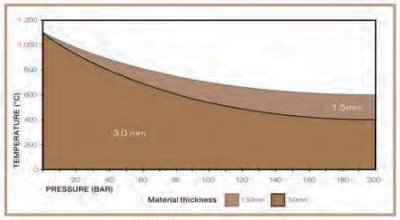
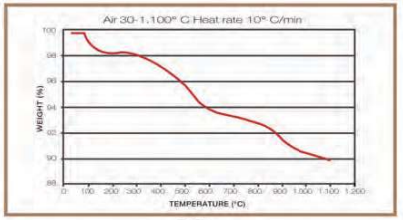
FM–HIGH and Micatherm S15 ® Chemical compatibility guidelines for

Glacial acetic acid	Dye solution	methanol	sulfur dioxide
acetone	ethyl acetate	Methyl isobutyl ketone	Sulfur trioxide
acetylene	ethanol	Methyl methacrylate	Sulfuric acid (concentrated)
Acrylic acid	ethylene glycol	dichloromethane	Sulfuric acid (smoke)
acrylonitrile	ethylene oxide	mineral oil	Tar
air	Ether	Mobil Heat Transfer Oil	turpentine
Alkaline alkaline solution	ethylene	naphthalene	toluene
aluminum chloride	dichloromethane	natural gas	Urban gas
ammonia	fatty acid	Nitric acid (concentrated at 50%)	transformer oil
ammonia	Ferric chloride	Nitric acid (smoke 95%)	Tributyl phosphate
Amyl acetate	fluorine	nitrogen	Triethanolamine
Pentanol	Fluorosilicic acid	Fuming sulfuric acid	urea
aniline	formaldehyde	oxygen	vegetable oil
Aviation fuel	85% formic acid	paraffin wax	Vinyl acetate
beer	Formic acid 10%	Pentachlorophenol	vinyl chloride
benzene	Freon	perchloric acid	Vinylidene chloride
Benzoyl chloride	Gas oil	petroleum	water
biphenyl	gasoline	phenol	Condensed water
Blast furnace gas	Heating oil	phosgene	distilled water
Bleach (solution)	Hydraulic oil (ethylene glycol)	Phosphoric acid (concentrated)	Whiskey
Boiler feedwater	Hydraulic oil (mineral)	Phosphoric acid (dilute)	Wine
brine	Hydraulic oil (phosphate ester)	phosphorus	liquor
bromine	hydrazine	Phthalic anhydride	xylene
Calcium chlorate	Hydrocarbons (aromatic)	Potassium hydroxide	
Caprolactam	Aliphatic hydrocarbons (saturated)	potassium nitrate	
Carbolic acid	Aliphatic hydrocarbons (unsaturated)	potassium permanganate	
carbon dioxide	Hydrochloric acid (37% HO)	Producer gas	
carbon disulfide	hydrofluoric acid	pyridine	
carbon monoxide	hydrogen	seawater	
carbon tetrachloride	Hydrogen chloride	silicone oil	
Chilean saltpeter	Hydrogen fluoride	Soda ash	
Chlorine gas, dry	hydrogen peroxide	Disodium carbonate	
Chlorine gas, wet	hydrogen sulfide	sodium carbonate	
Chlorinated hydrocarbons	Isopropyl acetate	Sodium cyanide	
Chloroacetic acid	Isopropanol	Sodium hydroxide (40%)	
Chlorobenzene	kerosene	Sodium hydroxide (dilute)	
Chromic acid	lime	sodium hypochlorite	
Copper sulfate	lubricating oil	Sodium nitrate	
Creosote oil	engine oil	starch	
Cresol	Magnesium sulfate	steam	
crude oil	malic acid	Steam condensate	
Cyclohexanol	methane	styrene	
Dichlorobenzene	Methyl acrylate	sulfur	

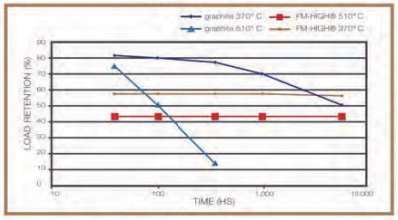


Temperature vs pressure

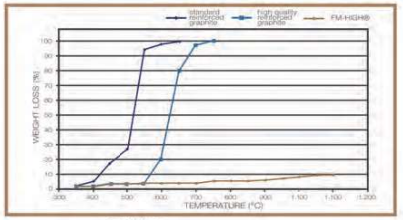


TGA

- apply
- Not applicable
- Depending on operating conditions



Continuous load vs time



Cumulative weight loss

SICHEM The series of products is a special board designed by our company based on bidirectional polytetrafluoroethylene, which combines excellent chemical resistance and high sealing performance SICHEM The series of products has developed to be suitable for various process requirements from low temperature to 260 ° C high temperature, and can come into contact with all corrosive media (pH 0–14) SICHEM It is the best solution to achieve the minimum creep value and sealing integrity, as it is crucial for achieving the minimum leakage rate, while traditional PTFE based materials are not suitable. With patented production processes, the materials we produce have special micropores and closed cell structures. SICHEM The series of products combines low clamp load with high compression rate and sealing performance. These are the best solutions for sealing with irregular sealing surfaces, low loads, or as an alternative to envelope sealing.

Sichem® S11

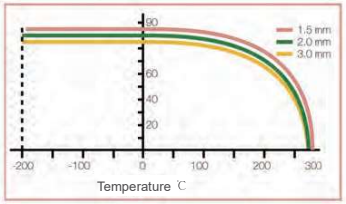
Components	Modified polytetrafluoroethylene containing silica fillers
Density ASTMF 1315 (g/cm3)	2.2
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	80
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.05
Stress resistance 3535-6 (%)	<24
Compression rate DIN 3535-6 (%)	>4
Rebound rate DIN 3535-6 (%)	>1.7
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500
Sheet thickness (mm)	1.750x1.750 0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	Pink

Use environment:
It is suitable for sealing all chemicals in the pH range (0-14), excluding dissolved alkali metals, fluorine gas, hydrogen fluoride or materials that may produce these chemicals.

Sichem® S33

Components	Modified polytetrafluoroethylene containing barium sulfate fillers
Density ASTMF 1315 (g/cm3)	2.8
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	80
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.005
Stress resistance 3535-6 (%)	<28
Compression rate DIN 3535-6 (%)	>4.3
Rebound rate DIN 3535-6 (%)	>2.1
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500
Sheet thickness (mm)	1.750x1.750 0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	Beige white

Use environment:
It is suitable for sealing all chemicals in the pH range (0-14), excluding molten alkali metals, fluorite gas, anhydrous HS and sulfuric acid.



PLANI CHEM
SICHEM SOLUTIONS

Sichem ® S50

Components	Modified polytetrafluoroethylene containing hollow glass fiber fillers
Density ASTMF 1315 (g/cm3)	1.4
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	50
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.05
Stress resistance 3535-6 (%)	<19
Compression rate DIN 3535-6 (%)	>32
Rebound rate DIN 3535-6 (%)	>7
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500
Sheet thickness (mm)	1.750x1.750 0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	Blue

Use environment:
It is specially designed for flanges with low bolt loading only. Such flanges may be glass tube, ceramic, plastic or deformed, including those in areas with low stress gaskets. It is suitable for sealing all chemicals in the pH range (0-14) excluding molten alkali metals, fluorine gas, hydrogen fluoride or materials that may produce these substances.

Sichem ®S59

Components	Modified polytetrafluoroethylene containing mica fillers
Density ASTMF 1315 (g/cm3)	2.1
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	80
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.05
Stress resistance 3535-6 (%)	<42
Compression rate DIN 3535-6 (%)	>4.8
Rebound rate DIN 3535-6 (%)	>3.2
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500
Sheet thickness (mm)	1.750x1.750 0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	Gray

Use environment:
It is specifically designed to reduce leakage of harmful solvents and chemicals and withstand high pressures and temperature changes, and is suitable for standard convex flange assemblies operating at constant temperatures and equipment required for extensive thermal cycling. With the characteristics of high mechanical resistance and low friction coefficient, SICHEM S59 is recommended as a linear bearing belt material and mainly used for guide rails and hooks of machine tools. It can offer low friction and stick-slip free operation, long service life and minimal wear. It is suitable for sealing strong acid, strong corrosion, aromatic and aliphatic groups, heat transfer fluids, steam and refrigerants.

Sichem ® S60

Components	Polytetrafluoroethylene modified with inorganic filler micropores
Density ASTMF 1315 (g/cm3)	0.85
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	80
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.002
Stress resistance 3535-6 (%)	<12
Compression rate DIN 3535-6 (%)	>55
Rebound rate DIN 3535-6 (%)	>5
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500 1.750x1.750
Sheet thickness (mm)	0,75/1,0/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	White

Use environment:
It is suitable for sealing worn contact surfaces to replace covering gaskets and load damage (low bolt loading required). It is suitable for sealing various corrosive chemical media, gases and liquids. It can be used for sealing various flange materials, including steel, glass and plastic. Even large-diameter gaskets can be installed easily.

Sichem ® S66

Components	Polytetrafluoroethylene modified with SS316L core micropores
Density ASTMF 1315 (g/cm3)	1.2
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	170
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	25000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	15000
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.01
Stress resistance 3535-6 (%)	<5
Compression rate DIN 3535-6 (%)	>41
Rebound rate DIN 3535-6 (%)	>6
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500
Sheet thickness (mm)	1,0/1,5/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 50 +/- 10
Color	White

Use environment:
It is designed for sealing flanges with high pressure and low creep. It is suitable for sealing various corrosive chemical media, gases and liquids.

Sichem ® S91

Components	Polytetrafluoroethylene modified with barium sulfate filler micropores
Density ASTMF 1315 (g/cm3)	2.0
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	70
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.005
Stress resistance 3535-6 (%)	<18
Compression rate DIN 3535-6 (%)	>35
Rebound rate DIN 3535-6 (%)	>6
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500 1.750×1.750
Sheet thickness (mm)	1,5/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 10 +/- 50
Color	White

Use environment:
It is designed to achieve high compression rate, high rebound rate and high chemical inertness. This microporous structure can offer high compression rate and high sealing at low bolt torque. In this way, the sealing can be achieved before the material reaches the yield point in order to serve other mechanical properties. The chemical additions have been developed that can withstand highly aggressive chemical environments.

Sichem ® S92

Components	Polytetrafluoroethylene modified with graphite micropores
Density ASTMF 1315 (g/cm3)	1.45
Recommended operating temperature range (℃)	-260/+260
Maximum operating pressure (Bar)	50
Pressure x temperature, max. (thickness 0.8-2.0mm) (Bar x℃)	12000
Pressure x temperature, max. (thickness 3.0mm) (Bar x℃)	8500
Leakage rate DIN 3535-6 (mg*s-rm-1)	<0.005
Stress resistance 3535-6 (%)	<27
Compression rate DIN 3535-6 (%)	>42
Rebound rate DIN 3535-6 (%)	>12
PH Value range	0-14
Sheet dimensions (mm)	1.500x1.500 1.750×1.750
Sheet thickness (mm)	1,5/2,0/2,5/3,0/4,0/5,0/6,0
Tolerance Sheet dimensions (mm) Sheet thickness (mm)	 +/- 10 +/- 50
Color	Black

Use environment:
It is designed for applications with high rebound rate and low bolt torque. It is suitable for glass lined, ceramic and plastic flanges. It is suitable for sealing acids, alkalis, hydrocarbons, petroleum derivatives and finished gases with medium and low concentrations.

We can provide customized sheets of other sizes and thicknesses according to customer requirements.
The maximum temperature and pressure values cannot be used simultaneously.
The above parameters are the parameter values for products with a thickness of 1.5mm.

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Acetaldehyde	●	●	●	●	●	●	●
Acetamide	●	●	●	●	●	●	●
Acetic acid	●	●	●	●	●	●	●
Arabic anhydride	●	●	●	●	●	●	●
Acetone	●	●	●	●	●	●	●
Acetone alcohol	●	●	●	●	●	●	●
Acetophenone	●	●	●	●	●	●	●
Acetaminofluorene	●	●	●	●	●	●	●
Acetylene	●	●	●	●	●	●	●
Acrolein	●	●	●	●	●	●	●
Acrylamide	●	●	●	●	●	●	●
Acrylic acid	●	●	●	●	●	●	●
Acrylic anhydride	●	●	●	●	●	●	●
Acrylonitrile	●	●	●	●	●	●	●
Adipic acid	●	●	●	●	●	●	●
Adipic dinitrile	●	●	●	●	●	●	●
Air	●	●	●	●	●	●	●
Allyl acetate	●	●	●	●	●	●	●
Propylene chloride	●	●	●	●	●	●	●
Allyl methacrylate	●	●	●	●	●	●	●
Aluminium chloride	●	●	●	●	●	●	●
Aluminium fluoride	●	●	●	●	●	●	●
Aluminum hydroxide (solid)	●	●	●	●	●	●	●
Molten aluminium	●	●	●	●	●	●	●
Aluminium nitrate	●	●	●	●	●	●	●
Aluminium sulfate	●	●	●	●	●	●	●
Vitriol	●	●	●	●	●	●	●
Paracetamol	●	●	●	●	●	●	●
Ammonia, below 70℃	●	●	●	●	●	●	●
Ammonia, above 70℃	●	●	●	●	●	●	●
Ammonia, liquid, anhydrous	●	●	●	●	●	●	●
Ammonium chloride	●	●	●	●	●	●	●
Ammonium hydroxide	●	●	●	●	●	●	●
Ammonium nitrate	●	●	●	●	●	●	●
Ammonium monophosphate	●	●	●	●	●	●	●
Diammonium phosphate	●	●	●	●	●	●	●
Ammonium phosphate	●	●	●	●	●	●	●
Ammonium sulfate	●	●	●	●	●	●	●
Amyl acetate	●	●	●	●	●	●	●
Ammonium sulfate	●	●	●	●	●	●	●
Aniline, aniline oil	●	●	●	●	●	●	●
Aniline hydrochloride	●	●	●	●	●	●	●
Aniline dye	●	●	●	●	●	●	●
Anisylamine	●	●	●	●	●	●	●
Antimony trichloride	●	●	●	●	●	●	●
Aqua regia	●	●	●	●	●	●	●
Polychlorinated biphenyls or alachlor	●	●	●	●	●	●	●
Aromatic hydrocarbon	●	●	●	●	●	●	●
Arsenate acid	●	●	●	●	●	●	●
Arsenous acid	●	●	●	●	●	●	●
Asphalt	●	●	●	●	●	●	●
Aviation gasoline	●	●	●	●	●	●	●
Barium chloride	●	●	●	●	●	●	●
Barium hydroxide	●	●	●	●	●	●	●
Barium sulfide	●	●	●	●	●	●	●
Baikon	●	●	●	●	●	●	●
Beer	●	●	●	●	●	●	●
Benzaldehyde	●	●	●	●	●	●	●
Benzene	●	●	●	●	●	●	●
Benethane sulfonic acid	●	●	●	●	●	●	●
Benzidine	●	●	●	●	●	●	●
Benzoic acid	●	●	●	●	●	●	●
Benzonitrile	●	●	●	●	●	●	●
Benzoquinone	●	●	●	●	●	●	●
Benzene trichloride	●	●	●	●	●	●	●
Benzoyl chloride	●	●	●	●	●	●	●
Benzyl alcohol	●	●	●	●	●	●	●
Benzyl chloride	●	●	●	●	●	●	●
Biodiesel (B100)	●	●	●	●	●	●	●
Buffenoy	●	●	●	●	●	●	●
Bis (2-chloroethyl) ether	●	●	●	●	●	●	●
Bis (chloromethyl |) ether	●	●	●	●	●	●	●
Di-(2-ethylhexyl) phthalate	●	●	●	●	●	●	●
Black vitriol	●	●	●	●	●	●	●
Blast furnace gas	●	●	●	●	●	●	●
Bleach (sodium hypochlorite)	●	●	●	●	●	●	●
Boiler feed water	●	●	●	●	●	●	●
Borax	●	●	●	●	●	●	●
Boric acid	●	●	●	●	●	●	●
Salt water (sodium oxide)	●	●	●	●	●	●	●
Bromine	●	●	●	●	●	●	●
Bromine trifluoride	●	●	●	●	●	●	●
Bromoform	●	●	●	●	●	●	●
Bromomethane	●	●	●	●	●	●	●
Butadiene	●	●	●	●	●	●	●
Butane	●	●	●	●	●	●	●
Butanone	●	●	●	●	●	●	●
Butyl acetate	●	●	●	●	●	●	●
Butanol	●	●	●	●	●	●	●
Butylamine	●	●	●	●	●	●	●
Tert-butyl amine	●	●	●	●	●	●	●
Butyl methacrylate	●	●	●	●	●	●	●
Butyric acid	●	●	●	●	●	●	●
Calcium bisulfite	●	●	●	●	●	●	●

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Calcium chloride	●	●	●	●	●	●	●
Calcium cyanamide	●	●	●	●	●	●	●
Calcium hydroxide	●	●	●	●	●	●	●
Calcium hypochlorite	●	●	●	●	●	●	●
Calcium nitrate	●	●	●	●	●	●	●
Sucrose wine	●	●	●	●	●	●	●
Caprolactam	●	●	●	●	●	●	●
Captan	●	●	●	●	●	●	●
Carbarb	●	●	●	●	●	●	●
Carboxylic acid, phenol	●	●	●	●	●	●	●
Dry carbon dioxide	●	●	●	●	●	●	●
Wet carbon dioxide	●	●	●	●	●	●	●
Carbon disulfide	●	●	●	●	●	●	●
Carbon monoxide	●	●	●	●	●	●	●
Carbon tetrachloride	●	●	●	●	●	●	●
Carbon addition	●	●	●	●	●	●	●
Carboxysulfide	●	●	●	●	●	●	●
Castor oil	●	●	●	●	●	●	●
Catechol	●	●	●	●	●	●	●
Caustic soda	●	●	●	●	●	●	●
Cetane	●	●	●	●	●	●	●
Chinese wood oil	●	●	●	●	●	●	●
Chloramine	●	●	●	●	●	●	●
Chlorazolac (Aqua regia)	●	●	●	●	●	●	●
Chlordane	●	●	●	●	●	●	●
Dry chlorinated solvent	●	●	●	●	●	●	●
Wet chlorinated solvent	●	●	●	●	●	●	●
Dry chlorine	●	●	●	●	●	●	●
Wet chlorine	●	●	●	●	●	●	●
Chlorine dioxide	●	●	●	●	●	●	●
Chlorine trifluoride	●	●	●	●	●	●	●
Chloroacetic acid	●	●	●	●	●	●	●
Chlorophenone	●	●	●	●	●	●	●
Chlorobenzene	●	●	●	●	●	●	●
Chlorobenzoate	●	●	●	●	●	●	●
Chloroethane	●	●	●	●	●	●	●
Vinyl chloride	●	●	●	●	●	●	●
Chloroform	●	●	●	●	●	●	●
Chloromethyl methyl ether (CMME)	●	●	●	●	●	●	●
Chloric acid	●	●	●	●	●	●	●
Chloroprene	●	●	●	●	●	●	●
Chlorosulfonic acid	●	●	●	●	●	●	●
Chromic acid	●	●	●	●	●	●	●
Chromic liver	●	●	●	●	●	●	●
Chromium sesquioxide	●	●	●	●	●	●	●
Citric acid	●	●	●	●	●	●	●
Coke oven gas	●	●	●	●	●	●	●
Cupric chloride	●	●	●	●	●	●	●
Cupric sulfate	●	●	●	●	●	●	●
Corn oil	●	●	●	●	●	●	●
Cottonseed oil 10	●	●	●	●	●	●	●
Creosote	●	●	●	●	●	●	●
Cresol, cresol acid	●	●	●	●	●	●	●
Crotonic acid	●	●	●	●	●	●	●
Crude oil	●	●	●	●	●	●	●
Isopropylbenzene	●	●	●	●	●	●	●
Cyclohexane	●	●	●	●	●	●	●
Cyclohexanol	●	●	●	●	●	●	●
Cyclohexanone	●	●	●	●	●	●	●
Diazomethane	●	●	●	●	●	●	●
Dibenzofuran	●	●	●	●	●	●	●
Dibenzyl ether	●	●	●	●	●	●	●
Bromopropane	●	●	●	●	●	●	●
Dibromoethane	●	●	●	●	●	●	●
Dibutyl phthalate	●	●	●	●	●	●	●
Dibutyl sebacate	●	●	●	●	●	●	●
Dichlorobenzene	●	●	●	●	●	●	●
Dichlorobendiene	●	●	●	●	●	●	●
Dichloroethane	●	●	●	●	●	●	●
Dichloroethylene	●	●	●	●	●	●	●
Dichloroethyl ether	●	●	●	●	●	●	●
Dichloromethane	●	●	●	●	●	●	●
Dichloropropane	●	●	●	●	●	●	●
Dichloropropylene	●	●	●	●	●	●	●
Dichlorphos	●	●	●	●	●	●	●
Diesel	●	●	●	●	●	●	●
Diethanolamine	●	●	●	●	●	●	●
Diethylaniline	●	●	●	●	●	●	●
Diethyl carbonate	●	●	●	●	●	●	●
Diethyl sulfate	●	●	●	●	●	●	●
Dimethoxybenzaldehyde	●	●	●	●	●	●	●
Dimethylaminoazobenzene	●	●	●	●	●	●	●
Dimethylaniline	●	●	●	●	●	●	●
Dimethylbenzidine	●	●	●	●	●	●	●
Dimethylcarbamyl chloride	●	●	●	●	●	●	●
Dimethyl ether	●	●	●	●	●	●	●
Dimethylformamide	●	●	●	●	●	●	●
Dimethyl phthalate	●	●	●	●	●	●	●
Dimethyl sulfate	●	●	●	●	●	●	●
Dinitrophenol	●	●	●	●	●	●	●
Dinitrotoluene	●	●	●	●	●	●	●
Dioxane	●	●	●	●	●	●	●
Epichlorohydrin	●	●	●	●	●	●	●

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
E85 (85% ethanol, 15% gas)	●	●	●	●	●	●	●
Butane oxide	●	●	●	●	●	●	●
Ethane	●	●	●	●	●	●	●
Ethers	●	●	●	●	●	●	●
Ethyl acetate	●	●	●	●	●	●	●
Ethyl acrylate	●	●	●	●	●	●	●
Ethyl alcohol	●	●	●	●	●	●	●
Ethylbenzene	●	●	●	●	●	●	●
Ethyl carbamate	●	●	●	●	●	●	●
Ethyl cellulose	●	●	●	●	●	●	●
Chloroethane	●	●	●	●	●	●	●
Ethyl ether	●	●	●	●	●	●	●
Ethyl caproate	●	●	●	●	●	●	●
Ethene	●	●	●	●	●	●	●
Vinyl bromide	●	●	●	●	●	●	●
Ethylene dibioamide	●	●	●	●	●	●	●
Dichloroethane	●	●	●	●	●	●	●
Ethylene glycol	●	●	●	●	●	●	●
Ethylimide	●	●	●	●	●	●	●
Ethylene oxide	●	●	●	●	●	●	●
Vinyl thiourea	●	●	●	●	●	●	●
Ethyridine chloride	●	●	●	●	●	●	●
Ferric chloride	●	●	●	●	●	●	●
Ferric phosphate	●	●	●	●	●	●	●
Ferric sulfate	●	●	●	●	●	●	●
Fluorine gas	●	●	●	●	●	●	●
Fluorine, liquid	●	●	●	●	●	●	●
Fluorine dioxide	●	●	●	●	●	●	●
Formaldehyde	●	●	●	●	●	●	●
Formic acid	●	●	●	●	●	●	●
Fuel	●	●	●	●	●	●	●
Fuel, acid	●	●	●	●	●	●	●
Refined gasoline	●	●	●	●	●	●	●
Gelatin	●	●	●	●	●	●	●
Glucose	●	●	●	●	●	●	●
Glycerin	●	●	●	●	●	●	●
Ethylene glycol	●	●	●	●	●	●	●
Grain wine	●	●	●	●	●	●	●
Grease, oil base	●	●	●	●	●	●	●
Green sult	●	●	●	●	●	●	●
Heptachlor	●	●	●	●	●	●	●
Heptane	●	●	●	●	●	●	●
Hexachlorobenzene	●	●	●	●	●	●	●
Hexachloroprene	●	●	●	●	●	●	●
Hexachlorocyclopentadiene	●	●	●	●	●	●	●
Hexachloroethane	●	●	●	●	●	●	●
Cetane	●	●	●	●	●	●	●
Hexamethylene hexacyanate	●	●	●	●	●	●	●
Hexamethylphosphamide	●	●	●	●	●	●	●
n-hexane	●	●	●	●	●	●	●
Hexanone	●	●	●	●	●	●	●
Mineral hydraulic oil	●	●	●	●	●	●	●
Phosphate ester	●	●	●	●	●	●	●
Hydrazine	●	●	●	●	●	●	●
Hydrobromic acid	●	●	●	●	●	●	●
Hydrochloric acid	●	●	●	●	●	●	●
Hydrochloric acid, dry	●	●	●	●	●	●	●
Hydrochloric acid, 20%	●	●	●	●	●	●	●
Hydrocyanic acid	●	●	●	●	●	●	●
Anhydrous hydrofluoric acid	●	●	●	●	●	●	●
Hydrofluoric acid, below 65%, above 70℃	●	●	●	●	●	●	●
Hydrofluoric acid, 65% to anhydrous, above 70℃	●	●	●	●	●	●	●
Hydrofluoric acid, maximum anhydrous, 70℃ and below	●	●	●	●	●	●	●
Hydrofluorosilicate acid	●	●	●	●	●	●	●
Hydrofluorosilicate acid	●	●	●	●	●	●	●
Hydrogen	●	●	●	●	●	●	●
Hydrogen bromide	●	●	●	●	●	●	●
Chlorine fluoride	●	●	●	●	●	●	●
Hydrogen dioxide, 10%	●	●	●	●	●	●	●
Hydrogen peroxide, 10-90%	●	●	●	●	●	●	●
Dry or wet hydrogen sulfide	●	●	●	●	●	●	●
Hydroquinone	●	●	●	●	●	●	●
Iodine pentafluoride	●	●	●	●	●	●	●
Chloromethane	●	●	●	●	●	●	●
Isobutane	●	●	●	●	●	●	●
Isooctane	●	●	●	●	●	●	●
Isophorone	●	●	●	●	●	●	●
Isopropyl alcohol	●	●	●	●	●	●	●
Aviation fuel	●	●	●	●	●	●	●
Kerosene	●	●	●	●	●	●	●
Lacquer solvent	●	●	●	●	●	●	●
Lacquerware	●	●	●	●	●	●	●
Lactic acid below 70℃	●	●	●	●	●	●	●
Lactic acid above 70℃	●	●	●	●	●	●	●
Lime saltpeter	●	●	●	●	●	●	●
Lindane	●	●	●	●	●	●	●
Flaxseed oil	●	●	●	●	●	●	●
Liquefied petroleum gas	●	●	●	●	●	●	●
Lithium bromide	●	●	●	●	●	●	●
Lithium	●	●	●	●	●	●	●
Refined oil	●	●	●	●	●	●	●
Lubricate mineral or petroleum type	●	●	●	●	●	●	●
Acid	●	●	●	●	●	●	●
Alkali	●	●	●	●	●	●	●

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Magnesium chloride	●	●	●	●	●	●	●
Magnesium hydroxide	●	●	●	●	●	●	●
Magnesium sulfate	●	●	●	●	●	●	●
Maleic acid	●	●	●	●	●	●	●
Maleic anhydride	●	●	●	●	●	●	●
Mercuric chloride	●	●	●	●	●	●	●
Mercury	●	●	●	●	●	●	●
Methane	●	●	●	●	●	●	●
Methanol	●	●	●	●	●	●	●
Methoxychlor	●	●	●	●	●	●	●
Methacrylic acid	●	●	●	●	●	●	●
Carbinol	●	●	●	●	●	●	●
Methylaziridine	●	●	●	●	●	●	●
Bromomethane	●	●	●	●	●	●	●
Chloromethane	●	●	●	●	●	●	●
Methyl chloroform	●	●	●	●	●	●	●
4, 4-methylene bis (2-chloroaniline)	●	●	●	●	●	●	●
Dichloromethane	●	●	●	●	●	●	●
Methylene diphenylamine	●	●	●	●	●	●	●
Methylene diphenyl diisocyanate	●	●	●	●	●	●	●
Methyl ethyl ketone (MEK)	●	●	●	●	●	●	●
Methylhydrazine	●	●	●	●	●	●	●
Iodomethane	●	●	●	●	●	●	●
Methyl isobutyl ketone (MIBK)	●	●	●	●	●	●	●
Methyl isocyanate	●	●	●	●	●	●	●
Methyl methacrylate	●	●	●	●	●	●	●
Methylpyrrolidone	●	●	●	●	●	●	●
Methyl butyl ether (MTBE)	●	●	●	●	●	●	●
Cow's milk	●	●	●	●	●	●	●
Mineral oil	●	●	●	●	●	●	●
Molten alkali metal	●	●	●	●	●	●	●
Monomethylamine	●	●	●	●	●	●	●
Thiocyanic acid	●	●	●	●	●	●	●
Naphtha	●	●	●	●	●	●	●
Naphthalene	●	●	●	●	●	●	●
Naphthol	●	●	●	●	●	●	●
Natural gas	●	●	●	●	●	●	●
Nickel chloride	●	●	●	●	●	●	●
Nickel sulfate	●	●	●	●	●	●	●
Nitric acid, less than 30%	●	●	●	●	●	●	●
Nitric acid, greater than 30%	●	●	●	●	●	●	●
Nitric acid, coarse	●	●	●	●	●	●	●
Nitric acid, red smoke	●	●	●	●	●	●	●
Nitrobenzene	●	●	●	●	●	●	●
Nitrobiphenyl	●	●	●	●	●	●	●
Nitrobutanol	●	●	●	●	●	●	●
Calcium nitrite	●	●	●	●	●	●	●
Nitrogen	●	●	●	●	●	●	●
Nitrogen tetraoxide	●	●	●	●	●	●	●
Nitrite hydrochloride	●	●	●	●	●	●	●
Nitromethane	●	●	●	●	●	●	●
2-nitro-2-methylpropanol	●	●	●	●	●	●	●
Nitrite (Aqua Regia)	●	●	●	●	●	●	●
Nitrophenol	●	●	●	●	●	●	●
Nitropropane	●	●	●	●	●	●	●
Nitrosodimethylamine	●	●	●	●	●	●	●
Nitroso-methylurea	●	●	●	●	●	●	●
Nitroso-morpholine	●	●	●	●	●	●	●
Nickel nitrate (calcium nitrate)	●	●	●	●	●	●	●
Norwegian saltpeter (calcium nitrate)	●	●	●	●	●	●	●
Octadecyl alcohol	●	●	●	●	●	●	●
Octane	●	●	●	●	●	●	●
Oil	●	●	●	●	●	●	●
Oils, animals and vegetables	●	●	●	●	●	●	●
Oleic acid	●	●	●	●	●	●	●
Oiliness	●	●	●	●	●	●	●
o-chlorobenzene	●	●	●	●	●	●	●
Oxalic acid	●	●	●	●	●	●	●
Oxygen, gas (BAM approved)	●	●	●	●	●	●	●
Ozone	●	●	●	●	●	●	●
Palmitic acid	●	●	●	●	●	●	●
Paraffin	●	●	●	●	●	●	●
Parathion	●	●	●	●	●	●	●
p-xylene	●	●	●	●	●	●	●
Pentachloronitrobenzene	●	●	●	●	●	●	●
Pentachlorophenol	●	●	●	●	●	●	●
Pentane	●	●	●	●	●	●	●
Perchloric acid	●	●	●	●	●	●	●
Perchloroethylene	●	●	●	●	●	●	●
Crude oil	●	●	●	●	●	●	●
Refined petroleum	●	●	●	●	●	●	●
Phenol	●	●	●	●	●	●	●
Phenylenediamine	●	●	●	●	●	●	●
Phosgene	●	●	●	●	●	●	●
Phosphate ester	●	●	●	●	●	●	●

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Phosphine	●	●	●	●	●	●	●
Crude phosphoric acid	●	●	●	●	●	●	●
Phosphoric acid, with a purity of less than 45%	●	●	●	●	●	●	●
Phosphoric acid, with a purity of greater than 45%	●	●	●	●	●	●	●
Phosphoric acid, with a purity of greater than 45%, more than 70%	●	●	●	●	●	●	●
Phosphorus	●	●	●	●	●	●	●
Phosphorus pentachloride	●	●	●	●	●	●	●
Phthalic acid	●	●	●	●	●	●	●
Phthalic anhydride	●	●	●	●	●	●	●
Picric acid	●	●	●	●	●	●	●
Picric acid solution	●	●	●	●	●	●	●
Pinene	●	●	●	●	●	●	●
Piperidine	●	●	●	●	●	●	●
Polyacrylonitrile	●	●	●	●	●	●	●
Polychlorinated biphenyls	●	●	●	●	●	●	●
Potassium carbonate. potassium carbonate	●	●	●	●	●	●	●
Potassium acetate	●	●	●	●	●	●	●
Potassium dichlorate	●	●	●	●	●	●	●
Potassium acetate	●	●	●	●	●	●	●
Potassium dichlorate	●	●	●	●	●	●	●
Potassium chlorate, red	●	●	●	●	●	●	●
Potassium cyanide	●	●	●	●	●	●	●
Potassium dichlorate	●	●	●	●	●	●	●
Potassium	●	●	●	●	●	●	●
Potassium hydroxide	●	●	●	●	●	●	●
Potassium iodide	●	●	●	●	●	●	●
Potassium nitrate	●	●	●	●	●	●	●
Potassium permanganate	●	●	●	●	●	●	●
Potassium sulfite	●	●	●	●	●	●	●
Gas production	●	●	●	●	●	●	●
Propane	●	●	●	●	●	●	●
Propane sulfonolactone	●	●	●	●	●	●	●
β-propanolactone	●	●	●	●	●	●	●
Propanal	●	●	●	●	●	●	●
Propyl alcohol	●	●	●	●	●	●	●
Propyl nitrate	●	●	●	●	●	●	●
Propylene	●	●	●	●	●	●	●
Propylene dichloride	●	●	●	●	●	●	●
Propanediol	●	●	●	●	●	●	●
Propylene oxide	●	●	●	●	●	●	●
Preimine	●	●	●	●	●	●	●
Alginic acid, hydrocyanic acid	●	●	●	●	●	●	●
Pyridine	●	●	●	●	●	●	●
Goumo	●	●	●	●	●	●	●
Quinone	●	●	●	●	●	●	●
Type 10 refrigerant	●	●	●	●	●	●	●
Type 11 refrigerant	●	●	●	●	●	●	●
Type 12 refrigerant	●	●	●	●	●	●	●
Type 13 refrigerant	●	●	●	●	●	●	●
Type 13B1 refrigerant	●	●	●	●	●	●	●
Type 21 refrigerant	●	●	●	●	●	●	●
Type 22 refrigerant	●	●	●	●	●	●	●
Type 23 refrigerant	●	●	●	●	●	●	●
Type 31 refrigerant	●	●	●	●	●	●	●
Type 32 refrigerant	●	●	●	●	●	●	●
Type 112 refrigerant	●	●	●	●	●	●	●
Type 113 refrigerant	●	●	●	●	●	●	●
Type 114 refrigerant	●	●	●	●	●	●	●
Type 114B2 refrigerant	●	●	●	●	●	●	●
Type 115 refrigerant	●	●	●	●	●	●	●
Type 123 refrigerant	●	●	●	●	●	●	●
Type 124 refrigerant	●	●	●	●	●	●	●
Type 125 refrigerant	●	●	●	●	●	●	●
Type 134a refrigerant	●	●	●	●	●	●	●
Type 141b refrigerant	●	●	●	●	●	●	●
Type 142b refrigerant	●	●	●	●	●	●	●
Type 143a refrigerant	●	●	●	●	●	●	●
Type 152a refrigerant	●	●	●	●	●	●	●
Type 218 refrigerant	●	●	●	●	●	●	●
Type 290 refrigerant (propane)	●	●	●	●	●	●	●
Type 500 refrigerant	●	●	●	●	●	●	●
Type 502 refrigerant	●	●	●	●	●	●	●
Type 503 refrigerant	●	●	●	●	●	●	●
Type 507 refrigerant	●	●	●	●	●	●	●
Type 717 refrigerant (ammonia)	●	●	●	●	●	●	●
Type 744 refrigerant (carbon dioxide)	●	●	●	●	●	●	●
Type C316 refrigerant	●	●	●	●	●	●	●
Type C318 refrigerant	●	●	●	●	●	●	●
Type HP62 refrigerant	●	●	●	●	●	●	●
Type HP80 refrigerant	●	●	●	●	●	●	●
Type HP81 refrigerant	●	●	●	●	●	●	●
Salt water	●	●	●	●	●	●	●
Saltpeter, potassium nitrate	●	●	●	●	●	●	●
Sewage treatment	●	●	●	●	●	●	●
Silicone oil	●	●	●	●	●	●	●
Silver nitrate	●	●	●	●	●	●	●
Baking soda, sodium carbonate	●	●	●	●	●	●	●
Baking soda	●	●	●	●	●	●	●
Sodium bisulfate (dry)	●	●	●	●	●	●	●
Sodium bisulfite	●	●	●	●	●	●	●
Sodium chlorate	●	●	●	●	●	●	●
Sodium chloride	●	●	●	●	●	●	●
Sodium cyanide	●	●	●	●	●	●	●
Sodium	●	●	●	●	●	●	●
Sodium bisulfite	●	●	●	●	●	●	●
Sodium hydroxide							

	SICHEM® S11 - S90	SICHEM® S50	SICHEM® S33 - S91	SICHEM® S58 - S60	SICHEM® S59 - S93	DIAPHRAGM	SICHEM® S66
Sodium hypochlorite	●	●	●	●	●	●	●
Sodium metaborate peroxyhydrate	●	●	●	●	●	●	●
Sodium metaphosphate	●	●	●	●	●	●	●
Sodium nitrate	●	●	●	●	●	●	●
Sodium perborate	●	●	●	●	●	●	●
Sodium peroxide	●	●	●	●	●	●	●
Sodium dihydrogen phosphate	●	●	●	●	●	●	●
Disodium hydrogen phosphate	●	●	●	●	●	●	●
Sodium ternary phosphate	●	●	●	●	●	●	●
Sodium silicate	●	●	●	●	●	●	●
Sodium sulfate	●	●	●	●	●	●	●
Sodium sulfide	●	●	●	●	●	●	●
Sodium superoxide	●	●	●	●	●	●	●
Sodium thiosulfate	●	●	●	●	●	●	●
Soybean oil	●	●	●	●	●	●	●
Stannic chloride	●	●	●	●	●	●	●
Saturated steam	●	●	●	●	●	●	●
Superheating	●	●	●	●	●	●	●
Stearic acid	●	●	●	●	●	●	●
Stoddard solvent	●	●	●	●	●	●	●
Styrene	●	●	●	●	●	●	●
Styrene oxide	●	●	●	●	●	●	●
Sugar	●	●	●	●	●	●	●
Sulfur oxide	●	●	●	●	●	●	●
Sulfur dioxide	●	●	●	●	●	●	●
Quebrith	●	●	●	●	●	●	●
Dry sulfur trioxide	●	●	●	●	●	●	●
Wet sulfur trioxide	●	●	●	●	●	●	●
Sulfuric acid, 10%, below 70℃	●	●	●	●	●	●	●
Sulfuric acid, 10%, above 70℃	●	●	●	●	●	●	●
Sulfuric acid, 10-75%, below 260℃	●	●	●	●	●	●	●
Sulfuric acid, 75-89%, below 270℃	●	●	●	●	●	●	●
Sulfuric acid, 75-89%, 70 °C to 260°C	●	●	●	●	●	●	●
Fuming sulfuric acid	●	●	●	●	●	●	●
Sulfurous acid	●	●	●	●	●	●	●
Tannic acid	●	●	●	●	●	●	●
Tartaric acid	●	●	●	●	●	●	●
TCDB versus dioxins	●	●	●	●	●	●	●
Tert-butyl amine	●	●	●	●	●	●	●
Tetrabromoethane	●	●	●	●	●	●	●
Tetrachloroethane	●	●	●	●	●	●	●
Tetrachloroethylene	●	●	●	●	●	●	●
Tetrahydrofuran, THF	●	●	●	●	●	●	●
Sulfoxide chloride	●	●	●	●	●	●	●
Titanium sulfate	●	●	●	●	●	●	●
Titanium tetrachloride	●	●	●	●	●	●	●
Toluene	●	●	●	●	●	●	●
Toluidine amine	●	●	●	●	●	●	●
Toluene diisocyanate	●	●	●	●	●	●	●
Toluene sulfonic acid	●	●	●	●	●	●	●
Toluidine amine	●	●	●	●	●	●	●
Toxic film	●	●	●	●	●	●	●
Transformer mineral oil	●	●	●	●	●	●	●
Transmission oil A	●	●	●	●	●	●	●
Trichloroacetic acid	●	●	●	●	●	●	●
Trichlorobenzene	●	●	●	●	●	●	●
Trichloroethane	●	●	●	●	●	●	●
Hulk Taylorner	●	●	●	●	●	●	●
Trichlorophenol	●	●	●	●	●	●	●
Tricresyl phosphate	●	●	●	●	●	●	●
Triethanolamine	●	●	●	●	●	●	●
Aluminium triethyl	●	●	●	●	●	●	●
Triethylamine	●	●	●	●	●	●	●
Trifluralin	●	●	●	●	●	●	●
Trimethylpentane	●	●	●	●	●	●	●
Turpentine	●	●	●	●	●	●	●
Urea, below 70°F	●	●	●	●	●	●	●
Urea, above 70°F	●	●	●	●	●	●	●
Paint	●	●	●	●	●	●	●
Vegetable oil	●	●	●	●	●	●	●
Acerbic	●	●	●	●	●	●	●
Vinyl acetate	●	●	●	●	●	●	●
Vinyl bromide	●	●	●	●	●	●	●
Vinyl chloride	●	●	●	●	●	●	●
Vinylidene chloride	●	●	●	●	●	●	●
Vinyl methacrylate vinegar	●	●	●	●	●	●	●
Water, acid ore, containing oxidized salt	●	●	●	●	●	●	●
Water, acid ore, no oxidized salt	●	●	●	●	●	●	●
Distilled water	●	●	●	●	●	●	●
Return condensate	●	●	●	●	●	●	●
Seawater	●	●	●	●	●	●	●
Tap water	●	●	●	●	●	●	●
Whiskey	●	●	●	●	●	●	●
Spirit	●	●	●	●	●	●	●
Xylene	●	●	●	●	●	●	●
Zinc chloride	●	●	●	●	●	●	●
Zinc sulfate	●	●	●	●	●	●	●

- ● Applicable
- ● Not applicable
- ● Depending on operating conditions
- ● No reference

PLANI CHEM
SICHEM SOLUTIONS

Flexsound ® Metal wound gasket

describe

The gasket is made of spiral metal material (strip) and non–metallic material (filler). SWG can have an outer ring and an inner ring. Metal wound gaskets can meet the most demanding pressure and temperature conditions.

authentication

VDI 2440– Emission Control

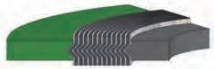
colour

For ease of identification, we have used a color coding system on the outer side of the fixed core ring, which can fully identify the metal strip material and filler material.

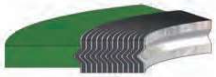
Technical Information

Can withstand high temperature and high pressure, depending on the selected material.

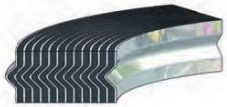
type



The GRI (IOR) type GRI metal spiral wound gasket is a standard type gasket with inner and outer rings. This gasket has the best sealing characteristics and the highest safety for flange joints with flat and raised flanges.



The GR (OR) type can precisely align the sealing element with the flange surface through bolts by using an appropriately sized centering ring. A universal gasket suitable for flat and raised face flanges.



RR (R) type spiral wound gasket, without accessory ring, suitable for applications with concave convex seams and operations with compression terminators. If the gasket thickness is 4.5 mm, it is recommended to use a groove with a depth of 3.3 (± 0.1) mm to provide compression termination.

The RI (IR) type RL type metal wound gasket with inner ring is designed specifically for convex and concave flanges, and the inner ring provides radial restriction to prevent the bursting of spiral components.

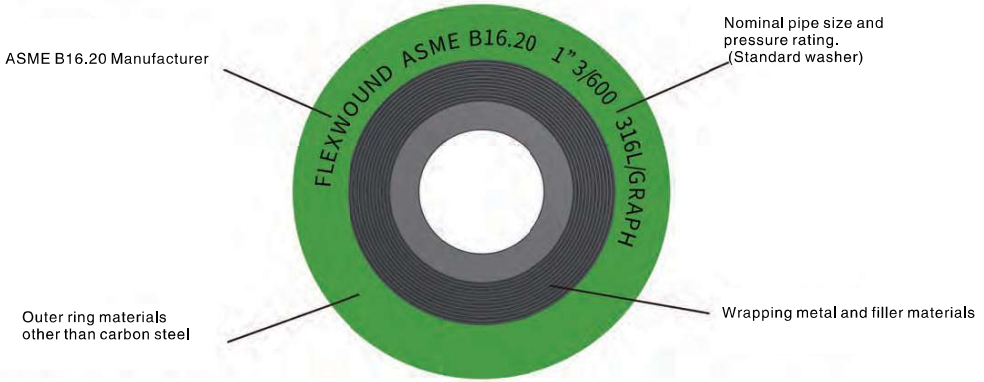
PLANI CHEM
SICHEM SOLUTIONS

Available gasket materials

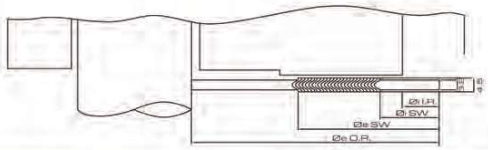
Metal winding materials		Filler materials	Guide ring materials	
Standard materials		Standard materials	Standard materials	
Stainless steel		FLEXIGRAF®	Carbon steel	
316L		Graphite		
304			Other materials	
Other materials		Other materials	Stainless steel	Inconel® 625
Stainless steel	Inconel® 625	MICATHERM	TYPE 316 L	316 L
304L	Inconel® X-750	SICHEM®	304	Hastello® B2
309	Hastello® B2	Polytetrafluoroethylene	304L	Hastello® C276
310	Hastello® C276	Bioceramics	309	Inkoro® 800
316 TI	Incorro® 800		310	Inkoro® 825
321	Incorro® 825		316 TI	Duplex
347	Duplex		321	Super Duplex
430	Super Duplex		347	Zirconium®
410	Zirconium®		430	Tantalum®
Alloy 20	Tantalum®		410	Copper
Monel® 11	Copper		Alloy 20	Phosphorus bronze
Titanium®	Phosphor bronze		Monel 11	
Nickel®	Carbon steel		Titanium®	
Inconel® 600			Nickel®	
			Inconel® 600	

Materials should be selected based on operating temperature and chemical compatibility.
If you have any questions, please contact the technical department.

ASME B16.20 API Stamping Requirements



The dimensional data of GR and GRI types comply with ASME B16.20 standards and are applicable to ASME B16.5 flanges



		1/4"			1/2"				3/4"				1"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150								47,8				57,2				66,8
300	X	12,7	22,2	44,5				54,1				66,8				73,2
400	X				14,3	19,1	31,8		20,6	25,4	39,6		27	31,8	47,8	
600	X															
900		XXX						63,5								
1500		XXX										69,9				79,5
2500		XXX						69,9				76,2				85,9

		1 1/4"			1 1/2"				2"				2 1/2"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150				76,2	44,5	54,1		85,9	55,6	69,9		104,9	66,7	82,6		124
300	38,1	47,8						95,3								
400				82,6								111,3				130,3
600			60,5				69,9				85,9				98,6	
900				88,9				98,6					63,5			
1500	33,4	39,6			41,3	47,8			52,4	58,7		143		69,9		165,1
2500				104,9				117,6				146				168,4

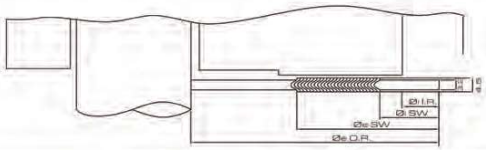
		3"			3 1/2"				4"				4 1/2"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	81,3			136,7	102,6*	114,3		161,9	106,5	127		174,8	128*	139,7		177,8
300		101,6					133,4	165,1				181,1			165,1	196,9
400				149,4								177,8				193,7
600			120,7		92*	104,8		161,9	102,6	120,7	149,4	193,8	122*	134,9		209,6
900	78,74	95,3		168,4				190,5				206,5				238,1
1500				174,8				187,5	97,8	117,6		209,6				
2500		93,2		196,9	XXX							235	XXX			

		5"			6"				8"				10"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	131,8	155,7		196,9	157,3	182,6		222,3	215,9	233,4		279,4	268,3	287,3		339,9
300				215,9				251			263,7	308,1			317,5	362
400				212,9				247,7	205,8	225,6		304,8	255,3	274,6		358,9
600	128,3	147,6	177,8	241,3	154,9	174,8	209,6	266,7				320,8				400,1
900				247,7				289,1		222,3		358,9		276,4	311,2	
1500				254	147,3	171,5		282,7	196,9		257,3	352,6	246,2	266,7		435,1
2500	124,5	143		279,4				317,5		215,9		387,4		270		476,3

		12"			14"				16"				18"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	317,5	339,9	374,7	409,7	349,3	371,6	406,4	450,9	400,1	422,4		514,4	449,3	474,7		549,4
300				422,4				485,9			463,6	539,8			527,1	596,9
400		327,2		419,1	342,9	362		482,6	389,9			536,7	438,2	469,9		593,9
600	307,4			457,2				492,6		412,8		564,2				612,9
900		323,9		498,6	320,8	355,6		520,7	374,7		457,2	574,8	425,5	463,6	520,7	638,3
1500	292,1		368,3	520,7		362	400,1	577,9	368,3	406,4		641,4				704,9
2500		317,5		549,4	XXX				XXX				XXX			

		20"			24"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	500,1	525,5	577,9	606,6	603,3	628,7	685,8	717,6
300				654,1				774,7
400	489	520,7		647,7	590,6			768,4
600				682,8				790,7
900	482,6		571,5	698,8			679,5	832,2
1500	476,3	514,4		755,7	577,9	616		901,7

The dimensional data of GR and GRI types comply with ASME B16.20 standard and are applicable to ASME B16.47 A–series flanges



		22"			26"				28"				30"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150			610	660,4	654,1	673,1	704,9	774,7		723,9	755,6	831,9		774,7	806,5	882,6
300	X	577,9		704,8				830	704,9			898,6				952,5
400	X		628,7	701,7	660,4	685,8	736,5	831,9	711,2	736,6	787,4	892,2	755,7	793,8	844,5	946,1
600	X			733,4	647,7			866,8	698,5			911,4				971,5
900		XXX			666,8			882,6	711,2			946,1	774,7			1008,9

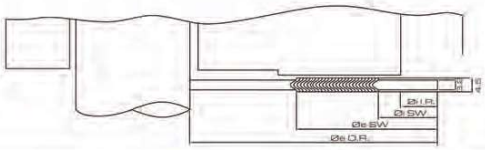
		32"			34"				36"				38"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	806,5	825,5	860,6	939,8	857,3	876,3	911,3	990,6	908,1	927,1	968,3	1047,7	958,9	977,9	1019	1111,2
300				1000,1				1057,2				1117,6			1016	1054,1
400				1003				1054		955,7	1006,5		952,5	971,6	1022,3	1073,1
600	812,8	850,9	901,7	1022	863,6	901,7	952,5	1073	917,6			1130,3		990,6	1041,4	1104,9
900				1028,6				1136,6	920,8	958,9	1010	1200,1	1009,7	1035	1086	1200,1

		40"			42"				44"				46"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	1009,7	1028,7	1070	1162	1060,5	1079,5	1124	1219,2	1111,3		1180	1276,3	1162	1181	1229	1327
300	1003,3	1022,4		1114,4	1054,1	1073,2	1121	1165,2	1105	1130,3		1219,2	1153	1178		1273
400	1000,2	1025,5	1076,3	1127,1	1051	1076,4	1127	1177,9			1181,1	1231,9	1168,5	1194	1244,6	1289
600	1009,7	1047,7	1098,5	1155,7	1066,8	1105	1155,7	1219,2	1111,3	1162	1212,8	1270	1162	1213	1263,7	1327
900	1060,5	1098,5	1149,3	1250,9	1111,3	1149,3	1200,1	1301,7	1155,7	1206,5	1257,3	1368,4	1219,2	1270	1321	1435

		48"			50"				52"				54"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	1213	1232	1279,5	1384,3	1263,7	1283	1333,5	1435	1314,5	1333,5	1384,3	1492,3	1359	1384,3	1435	1549,4
300	1209,7	1235	1286	1324	1244,6			1378	1321			1428,8				1492,2
400	1206,5	1244,6	1295,4	1346,2	1257,3	1295,4	1346,2	1403	1308	1346	1397	1454,2	1352,6	1403,4	1454,2	1517,6
600	1219,2	1270	1321	1390,6	1270	1321	1371,6	1447,8	1321	1371,6	1422,4	1498,6	1378	1428,8	1479,5	1555,7
900	1270	1321	1371,6	1486	XXX				XXX				XXX			

		56"			58"				60"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
150	1409,7	1435,1	1486	1606,5	1460,5	1486	1536,7	1663,7	1511,3	1536,7	1587,5	1714,5
300			1505	1543	1447,8	1511,3	1562	1593,9	1524	1562,1	1612,9	1644,6
400	1403,4	1454,2		1568,4	1454,1	1505	1555,7	1619,2	1517,6	1568,4	1619,2	1682,7
600	1428,8	1479,6	1530,3	1612,9	1473,2	1536,7	1587,5	1663,7	1530,3	1593,8	1644,6	1733,5
900	XXX				XXX				XXX			

The dimensional data of GR and GRI types comply with ASME B16.20 standard and are applicable to ASME B16.47 B–series flanges



	26"				28"				30"				32"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
75	XXX	666,8	658,8	708,03	XXX	717,55	739,78	758,83	XXX	768,35	790,58	809,63	XXX	819,15	841,38	860,43
150			698,5	725,5	704,9	723,9	749,3	776,29	755,65		800,1	827,09	806,45	825,5	850,9	881,06
300	654,1	673,1	711,2	771,5			762	825,5		774,7	812,8	885,82			863,6	939,8
400		666,8	698,5	746,15	701,7	714,38	749,3	800,1	752,47	765,18	797,15	857,25	800,1	812,8	860,43	911,23
600	644,5	663,6	714,4	765,18	692,2	704,85	755,65	819,15		777,88	828,68	879,47	793,75	831,85	882,65	933,45
900	673,1	692,2	749,3	838,2	723,9	742,95	800,1	901,7	787,4	806,4	857,25	958,85	838,2	863,6	914,4	1016

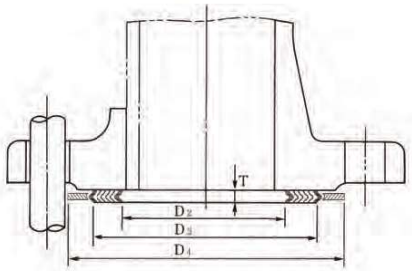
	34"				36"				38"				40"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
75	XXX	869,95	892,18	911,23	XXX	920,75	946,15	973,14	XXX					XXX		
150		876,3	908,05	935,04	908,05	927,1	958,85	987,43	958,85	974,74	1009,7	1044,6	1009,7	1022,4	1063,6	1095,4
300	857,25		914,4	993,78			965,2	1047,8	971,55	1009,7	1047,8	1098,6	1022,3	1060,5	1098,6	1149,4
400	850,9	866,78	911,23	962,03	898,53	917,58		1022,4	952,5	971,55	1022,4	1073,2	1000,1	1025,5	1076,3	1127,1
600		889	939,8	996,95	901,7	939,8	990,6	1047,8		990,6	1041,4	1104,9	1009,7	1047,8	1098,6	1155,7
900	895,35	920,08	968,38	1073,2	927,1	946,15	996,65	1124	1009,7	1035,1	1085,9	1200,2	1060,5	1098,6	1149,4	1251

	42"				44"				46"				48"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
75	XXX	1073,2	1098,6	1125,5	XXX				XXX				XXX	1228,7	1257,3	1282,7
150	1060,4	1079,5	1114,4	1146,2	1111,2	1124	1165,2	1193,8	1162,1	1181,1	1224	1255,7	1212,9	1231,9	1270	1306,5
300	1054,1	1111,3	1149,4	1200,2	1124	1162,1	1200,2	1251	1177,9	1216	1254,1	1317,6	1231,9	1306,5	1311,3	1368,2
400	1050,9	1076,3	1127,1	1177,9	1104,9	1130,3	1181,1	1231,9	1168,4	1193,8	1244,6	1289,1	1206,5	1244,6	1295,4	1346,2
600	1066,8	1104,9	1155,7	1219,2	1111,2	1162,1	1212,9	1270	1162,1	1212,9	1263,7	1327,2	1219,2	1270	1320,8	1390,7
900	1111,2	1149,4	1200,2	1301,8	1155,7	1206,5	1257,3	1368,4	1219,2	1270	1320,8	1435,1	1270	1320,8	1371,6	1485,9

	50"				52"				54"				56"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
75	XXX				XXX				XXX	1381,1	1412,9	1438,3	XXX			
150	1263,7	1282,7	1325,6	1357,3	1314,5	1333,5	1376,4	1408,1	1360	1384,3	1422,4	1463,7	1422,4	1444,6	1478	1514,5
300	1266,8	1317,6	1355,7	1419,2	1317,6	1368,4	1406,5	1470				1530,4	1428,8	1479,6	1524	1593,9
400	1257,3	1295,4	1346,2	1403,4	1308,1	1346,2	1397	1454,2	1352,6	1403,4	1454,2	1517,7	1403,4	1454,2	1505	1568,5
600	1270	1320,8	1371,6	1447,8	1320,8	1371,6	1422,4	1498,6	1378	1428,8	1479,6	1555,8	1428,8	1479,6	1530,4	1612,9
900	XXX				XXX				XXX				XXX			

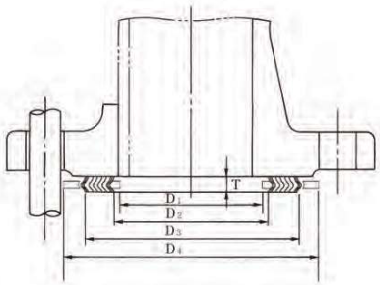
	58"				60"			
ASA	øi I.R.	øi SW	øe SW	øe OR	øi I.R.	øi SW	øe SW	øe OR
75	XXX				XXX	1536,7	1568,5	1597
150	1478	1500,2	1528,8	1579,6	1535,1	1557,3	1585,9	1630,4
300	1484,3	1535,1	1573,2	1655,8	1557,3	1585,9	1630,4	1706,6
400	1454,2	1504,9	1555,8	1619,3	1517,7	1568,5	1619,3	1682,8
600	1473,2	1536,7	1587,5	1663,7	1530,4	1593,9	1644,7	1733,6
900	XXX				XXX			

The dimensional data of GR type complies with JIS B 2404–2006 standard and is applicable to JIS B 2220–2004/JIS B 2239–1996 F series flanges



Nominal diameter of flange	Nominal pressure 10K			16, 20K			30K			40K			63K			Thickness
	Inner ring ID D2	Outer ring OD D3	Outer ring OD D4	Inner ring ID D2	Outer ring OD D3	Outer ring OD D4	Inner ring ID D2	Outer ring OD D3	Outer ring OD D4	Inner ring ID D2	Outer ring OD D3	Outer ring OD D4	Inner ring ID D2	Outer ring OD D3	Outer ring OD D4	
10A	24	37	52	24	37	52	24	37	59	21	34	59	21	34	64	4.5
15A	28	41	57	28	41	57	28	41	64	24	37	64	24	37	69	
20A	34	47	62	34	47	62	34	47	69	29	42	69	29	42	75	
25A	40	53	74	40	53	74	40	53	79	35	48	79	35	48	80	
32A	51	67	84	51	67	84	51	67	89	44	60	89	44	60	90	
40A	57	73	89	57	73	89	57	73	100	51	67	100	51	67	107	
50A	69	89	104	69	89	104	69	89	114	63	79	114	63	79	125	
65A	87	107	124	87	107	124	78	98	140	78	98	140	78	98	152	
80A	98	118	134	99	119	140	90	110	150	90	110	150	90	110	162	
90A	110	130	144	114	139	150	102	127	162	102	127	162	102	127	179	
100A	123	143	159	127	152	165	116	141	172	116	141	182	116	141	194	
125A	148	173	190	152	177	202	140	165	207	140	165	224	140	165	235	
150A	174	199	220	182	214	237	165	197	249	165	197	265	165	197	275	
175A	201	226	245	—	—	—	—	—	—	—	—	—	—	—	—	
200A	227	252	270	233	265	282	218	250	294	218	250	315	218	250	328	
225A	252	277	290	—	—	—	—	—	—	—	—	—	—	—	—	
250A	278	310	332	288	328	354	271	311	360	271	311	378	271	311	394	
300A	329	361	377	339	379	404	320	360	418	320	360	434	320	360	446	
350A	366	406	422	376	416	450	356	396	463	356	396	479	356	396	488	
400A	417	457	484	432	482	508	403	453	524	403	453	531	403	453	545	
450A	468	518	539	483	533	573	—	—	—	—	—	—	—	—	—	
500A	518	568	594	533	583	628	—	—	—	—	—	—	—	—	—	
550A	569	619	650	584	634	684	—	—	—	—	—	—	—	—	—	
600A	620	670	700	635	685	734	—	—	—	—	—	—	—	—	—	

The dimensional data of GRI type complies with JIS B 2404–2006 standard and is applicable to JIS B 2220–2004/JIS B 2239–1996 flanges



Nominal diameter of flange	Nominal pressure 10K				16, 20K				30K				40K				63K				Thickness T
	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	
10A	18	24	37	52	18	24	37	52	18	24	37	59	15	21	34	59	15	21	34	64	4.5
15	22	28	41	57	22	28	41	57	22	28	41	64	18	24	37	64	18	24	37	69	
20	28	34	47	62	28	34	47	62	28	34	47	69	23	29	42	69	23	29	42	75	
25	34	40	53	74	34	40	53	74	34	40	53	79	29	35	48	79	29	35	48	80	
32	43	51	67	84	43	51	67	84	43	51	67	89	38	44	60	89	38	44	60	90	
40	49	57	73	89	49	57	73	89	49	57	73	100	43	51	67	100	43	51	67	107	
50	61	69	89	104	61	69	89	104	61	69	89	114	55	63	79	114	55	63	79	125	
65	77	87	107	124	77	87	107	124	68	78	98	140	68	78	98	140	68	78	98	152	
80	88	98	118	134	89	99	119	140	80	90	110	150	80	90	110	150	80	90	110	162	
90	98	110	130	144	102	114	139	150	92	102	127	162	92	102	127	162	92	102	127	179	
100	111	123	143	159	115	127	152	165	104	116	141	172	104	116	141	182	104	116	141	194	
125	136	148	173	190	140	152	177	202	128	140	165	207	128	140	165	224	128	140	165	235	
150	158	174	199	220	166	182	214	237	153	165	197	249	153	165	197	255	153	165	197	275	
200	211	227	252	270	217	233	265	282	202	218	250	294	202	218	250	315	202	218	250	328	
250	258	278	310	332	268	288	328	354	251	271	311	360	251	271	311	378	251	271	311	394	
300	309	329	361	377	319	339	379	404	300	320	360	418	300	320	360	434	300	320	360	446	
350	346	366	406	422	356	376	416	450	336	356	396	463	336	356	396	479	336	356	396	488	
400	392	417	457	484	407	432	482	508	383	403	453	524	383	403	453	531	383	403	453	545	
450	443	468	518	539	458	483	533	573	—	—	—	—	—	—	—	—	—	—	—	—	
500	493	518	568	594	508	533	583	628	—	—	—	—	—	—	—	—	—	—	—	—	
550	544	569	619	650	559	584	634	684	—	—	—	—	—	—	—	—	—	—	—	—	
600	595	620	670	700	610	635	685	734	—	—	—	—	—	—	—	—	—	—	—	—	

Nominal diameter of flange	Nominal pressure 10K				16K				20K			
	Inner ring D1 ID	ID D2	OD D3	Outer ring D4 OD	Inner ring D1 ID	ID D2	OD D3	Outer ring D4 OD	Inner ring D1 ID	ID D2	OD D3	Outer ring D4 OD
650A	650	675	725	750	674	699	749	784	695	720	770	805
700	701	726	776	810	716	741	791	836	740	765	815	855
750	752	777	827	870	777	802	852	896	799	824	874	918
800	803	828	878	920	831	856	906	945	865	881	931	978
850	854	879	929	970	880	905	955	995	919	944	994	1,038
900	904	929	979	1,020	934	959	1,009	1,045	971	996	1,046	1,088
1,000	1,006	1,036	1,086	1,124	1,030	1,060	1,110	1,158	—	—	—	—
1,100	1,108	1,138	1,188	1,234	1,132	1,162	1,212	1,258	—	—	—	—
1,200	1,209	1,239	1,289	1,344	1,240	1,270	1,320	1,368	—	—	—	—
1,300	—	—	—	—	1,341	1,371	1,421	1,474	—	—	—	—
1,350	1,362	1,392	1,442	1,498	1,403	1,433	1,483	1,534	—	—	—	—
1,400	—	—	—	—	1,453	1,483	1,533	1,584	—	—	—	—
1,500	1,514	1,544	1,594	1,658	1,559	1,589	1,639	1,694	—	—	—	—

Unit (mm)

The dimensions in the two tables are not applicable to small flat seats.

The dimensions in the bold table are applicable to both large and small flat seats. (However, please note that these dimensions are only applicable to butt welded flanges and C–type sliding sleeve welded flanges specified in JIS B 2220.)

Suitable for A–type sliding sleeve welding flange and B–type sliding sleeve welding flange with a nominal pressure of 30 K

When the nominal pressure is 63K, it is recommended to use gaskets with inner and outer rings on the flange.

It is recommended to equip with inner and outer rings

When the nominal pressure is 2K and 5K, it is recommended not to use gaskets on the flange. It is recommended to use high–strength alloy steel bolts with SNB–7 or higher.

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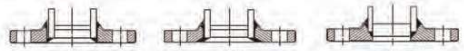
Suitable for A–type sliding sleeve welding flange (socket welding type)

Nominal diameter of flange	30K			
	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4
10A	21	29	42	59
15	25	32	45	64
20	30.5	37	50	69
25	37.5	47	60	79
32	46	54	70	89
40	52	64	80	100
50	64	75	95	114
65	80	100	120	140
80	93	110	130	150
90	105.5	120	140	163
100	118.5	130	150	173
125	146	160	185	208
150	171.5	190	220	251
200	223	235	265	296
250	274	290	330	360
300	326	350	390	420
350	363	395	435	465
400	414	445	495	524

Suitable for B–type sliding sleeve welding flange (socket welding type)

Nominal diameter of flange	20K				30K			
	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4	Inner ring ID D1	ID D2	OD D3	Outer ring OD D4
10	23	29	39	52	30	36	46	59
15	27	33	43	57	36	42	52	64
20	33	39	49	62	40	46	56	69
25	38	46	59	74	46	54	67	79
32	47	55	68	84	54	62	75	89
40	53	61	74	89	60	68	81	100
50	64	74	90	104	70	80	95	114

Sliding sleeve welding flange (socket welding flange)

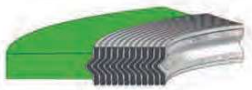


If it is a sleeve flange, the pipe needs to be inserted into the flange and then welded to the top and inner diameter of the flange. The JIS 20K and 30K flanges consist of A–type, B–type, and C–type flanges as shown in the above diagram. (The figure shows a neck flange.)

Metal wound gaskets with special applications

FLEXWOUND BS low stress metal wound gasket

BS type and BSI type gaskets are specifically designed for applications that require low bolt torque. Traditional metal wound gaskets have steel windings protruding above the compression stop. The filling material of BS type and BSI type gaskets protrudes above the metal winding and guide ring. Compared with traditional metal gaskets, this change can achieve perfect sealing at lower load stresses.



FLEXWOUND ® HT high-temperature resistant spiral wound gasket

HT gaskets are specifically designed for extreme temperatures and situations with strong oxidizing properties. This structure includes a special HT chromium nickel iron alloy X750 material winding and guide ring, combined with Flexigraf Filler – protects the inner and outer diameters through high–temperature resistant and antioxidant Micatherm fillers.

FLEXWOUND® NOSE-RI

Metal wound gaskets for cold and heat exchangers

FLEXWOUND CARRIER GASKETS can use multiple levels of gaskets to configure spiral wound sealing elements for mechanical processing of Carring gasket cross-sections (assembled through Carring gaskets) NOSE-RI type metal wound gaskets, with metal wound outer rings, mainly designed for Tema male and female flanges, and customized according to the design conditions of individual cold and heat exchangers. These gasket pieces have multiple materials to choose from.The outer nose is used to ensure the correct position of the metal wrapped sealing element (protected by the inner ring), and can also be used as a compression stop device. NOSE-R1 gasket can also be used in conjunction with hard metal or metal coated rolled bars.

FLEXWOUND® CARRIER GASKETS

The CARRIER type gasket is composed of hard steel rings, and grooves are organically machined on each surface where the spiral wound gasket is located. This forms a gasket with higher resilience, ensuring that the bolt torque remains unchanged even in the event of hard pressure and temperature cycling. The typical applications of this type of gasket are in the power generation, petrochemical, and nuclear industries. Carrier gaskets can be used for flat, raised or mortise and tenon flanges, as well as non-standard flange configurations. They can be used for small and large diameter holes, with a rated pressure rating of up to 2500 levels. Carrier gaskets can also be customized according to specific flange devices and design conditions.

Cross section of machined Carring gasket for helically wound sealing elements (assembled with Carring gasket)

Can be configured with multiple levels of gaskets

Can be configured with multiple levels of gaskets
A gasket can be applied to both Class 150 and Class 300 flanges simultaneously.
The gasket functions that can be used at multiple levels are as follows:
A gasket can accommodate both Class 150 and Class 300 flanges, with a design diameter of 1/2 "-24" (NPS1/2 to NPS3 standards range from Class 150 to Class 600).
Reduce inventory demand.
Easy to install: Simply remove less than half of the bolts and replace the washers.

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Flexcamm® Cammprofile Shim

describe

Flexcamm ® Toothed gaskets are considered a new type of high-quality sealing product. When the sealing environment is difficult and the gasket performance is particularly important under low pre tightening stress, such gaskets can be used to solve problems. Flexcamm ® The gasket is equipped with a sealing layer (made of flexible graphite Flexigraf) ® Metal core made of expanded mica (with concentric grooves), traditional polytetrafluoroethylene or bi-directional polytetrafluoroethylene Sichem ® Composition. Metal cores are usually selected based on the smelting method of the pipeline. Flexcamm ® Made with different materials and non circular shapes, it has extremely high accuracy. They can also be customized to adapt to various applications.

FN type

There are no guide rings used for tenon and groove flange applications during manufacturing, or groove flange applications – such as male and female and groove. It is usually suitable for heat exchanger applications and is used as an upgraded version of the double jacket gasket.

FG type

Equipped with integral guide ring for alignment. Recommended for raised face flanges. The design and dimensions of gaskets usually comply with EN 12560-6 specifications and are suitable for ASME B16.5 flanges, but can be manufactured according to other standards.

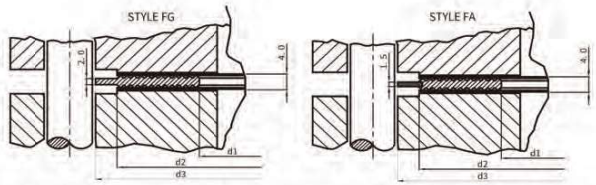
FA type

Equipped with floating guide rings. It is recommended to use this solution in applications with excessive radial shear characteristics, thermal cycling, and expansion. The design and dimensions of gaskets usually comply with EN 12560-6 specifications and are suitable for ASME B16.5 flanges, but can be manufactured according to other standards.

SRG gasket (reinforced graphite cover gasket)

SRG gasket is a solid gasket made of a rigid metal core, with two layers of expanded graphite on each layer of metal mesh. The sturdy metal core provides protection against bursting, while the soft graphite layer provides good sealing – as it can adapt well to the flange surface even under low gasket preload stress. It can widely use various core materials, from carbon steel to special alloys. SRG gaskets are suitable for low-pressure heat exchangers in chemical and petrochemical factories, with narrow pad widths and non circular shapes.

Dimensional data applicable to EN 12560–6 raised face flanges with DN ranging from 10 to 1400mm



Dimension mm			10	16	25	40	64	100	160	250	320	400
DN	d1	d2	d3	d3	d3	d3	d3	d3	d3	d3	d3	d3
10	22	36	46	46	46	46	56	56	56	67	67	67
15	26	42	51	51	51	51	61	61	61	72	72	78
20	31	47	61	61	61	61	-	-	-	-	-	-
25	36	52	71	71	71	71	82	82	82	82	92	104
32	46	66	82	82	82	82	-	-	-	-	-	-
40	53	73	92	92	92	92	103	103	103	109	119	135
50	65	87	107	107	107	107	113	119	119	124	134	150
65	81	103	127	127	127	127	137	143	143	153	170	192
80	95	121	142	142	142	142	148	154	154	170	190	207
100	118	144	162	162	168	168	174	180	180	202	229	256
125	142	176	192	192	194	194	210	217	217	242	274	301
150	170	204	217	217	224	224	247	257	257	284	311	348
175	195	229	247	247	254	265	277	287	284	316	358	402
200	224	258	272	272	284	290	309	324	324	358	398	442
250	275	315	327	328	340	352	364	391	388	442	488	-
300	325	365	377	383	400	417	424	458	458	536	-	-
350	375	420	437	443	457	474	486	512	-	-	-	-
400	426	474	489	495	514	546	543	572	-	-	-	-
450	480	528	539	555	-	571	-	-	-	-	-	-
500	530	578	594	617	624	628	657	704	-	-	-	-
600	630	680	695	734	731	747	764	813	-	-	-	-
700	730	780	810	804	833	852	879	950	-	-	-	-
800	830	880	917	911	942	974	988	-	-	-	-	-
900	930	980	1017	1011	1042	1084	1108	-	-	-	-	-
1000	1040	1090	1124	1128	1154	1194	1220	-	-	-	-	-
1200	1250	1310	1341	1342	1364	1398	1452	-	-	-	-	-
1400	1440	1510	1548	1542	1578	1618	-	-	-	-	-	-

Dimensional data applicable to EN 12560–6 raised face flanges with DN ranging from 10 to 1400mm

Dimension mm			150	300	400	600	900	1500	2500
DN	d1	d2	d3	d3	d3	d3	d3	d3	d3
1/2	23,0	33,3	44,4	50,8	50,8	50,8	60,3	60,3	66,7
3/4	28,6	39,7	53,9	63,5	63,5	63,5	66,7	6,7	73,0
1	36,5	47,6	63,5	69,8	69,8	69,8	76,2	76,2	82,5
1 1/4	44,4	60,3	73,0	79,4	79,4	79,4	85,7	85,7	101,6
1 1/2	52,4	69,8	82,5	92,1	92,1	92,1	95,2	95,2	114,3
2	69,8	88,9	101,6	108,0	108,0	108,0	139,7	139,7	142,8
2 1/2	82,5	101,6	120,6	127,0	127,0	127,0	161,9	161,9	165,1
3	98,4	123,8	133,4	146,1	146,1	146,1	165,1	171,5	193,7
3 1/2	111,1	136,5	158,8	161,9	158,7	158,7	-	-	-
4	123,8	154,0	171,5	177,8	174,6	190,5	203,2	206,4	231,7
5	150,8	182,6	193,7	212,7	209,5	238,1	244,5	250,8	276,2
6	177,8	212,7	219,1	247,7	244,5	263,5	285,8	279,4	314,3
8	228,6	266,7	276,2	304,8	301,6	317,5	355,6	349,3	384,1
10	282,6	320,7	336,5	358,8	355,6	396,9	431,8	431,8	473,0
12	339,7	377,8	406,4	419,1	415,9	454,0	495,3	517,5	546,1
14	371,5	409,6	447,7	482,6	479,4	488,9	517,5	574,7	-
16	422,3	466,7	511,2	536,6	533,4	561,9	571,5	638,1	-
18	479,4	530,2	546,1	593,7	590,5	609,6	635,0	701,7	-
20	530,2	581,0	603,2	650,9	644,5	679,5	695,3	752,4	-
22	581,0	631,8	657,2	701,7	698,5	730,3	-	-	-
24	631,8	682,6	714,4	771,5	765,2	787,4	835,0	898,5	-

Dimension mm			150	300	400	600	900
DN	d1	d2	d3	c3	d3	d3	d3
26	690	740	772	832	829	864	880
28	740	790	829	895	889	911	943
30	800	850	880	949	943	968	1007
32	845	905	937	1003	1000	1019	1070
34	895	955	987	1054	1051	1070	1134
36	950	1010	1045	1114	1114	1127	1197
38	960	1020	1108	1051	1070	1102	1197
40	1015	1075	1159	1111	1124	1153	1248
42	1065	1125	1216	1162	1175	1216	1299
44	1125	1185	1273	1216	1229	1267	1365
46	1175	1235	1324	1270	1286	1324	1432
48	1220	1290	1381	1321	1343	1388	1483
50	1270	1350	1432	1375	1400	1445	-
52	1320	1400	1489	1426	1451	1495	-
54	1375	1455	1546	1489	1515	1553	-
56	1430	1510	1603	1540	1565	1610	-
58	1485	1565	1661	1591	1616	1661	-
60	1535	1615	1711	1742	1680	1730	-

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The RTJ metal ring gasket is made of different types of hard metal. They are suitable for high pressure (up to 1300 bar) and high temperature (up to 1000 ° C) situations, and are suitable for corrosive locations. These gaskets are obtained from metal through forging or laminated mechanical processing. RTJ metal rings are mainly used in refining processes and high–pressure situations in refining processes. For production, we use the latest version of API standards. We can provide elliptical and octagonal ring joints, BX and RX, for all applications to match standard and special flange designs.

Ring connection gasket R–octagonal and R–elliptical

R–shaped gasket

The ring connecting gasket was originally developed for high–pressure/high–temperature applications in the petroleum industry, mainly used for drilling and completion equipment in oil fields. However, nowadays, this series of products can also be found on valve and pipeline assembly components, as well as at the connections of some high integrity pressure vessels.

There are two basic types of API ring connection gaskets, one is circular cross–section and the other is octagonal cross–section. These basic types can be used for pressures up to 10000 psi. Their dimensions are standardized and only applicable to special slotted flanges. The sealing efficiency of octagonal section is higher than that of circular section, making it the preferred type of gasket. However, in old–fashioned circular bottom grooves, only circular cross–section types can be used. Newer flat bottomed groove designs can use circular or octagonal cross–sections. The sealing surface on the ring connection groove must be flat and needs to be trimmed to 63 micro inches, and there must be no obstructive protrusions, tool marks, or vibration marks. When pressure is applied, they seal through initial line contact or edge action.

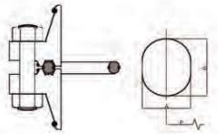
The hardness of the ring should always be lower than that of the flange to prevent flange deformation. Please refer to ASME B16.20 and API6A for the dimensions of the API ring connection gasket and groove.

Apex has product inventory of various sizes and materials, from R11 to R105, which can be shipped immediately.

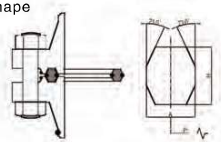
Pressure: 2000–5000 PSI

Dimensional Data – R–Type

ellipse



Octagonal shape



Tolerance: (mm)

A (ring width) ± 0.20 B, H (ring height) ± 0.5 P (ring diameter) ± 0.18 23. (Chamfer) ± 1/2 °

The R–ring connecting gasket can be manufactured according to all relevant standards to adapt to the following flange designs.

API6A ASME/ANSI B16.5 MSS SP44 (ASME B16.47 A系列) BS 1560

Ring No.	Pressure ratings: ANSI. BS 16.5 150	300/600	900	1500	2500	API 6B 2000	3000	5000	ASME B16.47 A Series 150	300/600	900	Middle diameter of ring	Ring width	Ring height: Oval	Ring height: Octagon	Approximate distance from the flange	Gasket weight, lln: Oval	Gasket weight, lln: Octagon
	Nominal pipe size (inch)											P	A	B	H			
R11	-	1/2	-	-	-	-	-	-	-	-	-	34.13	7.95	11.1	9.5	-	.111	.104
R12	-	-	1/2	1/2	-	-	-	-	-	-	-	39.69	7.95	14.3	12.7	-	.216	.200
R13	-	3/4	-	-	1/2	-	-	-	-	-	-	42.86	7.95	14.3	12.7	-	.234	.216
R14	-	-	3/4	3/4	-	-	-	-	-	-	-	44.45	7.95	14.3	12.7	-	.242	.224
R15	1	-	-	-	-	-	1	-	-	-	-	47.63	7.95	14.3	12.7	-	.260	.240
R16	-	1	1	1	3/4	1	-	1	1	-	-	50.80	7.95	14.3	12.7	-	.278	.256
R17	1 1/4	-	-	-	-	-	1 1/4	-	-	-	-	57.15	7.95	14.3	12.7	-	.311	.288
R18	-	1 1/4	1 1/4	1 1/4	-	1 1/4	-	1 1/4	1 1/4	-	-	60.33	7.95	14.3	12.7	-	.328	.304
R19	1 1/2	-	-	-	-	-	1 1/2	-	-	-	-	65.09	7.95	14.3	12.7	-	.354	.328
R20	-	1 1/2	1 1/2	1 1/2	-	1 1/2	-	1 1/2	1 1/2	-	-	68.28	11.11	14.3	12.7	4.1	.372	.344
R21	-	-	-	-	1 1/4	-	-	-	-	-	-	72.23	7.95	17.5	15.9	-	.380	.643
R22	2	-	-	-	-	-	2	-	-	-	-	82.55	11.11	14.3	12.7	-	.450	.415
R23	-	2	-	-	1 1/2	2	-	-	-	-	-	82.55	11.11	17.5	15.9	4.8	.755	.734
R24	-	-	2	2	-	-	-	2	2	-	-	95.25	7.95	17.5	15.9	4.8	.870	.846
R25	2 1/2	-	-	-	-	-	2 1/2	-	-	-	-	101.60	11.11	14.3	12.7	-	.553	.510
R26	-	2 1/2	-	-	2	2 1/2	-	-	-	-	-	101.60	11.11	17.5	15.9	4.8	.930	.904
R27	-	-	2 1/2	2 1/2	-	-	-	2 1/2	2 1/2	-	-	107.95	12.70	17.5	15.9	-	1.050	.960
R28	-	-	-	-	2 1/2	-	-	-	-	-	-	111.13	7.95	19.1	17.5	-	1.255	1.230
R29	3	-	-	-	-	-	-	-	-	-	-	114.30	11.11	14.3	12.5	-	.822	.575
R30	-	3	-	-	-	-	3	-	-	-	-	117.48	11.11	17.5	15.9	-	1.075	1.047
R31	-	3	3	-	-	3	-	3	-	-	-	123.83	12.70	17.5	15.9	4.8	1.130	1.100
R32	-	-	-	-	3	-	-	-	-	-	-	127.00	7.95	19.1	17.5	-	1.435	1.105
R33	3 1/2	-	-	-	-	-	-	-	-	-	-	131.76	11.11	14.3	12.7	-	.718	.654
R34	-	3 1/2	-	-	-	-	-	-	-	-	-	131.76	11.11	17.5	15.9	-	1.200	1.170
R35	-	-	-	3	-	-	-	-	3	-	-	136.53	7.95	17.5	15.9	4.8	1.250	1.210
R36	4	-	-	-	-	-	4	-	-	-	-	149.23	11.11	14.3	12.7	-	.813	.735
R37	-	4	4	-	-	4	-	4	3 1/2	-	-	149.23	15.88	17.5	15.9	4.8	1.360	1.330
R38	-	-	-	-	4	-	-	-	-	-	-	150.86	11.11	22.4	20.6	-	2.56	2.52
R39	-	-	-	4	-	-	-	-	4	-	-	161.93	7.95	17.5	15.9	4.8	1.480	1.440
R40	5	-	-	-	-	-	5	-	-	-	-	171.45	11.11	14.3	12.7	-	.835	.865
R41	-	5	5	-	-	5	-	5	-	-	-	180.98	19.05	17.5	15.9	4.8	1.66	1.06
R42	-	-	-	-	5	-	-	-	-	-	-	190.50	7.95	25.4	23.9	-	4.21	4.76
R43	6	-	-	-	-	-	-	-	-	-	-	193.68	11.11	14.3	12.7	-	1.055	.975
R44	-	-	-	5	-	-	6	-	5	-	-	193.68	11.11	17.5	15.9	4.8	1.77	1.73
R45	-	6	6	-	-	6	-	6	-	-	-	211.14	12.70	17.5	15.9	4.8	1.93	1.88
R46	-	-	-	6	-	-	-	-	6	-	-	211.14	19.05	19.1	17.5	4.8	2.39	2.33
R47	-	-	-	-	6	-	-	-	-	-	-	226.60	7.95	25.4	23.9	4.1	5.06	4.99
R48	8	-	-	-	-	-	8	-	-	-	-	247.55	11.11	14.3	12.7	-	1.350	1.240
R49	-	8	8	-	-	8	-	8	-	-	-	269.88	15.88	17.5	15.9	4.8	2.47	2.40
R50	-	-	-	8	-	-	-	-	8	-	-	269.88	22.23	22.4	20.6	4.1	4.40	4.32
R51	-	-	-	-	8	-	-	-	-	-	-	279.40	7.95	28.6	27	-	8.05	8.17
R52	10	-	-	-	-	-	10	-	-	-	-	304.80	11.11	14.3	12.7	-	1.66	1.53
R53	-	10	10	-	-	10	-	10	-	-	-	323.85	15.88	17.5	15.9	4.8	3.00	2.88
R54	-	-	-	10	-	-	-	-	10	-	-	323.85	28.58	22.4	20.6	4.1	5.29	5.18
R55	-	-	-	-	10	-	-	-	-	-	-	342.90	7.95	36.5	34.9	-	16.23	17.04
R56	12	-	-	-	-	-	12	-	-	-	-	381.00	11.11	14.3	12.7	-	2.07	1.92
R57	-	12	12	-	-	12	-	12	-	-	-	381.00	22.23	17.5	15.9	4.8	3.48	3.38
R58	-	-	-	12	-	-	-	-	-	-	-	381.00	7.95	28.6	27.0	-	11.00	11.13
R59	14	-	-	-	-	-	-	-	-	-	-	396.88	31.75	14.3	12.7	-	2.16	2.00
R60	-	-	-	-	12	-	14	-	-	-	-	406.40	11.11	39.7	38.1	-	23.10	23.50
R61	-	14	-	-	-	14	-	14	-	-	-	419.10	15.88	17.5	15.9	-	3.83	3.73
R62	-	-	14	-	-	-	-	-	-	-	-	419.10	25.40	22.2	20.6	-	6.84	6.71
R63	-	-	-	14	-	-	-	-	-	-	-	419.10	7.95	33.3	31.8	5.6	16.2	16.67
R64	16	-	-	-	-	-	16	-	-	-	-	454.03	11.11	14.3	12.7	-	2.47	2.29
R65	-	16	-	-	-	16	-	-	-	-	-	469.90	15.88	17.5	15.9	4.8	4.30	4.18
R66	-	-	16	-	-	-	-	16	-	-	-	469.90	28.58	22.2	20.6	4.1	7.67	7.53
R67	-	-	-	16	-	-	-	-	-	-	-	469.90	7.95	36.5	34.9	-	22.3	23.4
R68	18	-	-	-	-	-	18	-	-	-	-	517.53	11.11	14.3	12.7	-	2.82	2.6
R69	-	18	-	-	-	18	-	-	-	-	-	533.40	19.05	17.5	15.9	4.8	4.87	4.74
R70	-	-	18	-	-	-	-	18	-	-	-	533.40	28.58	25.4	23.9	4.8	11.80	11.64
R71	-	-	-	18	-	-	-	-	-	-	-	533.40	7.95	36.5	34.9	-	25.20	26.5
R72	20	-	-	-	-	-	20	-	-	-	-	558.80	12.70	14.3	12.7	-	3.04	2.81
R73	-	20	-	-	-	20	-	-	-	-	-	584.20	19.05	19.1	17.5	3.3	6.60	6.47
R74	-	-	20	-	-	-	-	20	-	-	-	584.20	31.75	25.4	23.9	4.8	12.95	12.75
R75	-	-	-	20	-	-	-	-	-	-	-	584.20	7.95	39.7	38.1	-	33.30	35.30
R76	24	-	-	-	-	-	-	-	-	-	-	673.10	15.88	14.3	12.7	-	3.66	3.38
R77	-	24	-	-	-	-	-	-	-	-	-	692.15	25.40	22.4	20.6	-	11.30	11.10
R78	-	-	24	-	-	-	-	-	-	-	-	692.15	34.93	33.3	31.8	-	27.10	27.58
R79	-	-	-	24	-	-	-	-	-	-	-	692.15	7.95	44.5	41.3	-	48.70	49.75
R80	-	-	-	-	-	-	-	-	-	-	-	615.95	14.29	-	12.7	-	-	3.11
R81	-	-	-	-	-	-	-	-	-	-	-	635.00	11.11	-	19.1	-	-	8.55
R82	-	-	-	-	-	-	-	-	1	-	-	57.14	11.11	-	15.9	4.8	-	0.508
R84	-	-	-	-	-	-	-	-	1 1/2	-	-	63.50	12.70	-	15.9	4.8	-	0.564
R85	-	-	-	-	-	-	-	-	2	-	-	79.38	15.88	-	17.5	3.3	-	0.978
R86	-	-	-	-	-	-	-	-	2 1/2	-	-	90.50	15.88	-	20.6	4.1	-	1.447
R87	-	-	-	-	-	-	-	-	3	-	-	100.03	19.05	-	20.6	4.1	-	1.597
R88	-	-	-	-	-	-	-	-	4	-	-	122.83	19.05	-	23.9	4.8	-	2.735
R89	-	-	-	-	-	-	-	-	3 1/2	-	-	114.30	22.23	-	23.9	4.8	-	2.528
R90	-	-	-	-	-	-	-	-	5	-	-	155.58	31.75	-	26.9	4.8	-	4.55
R91	-	-	-	-	-	-	-	-	10	-	-	260.25	11.11	-	38.1	4.1	-	15.05
R92	-	-	-	-	-	-	-	-	-	-	-	228.60	19.05	17.5	15.9	-	2.07	2.02
R93	-	-	-	-	-	-	-	-	-	-	26	749.30	19.05	-	23.9	-	-	16.33
R94	-	-	-	-	-	-	-	-	-	-	28	800.10	19.05	-	23.9	-	-	17.44
R95	-	-	-	-	-	-	-	-	-	-	30	857.25	22.23	-	23.9	-	-	18.69

Ring No.	Pressure ratings: ANSI. BS 16.5 150	300/600	900	1500	2500	API 6B 720-960 (1)	2000	3000	ASME B16.47 A Series 5000	150	300/600	900	Middle diameter of ring	Ring width	Ring height: Oval	Ring height: Octagon	Approximate distance from the flange	Gasket weight, lln: Oval	Gasket weight, lln: Octagon
	Nominal pipe size (inch)												P	A	B	H			
R96	-	-	-	-	-	-	-	-	-	-	32	-	914.40	22.23	-	27.0	-	-	26.65
R97	-	-	-	-	-	-	-	-	-	-	34	-	965.20	22.23	-	27.0	-	-	28.13
R98	-	-	-	-	-	-	-	-	-	-	36	-	1022.35	22.23	-	27.0	-	-	29.79
R99	-	-	-	-	-	-	8	8	-	-	-	-	234.95	11.11	-	15.9	4.8	-	2.08
R100	-	-	-	-	-	-	-	-	-	-	-	26	749.30	28.58	-	34.9	-	-	-
R101	-	-	-	-	-	-	-	-	-	-	-	28	800.10	31.75	-	38.1	-	-	-
R102	-	-	-	-	-	-	-	-	-	-	-	30	857.25	31.75	-	38.1	-	-	-
R103	-	-	-	-	-	-	-	-	-	-	-	32	914.40	31.75	-	38.1	-	-	-
R104	-	-	-	-	-	-	-	-	-	-	-	34	965.20	34.93	-	41.3	-	-	-
R105	-	-	-	-	-	-	-	-	-	-	-	36	1022.35	34.93	-	41.3	-	-	-

Metal ring gasket BX type

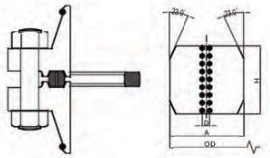
BX type gasket

The BX type RTJ metal ring gasket complies with API 6A and ASME B16.20 manufacturing standards to accommodate API 6B and ASME/ANSI B16.5 flanges.

The BX type is a turbocharged improved version of the standard R–type gasket. The design of the BX type groove is the same as that of the standard R type groove, making the joint interchangeable. The improved design adopts a pressure excitation effect, which improves the sealing efficiency as the internal pressure of the system increases.

Pressure: 5000–20000 PSI

Dimensional Data – BX Type



Tolerance: (mm)

*A * (ring width)+0.20, –0.000 A * (hole size) ± 0.5 * H * (ring height)+0.20, –0.000 OD (ring outer diameter)+0.000, –0.150 23 * (chamfer) ± 1/4 ° Note 1: The radius of the ring should be 8% to 12% of the ring height "H".Each ring requires a pressure channel hole on the centerline, with a size of * A plus a tolerance of 0.008 inches, to cover the width tolerance * A * and height tolerance * H *, provided that the variation in width or height does not exceed 0.004 inches on the entire circumference.

Ring No.	Pressure ratings API 6B: 2000	3000	5000	10000	15000	20000	Ring OD OD	Ring width H	Ring height A	Hole size D	Gasket weight, ibs; suitable for APL 66x flange
BX150	-	-	-	1 11/6	1 11/6	-	72.19	9.30	9.30	1.59	0.295
BX151	-	-	-	1 13/16	1 13/16	1 13/16	76.40	9.63	9.63	1.59	0.337
BX152	-	-	-	2 1/16	2 1/16	2 1/16	84.68	10.24	10.24	1.59	0.425
BX153	-	-	-	2 9/16	2 9/16	2 9/16	100.94	11.38	11.38	1.59	0.632
BX154	-	-	-	3 1/16	3 1/16	3 1/16	115.84	12.40	12.40	1.59*	0.875
BX155	-	-	-	4 1/16	4 1/16	4 1/16	147.96	14.22	14.22	1.59	1.22
BX156	-	-	-	7 1/16	7 1/16	7 1/16	237.92	18.62	18.62	3.18	4.14
BX157	-	-	-	9	9	9	294.46	20.98	20.98	3.18	6.55
BX158	-	-	-	ri	11	11	352.04	23.14	23.14	3.18	9.60
BX159	-	-	-	13 5/8	13 5/8	13 5/8	426.72	25.70	25.70	3.18	14.41
BX160	-	-	13 5/8	-	-	-	402.59	23.83	13.74	3.18	6.75
BX161	-	-	16 3/4	-	-	-	491.41	28.07	16.21	3.18	-
BX162	-	-	16 3/4	16 3/4	16 3/4	-	475.49	14.22	14.22	1.59	-
BX163	-	-	18 3/4	-	-	-	556.16	30.10	17.37	3.18	-
BX164	-	-	-	18 3/4	18 3/4	-	570.56	30.10	24.59	3.18	-
BX165	-	-	21 1/4	-	-	-	624.71	32.03	18.49	3.18	-
BX166	-	-	-	21 1/4	-	-	640.03	32.03	26.14	3.18	-
BX167	26 3 / 4	-	-	-	-	-	759.36	35.87	13.11	1.59	-
BX168	-	26 3 / 4	-	-	-	-	765.25	35.87	16.05	1.59	-
BX169	-	-	-	5 1/8	-	-	173.51	15.87	12.93	1.59	-
BX170	-	-	-	6 5/8	6 5/8	-	218.03	14.22	14.22	1.59	-
BX171	-	-	-	8 9/16	8 9/16	-	267.44	14.22	14.22	1.59	-
BX172	-	-	-	11 5/32	11 5/32	-	333.07	14.22	14.22	1.59	-
BX303	30	30	-	-	-	-	852.75	37.95	16.97	1.59	-

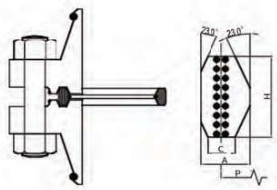
Metal ring gasket RX type

RX type gasket

The RX type RTJ gasket complies with API 6A and ASME B16.20 manufacturing standards and is suitable for API6B and ASME/ANSI B16.5 flanges.

The RX type is a turbocharged improved version of the standard R–type gasket. The design of the RX type groove is the same as that of the standard R type groove, making the joint interchangeable. The improved design adopts a pressure excitation effect, which improves the sealing efficiency as the internal pressure of the system increases.

Dimensional Data – RX Type



Tolerance: (mm)

A * (ring width) nbsp+ 0.20, –0.000 H * (ring height)+ 0.20, –0.000OD (outer diameter of ring)+0.5, –0.000 23 * (angle) ± 1/2 °

Ring No.	Pressure ratings API 6B				Ring MD P	Ring OD OD	Ring width A	Ring height H	Weight lbs.
	720-960 & 2000 [Note 1]	2900 [Note 1]	3000	5000					
RX20	11/2	-	11/2	11/2	68.26	76.20	8.73	19.05	0.527
RX23	2	-	-	-	82.55	93.27	11.91	25.40	1.15
RX24	-	-	2	2	95.25	105.97	11.91	25.40	1.33
RX25	-	-	-	31/8	101.60	109.54	8.73	19.05	1.42
RX26	21/2	-	-	-	101.60	111.92	11.91	25.40	1.50
RX27	-	-	21/2	21/2	107.95	118.27	11.91	25.40	1.73
RX31	3	-	3	-	123.83	134.54	11.91	25.40	1.91
RX35	-	-	-	3	136.53	147.24	11.91	25.40	2.09
RX37	4	-	4	-	149.23	159.94	11.91	25.40	2.27
RX39	-	-	-	4	161.93	172.64	11.91	25.40	2.54
RX41	5	-	5	-	180.98	191.69	11.91	25.40	2.72
RX44	-	-	-	5	193.68	204.39	11.91	25.40	2.96
RX45	6	-	6	-	211.14	281.85	11.91	25.40	3.66
RX46	-	-	-	6	211.14	222.25	13.49	28.58	8.56
RX47	-	-	-	8*	228.60	245.27	19.84	41.28	3.79
RX49	8	-	8	-	269.88	280.59	11.91	25.40	5.36
RX50	-	-	-	8	269.88	283.37	16.67	31.75	4.56
RX53	10	-	10	-	323.85	334.57	11.91	25.40	5.45
RX54	-	-	-	10	323.85	337.34	16.67	31.75	5.36
RX57	12	-	12	-	381.00	391.72	11.91	25.40	26.40
RX63	-	-	-	14	419.10	441.72	26.99	50.80	6.63
RX65	16	-	-	-	469.90	480.62	11.91	25.40	9.39
RX66	-	-	16	-	469.90	483.39	16.67	31.75	7.52
RX69	18	-	-	-	533.40	544.12	11.91	25.40	20.14
RX70	-	-	18	-	533.40	550.07	26.99	41.28	11.63
RX73	20	-	-	-	584.20	596.11	11.91	31.75	22.10
RX74	-	-	20	-	584.20	600.87	19.84	41.28	0.790
RX82	-	1	-	-	57.15	67.87	11.91	25.40	0.880
RX84	-	11/2	-	-	63.50	74.22	11.91	25.40	0.880
RX85	-	2	-	-	79.38	90.09	13.49	25.40	1.79
RX86	-	21/2	-	-	90.49	103.58	15.08	28.58	1.98
RX87	-	3	-	-	100.03	113.11	15.08	28.58	3.22
RX88	-	4	-	-	123.83	139.29	17.46	31.75	2.98
RX89	-	31/2	-	-	114.30	129.78	18.26	31.75	5.82
RX90	-	5	-	-	155.58	174.63	19.84	44.45	17.10
RX91	-	10	-	-	260.35	286.94	30.18	45.24	3.31
RX99	8(2)	-	8(2)	-	234.95	245.67	11.91	25.40	-
RX201	-	-	-	13/8	46.04	51.46	5.74	11.30	-
RX205	-	-	-	113/16	57.15	62.31	5.56	11.10	-
RX210	-	-	-	29/16	88.90	97.63	9.53	19.05	-
RX215	-	-	-	41/16	130.18	140.89	11.91	25.40	-

PLANI CHEM
SICHEM SOLUTIONS

Metal ring IX type

IX type gasket

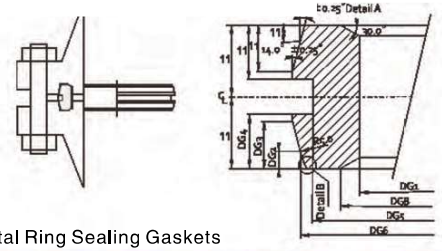
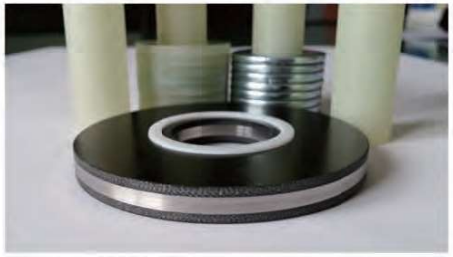


Table B.2–IX Dimensions and Weights of Type IX Metal Ring Sealing Gaskets

Metric System DN	British System NPS	IX size	DG1 mm	DG2 mm	DG3 mm	DG4 mm	DG5 mm	DG6 mm	DG7 mm	DG8 mm	HG1 mm	HG2 mm	HG3 mm	HG4 mm	HG5 mm	RG1 mm	Weight, kg kg
15	1/2	IX15	22.2	27.91	28.46	28.66	27.47	29.14	30.19	24.7	0.35	1.20	3.30	3.8	10.00	0.5	0.02
20	3/4	IX20	27.2	32.93	33.47	33.67	32.48	34.16	35.20	29.7	0.35	1.20	3.30	3.8	10.00	0.5	0.03
25	1	IX25	34.2	39.95	40.49	40.69	39.50	41.18	42.22	36.7	0.35	1.20	3.30	3.8	10.00	0.5	0.03
40	11/2	IX40	49.3	55.84	56.38	56.58	55.34	57.11	58.21	51.9	0.35	1.27	3.48	4.0	10.56	0.5	0.05
50	2	IX50	61.3	68.43	69.08	69.32	67.92	69.89	71.13	64.4	0.42	1.41	3.89	4.5	11.78	0.6	0.08
65	21/2	IX65	74.4	82.14	82.14	83.03	81.52	83.69	85.05	77.8	0.42	1.56	4.28	4.9	12.98	0.6	0.12
80	3	IX80	89.5	97.74	98.49	98.77	97.09	99.47	100.96	93.3	0.49	1.71	4.70	5.4	14.24	0.7	0.17
100	4	IX100	115.7	125.17	126.04	126.36	124.44	127.15	128.85	120.1	0.56	1.94	5.34	6.2	16.19	0.8	0.28
125	5	IX125	142.0	152.66	153.64	154.00	151.87	154.87	156.75	146.7	0.63	2.15	5.92	6.8	17.94	0.9	0.42
150	6	IX150	170.2	182.17	183.25	183.66	181.32	184.61	186.66	175.4	0.70	2.36	6.48	7.5	19.64	1.0	0.62
200	8	IX200	220.5	233.46	234.66	235.10	232.45	236.19	238.54	226.5	0.77	2.68	7.38	8.5	22.36	1.1	0.99
250	10	IX250	274.9	292.64	294.05	294.57	291.57	295.78	298.42	281.7	0.91	3.02	8.31	9.6	25.20	1.3	1.85
300	12	IX300	325.0	341.13	342.65	343.21	339.97	344.52	347.36	332.5	0.98	2.26	8.96	10.4	27.15	1.4	2.18
350	14	IX350	357.1	373.87	375.38	375.94	372.58	377.34	380.32	365.0	0.98	3.42	9.39	11.0	28.46	1.4	2.60
400	16	IX400	409.3	427.36	428.98	429.58	425.98	431.08	434.27	417.9	1.05	3.66	10.05	11.9	30.47	1.5	3.43
450	18	IX450	459.4	478.90	480.63	481.27	477.45	482.85	486.23	468.6	1.12	3.87	10.65	12.7	32.28	1.6	4.38
500	20	IX500	511.6	531.45	533.29	533.97	529.93	535.63	539.20	521.4	1.19	4.09	11.24	13.5	34.06	1.7	5.27
550	22	IX550	561.7	583.04	584.99	585.71	581.62	587.44	591.18	572.1	1.26	4.28	11.78	14.3	35.69	1.8	6.48
600	24	IX600	611.9	633.64	635.70	636.46	632.40	638.26	642.16	622.8	1.33	4.47	12.29	15.0	37.25	1.9	7.55
650	26	IX650	664.0	686.37	688.42	689.18	685.19	691.09	695.16	675.5	1.33	4.66	12.81	15.7	38.81	1.9	8.74
700	28	IX700	714.1	738.01	740.17	740.97	737.01	742.94	747.16	726.1	1.40	4.83	13.28	16.3	40.25	2.0	10.4
750	30	IX750	766.3	790.65	792.92	793.77	789.83	795.79	800.16	778.8	1.47	5.00	13.76	17.0	41.69	2.1	11.8
800	32	IX800	816.4	841.32	843.70	844.58	840.67	846.66	851.16	829.4	1.54	5.16	14.20	17.6	43.03	2.2	13.3
850	34	IX850	866.6	892.10	894.48	895.36	891.52	897.53	902.18	879.9	1.54	5.32	14.63	18.2	44.34	2.2	14.8
900	36	IX900	918.7	945.78	948.27	949.19	945.38	951.41	956.19	932.6	1.61	5.48	15.06	18.8	45.65	2.3	17.1
950	38	IX950	968.8	996.59	999.08	1000.00	996.26	1002.30	1007.21	983.1	1.61	5.63	15.47	19.3	46.88	2.3	18.9
1000	40	IX1000	1021.0	1049.28	1051.88	1052.85	1049.13	1055.19	1060.23	1035.7	1.68	5.77	15.88	19.9	48.12	2.4	20.9
1050	42	IX1050	1071.1	1100.00	1102.70	1103.71	1100.02	1106.10	1111.26	1086.2	1.75	5.92	16.27	20.4	49.29	2.5	23.0
1100	44	IX1100	1121.3	1150.83	1153.53	1154.54	1150.92	1157.00	1162.28	1136.8	1.75	6.05	16.64	21.0	50.43	2.5	25.1
1150	46	IX1150	1173.4	1203.55	1206.36	1207.40	1203.82	1209.91	1251.31	1189.3	1.82	6.19	17.03	21.5	51.59	2.6	27.5
1200	48	IX1200	1223.6	1254.39	1257.25	1257.25	1254.73	1260.83	1265.35	1239.8	1.82	6.32	17.39	22.0	52.68	2.6	29.9

Insulating gasket set



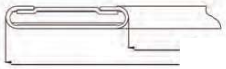
The flange is the most common fault area that requires appropriate sealing to prevent leakage, and cathodic isolation must also be carried out to prevent stray currents (which can cause metal corrosion and final breakdown). The insulation gasket group helps to solve the sealing problems of most flanges,

type	D–type, E–type, F–type
form	Integrated sleeve and gasket set One integrated isolation sleeve Two –1/8 "steel or stainless steel gaskets Double gasket and full–length sleeve set One – Full length sleeve Two –1/8 "steel or stainless steel gaskets "E" type comprehensive isolation gasket "F" type convex isolation gasket "D" ring connecting gasket O–ring isolation gasket Two –1/8 "isolation gaskets
colour	Silver, white, and black
size	According to requirements

Wrapped gasket

Wrapped gaskets are usually equipped with high–temperature fillers without asbestos. Standard fillers are usually sufficient to meet applications up to 900 ° F (482 ° C). But other soft fillers can meet higher temperatures or special applications. The standard metals used for manufacturing wrapped gaskets (regardless of type) are aluminum, copper, various brass, soft steel, nickel, Monel alloy, chromium nickel iron alloy, and 304, 316, 321, 347, and 410 stainless steel. The selection of metal used for the gasket wrapping part will depend on the usage conditions encountered:–Double wrapped gasket–Double enveloped corrugated gasket–Double enveloped corrugated gasket with corrugated metal filler–Single coverage overlap–Double enveloped double shell gasket

Double enveloped (DJ) gasket dimensions comply with ASME B16.20 manufacturing standards and are suitable for ASME B16.5 flanges.



Nominal pipe size (NPS)	Gasket ID		Ring OD, CLASS Series													
			150		300		400		600		900		1500		2500	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1/2	0.88	22.4	1.75	44.5	2	50.8	—	—	2	50.8	—	—	2.38	60.5	2.63	66.8
3/4	1.13	28.7	2.13	54.1	2.5	63.5	—	—	2.5	63.5	—	—	2.63	66.8	2.88	73.2
1	1.5	38.1	2.5	63.5	2.75	69.9	—	—	2.75	69.9	—	—	3	76.2	3.25	82.6
1 1/4	1.88	47.8	2.88	73.2	3.13	79.5	—	—	3.13	79.5	—	—	3.38	85.9	4	101.6
1 1/2	2.13	54.1	3.25	82.6	3.63	92.2	—	—	3.63	92.2	—	—	3.75	95.3	4.5	114.3
2	2.88	73.2	4	101.6	4.25	108	—	—	4.25	108	—	—	5.5	139.7	5.63	143
2 1/2	3.38	85.9	4.75	120.7	5	127	—	—	5	127	—	—	6.38	162.1	6.5	165.1
3	4.25	108	5.25	133.4	5.75	146.1	—	—	5.75	146.1	6.5	165.1	6.75	171.5	7.63	193.8
4	5.19	131.8	6.75	171.5	7	177.8	6.88	174.8	7.5	190.5	8	203.2	8.13	206.5	9.13	231.9
5	6	152.4	7.63	193.8	8.38	212.9	8.25	209.6	9.38	238.3	9.63	244.6	9.88	251	10.88	276.4
6	7.5	190.5	8.63	219.2	9.75	247.7	9.63	244.6	10.38	263.7	11.25	285.8	11	279.4	12.38	314.5
8	9.38	238.3	10.88	276.4	12	304.8	11.88	301.8	12.5	317.5	14	355.6	13.75	349.3	15.13	384.3
10	11.25	285.8	13.25	336.6	14.13	358.9	14	355.6	15.63	397	17	431.8	17	431.8	18.63	473.2
12	13.5	342.9	16	406.4	16.5	419.1	16.38	416.1	17.88	454.2	19.5	495.3	20.38	517.7	21.5	546.1
14	14.75	374.7	17.63	447.8	19	482.6	18.88	479.6	19.25	489	20.38	517.7	22.63	574.8	—	—
16	16.75	425.5	20.13	511.3	21.13	536.7	21	533.4	22.13	562.1	22.5	571.5	25.13	638.3	—	—
18	19.25	489	21.5	546.1	23.38	593.9	23.25	590.6	24	609.6	25	635	27.63	701.8	—	—
20	21	533.4	23.75	603.3	25.63	651	25.38	644.7	26.75	679.5	27.38	695.5	29.63	752.6	—	—
24	25.25	641.4	28.13	714.5	30.38	771.7	30.13	765.3	31	787.4	32.88	835.2	35.38	898.7	—	—

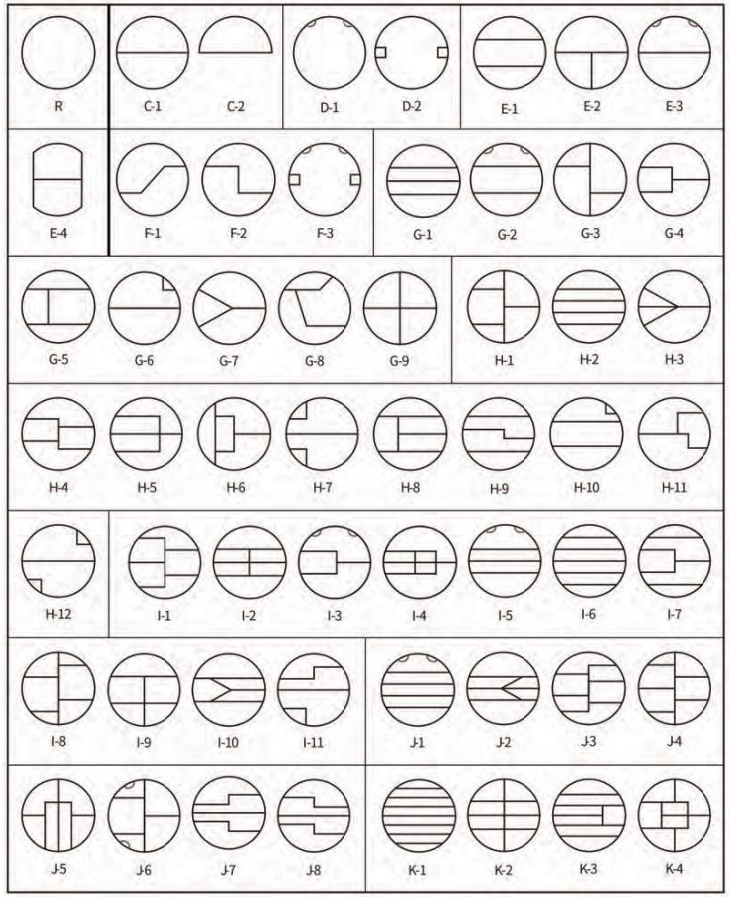
Double enveloped (DJ) gasket dimensions comply with ASME B16.20 manufacturing standards and are suitable for ASME B16.47 A flanges

Nominal pipe size (NPS)	Gasket ID		Ring OD, CLASS Series									
			Class 150		Class 300		Class 400		Class 600		Class 900	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
26	26.5	673.1	30.38	771.7	32.75	831.9	32.63	828.8	34	863.6	34.63	879.6
28	28.5	723.9	32.63	828.8	35.25	895.4	35	889	35.88	911.4	37.13	943.1
30	30.5	774.7	34.63	879.6	37.38	949.5	37.13	943.1	38.13	968.5	39.63	1006.6
32	32.5	825.5	36.88	936.8	39.5	1003.3	39.38	1000.3	40.13	1019.3	42.13	1070.1
34	34.5	876.3	38.88	987.6	41.5	1054.1	41.38	1051.1	42.13	1070.1	44.63	1133.6
36	36.5	927.1	41.13	1044.7	43.88	1114.6	43.88	1114.6	44.38	1127.3	47.13	1197.1
38	38.5	977.9	43.63	1108.2	41.38	1051.1	42.13	1070.1	43.38	1101.9	47.13	1197.1
40	40.5	1028.7	45.63	1159	43.75	1111.3	44.25	1124	45.38	1152.7	49.13	1247.9
42	42.5	1079.5	47.88	1216.2	45.75	1162.1	46.25	1174.8	47.88	1216.2	51.13	1298.7
44	44.5	1130.3	50.13	1273.3	47.88	1216.2	48.38	1228.9	49.88	1267	53.75	1365.3
46	46.5	1181.1	52.13	1324.1	50	1270	50.63	1286	52.13	1324.1	56.38	1432.1
48	48.5	1231.9	54.38	1381.3	52	1320.8	52.88	1343.2	54.63	1387.6	58.38	1482.9
50	50.5	1282.7	56.38	1432.1	54.13	1374.9	55.13	1400.3	56.88	1444.8	—	—
52	52.5	1333.5	58.63	1489.2	56.13	1425.7	57.13	1451.1	58.88	1495.6	—	—
54	54.5	1384.3	60.88	1546.4	58.63	1489.2	59.63	1514.6	61.13	1552.7	—	—
56	56.5	1435.1	63.13	1603.5	60.63	1540	61.63	1565.4	63.13	1603.5	—	—
58	58.5	1485.9	65.38	1660.7	62.63	1590.8	63.63	1616.2	65.38	1660.7	—	—
60	60.5	1536.7	67.38	1711.5	64.63	1641.6	66.13	1679.7	68.13	1730.5	—	—

Double enveloped (DJ) gasket dimensions comply with ASME B16.20 manufacturing standards and are suitable for ASME B16.47 series B flanges

Nominal pipe size (NPS)	Gasket ID		Ring OD, CLASS Series									
			Class 150		Class 300		Class 400		Class 600		Class 900	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
26	26.5	673.1	28.44	722.4	30.25	768.4	29.25	743	30	762	32.88	835.2
28	28.5	723.9	30.44	773.2	32.38	822.5	31.38	797.1	32.13	816.1	35.38	898.7
30	30.5	774.7	32.44	824	34.75	882.7	33.63	854.2	34.5	876.3	37.63	955.8
32	32.5	825.5	34.56	877.8	36.88	936.8	35.75	908.1	36.63	930.4	39.88	1013
34	34.5	876.3	36.69	931.9	39	990.6	37.75	958.9	39.13	993.9	42.13	1070.1
36	36.5	927.1	38.75	984.3	41.13	1044.7	40.13	1019.3	41.13	1044.7	44.13	1120.9
38	38.5	977.9	41	1041.4	43.13	1095.5	42.13	1070.1	43.38	1101.9	47.13	1197.1
40	40.5	1028.7	43	1092.2	45.13	1146.3	44.25	1124	45.38	1152.7	49.13	1247.9
42	42.5	1079.5	45	1143	47.13	1197.1	46.25	1174.8	47.88	1216.2	51.13	1298.7
44	44.5	1130.3	47	1193.8	49.13	1247.9	48.38	1228.9	49.88	1267	53.75	1365.3
46	46.5	1181.1	49.31	1252.5	51.75	1314.5	50.63	1286	52.13	1324.1	56.38	1432.1
48	48.5	1231.9	51.31	1303.3	53.75	1365.3	52.88	1343.2	54.63	1387.6	58.38	1482.9
50	50.5	1282.7	53.31	1354.1	55.75	1416.1	55.13	1400.3	56.88	1444.8	—	—
52	52.5	1333.5	55.31	1404.9	57.75	1466.9	57.13	1451.1	58.88	1495.6	—	—
54	54.5	1384.3	57.5	1460.5	60.13	1527.3	59.63	1514.6	61.13	1552.7	—	—
56	56.5	1435.1	59.5	1511.3	62.63	1590.8	61.63	1565.4	63.13	1603.5	—	—
58	58.5	1485.9	62.06	1576.3	65.06	1652.5	63.63	1616.2	65.38	1660.7	—	—
60	60.5	1536.7	64.06	1627.1	67.06	1703.3	66.13	1679.7	68.13	1730.5	—	—

Standard Shape Index



HONGPACK 2600L

Operating temperature range
-85°C / +260°C
Maximum operating pressure
Valve:200bar
Pump:70bar
Maximum shaft speed
8 m/s
pH value
0-14

describe

HONGPACK 2600L is a soft and resilient square woven filler made from lubricated (PTFE dispersion impregnated) PTFE yarn.

Usage environment

HONGPACK 2600L can be used for most chemical processing applications such as pumps, valves, or static applications. Especially suitable for applications with concentrated acids or requiring non polluting products (such as food and medicine).

HONGPACK 3050

Maximum operating temperature
460 ℃ (air); 650 ℃ (steam)
Maximum operating pressure
180bar
Maximum shaft speed
20 m/s
pH value
0-14

describe

HONGPACK 3050 is a high-quality filler made from high-purity expanded graphite.

Usage environment

HONGPACK 3050 is a soft, lubricated natural material woven packing used to seal valves and pumps. The soft compressibility of expanded graphite can achieve good sealing performance under relatively low loads. The Flexpack 3050 has excellent chemical resistance and is suitable for applications involving multiple chemical media (except for strong oxidants).

This material is particularly suitable for sealing high-pressure and high-temperature valves in power plants and the petrochemical industry.

HONGPACK 3060

Maximum operating temperature
430℃ (air); 650℃ (steam)
Maximum operating pressure
300 bar
Maximum shaft speed
2 m/s
pH value
0-14

describe

HONGPACK 3060 is a high-quality woven filler made of X, which is composed of high-purity graphite yarn and chromium nickel iron alloy filament.

In addition, the filler is treated with a specially formulated high-temperature lubricant and corrosion inhibitor.

Usage environment

HONGPACK 3060 can be used for high-pressure, high-temperature valves and sealing applications. The tenants of high-performance graphitized yarn and Inconel nickel alloy filament have improved dimensional stability and long-term sealing performance. FLEXPACK 3060 has excellent chemical resistance and can be used to seal various chemical media (except for strong oxidants). Suitable for petroleum, petrochemical, chemical, and power plants.

HONGPACK 3090

Maximum operating temperature
500°C
Maximum operating pressure
200 bar
Maximum shaft speed
10 m/s
pH value
2-12

describe

HONGPACK 3090 is a filler made from high-quality peroxide carbon fiber yarn treated with fine graphite powder and corrosion inhibitor.

Usage environment

HONGPACK 3090 has extensive chemical resistance and a wide range of applications, suitable for various dynamic and static applications.

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HONGPACK 4300

Maximum operating temperature
150°C
Maximum operating pressure
80 bar
Maximum shaft speed
5 m/s
pH value
5-10

describe

HONGPACK 4300 is a high-quality woven packing made from polytetrafluoroethylene dispersion lubricant and fine vegetable yarn.

Usage environment

HONGPACK 4300 is suitable for sealing various equipment, including valves, rotary pumps, and reciprocating pumps, suitable for treating water, salt water, solvents, petroleum products, and mild chemical products.

HONGPACK 5000

Maximum operating temperature
-85°C / + 260°C
Maximum operating pressure
150 bar (15 MPa)
Maximum shaft speed
15 m/s
pH value
2-12

describe

HONGPACK 5000 is a packing made of aramid impregnated polytetrafluoroethylene after high-temperature lubricant treatment.

Usage environment

HONGPACK 5000 is suitable for the steel, chemical, papermaking, pulp, and cement industries; Especially suitable for pumping abrasive slurry applications.

HONGPACK 5002

Maximum operating temperature
-100°C / + 280°C
Maximum operating pressure
150 bar (15 MPa)
Maximum shaft speed
15 m/s
pH value
1-13

describe

HONGPACK 5002 is a high-quality X-woven packing made by impregnating it with special polytetrafluoroethylene and lubricating it with inert lubricant, combined with striped Kevlar yarn.

Usage environment

HONGPACK 5002 is suitable for high-pressure and high-speed valves and pumps, suitable for deep water seawater, modules, food, acids, and alkalis.

HONGPACK 8010

Maximum operating temperature
-200°C / 260°C
Maximum operating pressure
25 MPa (250 bar)
Maximum shaft speed
12 m / sec
pH value
0-12

describe

HONGPACK 8010 is a type of packing made of X-woven type, made of high-performance graphite impregnated PTFE yarn, which gives the filler high thermal conductivity and low friction. The corners of 8010 are reinforced with high-strength aramid fibers, improving its anti extrusion ability under high temperature and pressure environments.

Usage environment

HONGPACK 8010 is suitable for rotary, reciprocating, and valve applications, suitable for sealing water, solvents, grinding media, weak acids and bases, and suitable for the food and chemical industries.

HONGPACK 8030

Operating temperature range	-40°C / + 150°C
Maximum operating pressure	80 bar
Maximum shaft speed	10 m/s
pH value	3-12

describe

HONGPACK 8030 is a high–quality X–woven packing, and X–plain is a customized synthetic fiber that can be used as a filler. This product is impregnated with polytetrafluoroethylene (PTFE) and lubricated.

Usage environment

HONGPACK 8030 is suitable for applications related to rotation and is suitable for sealing water, steam, gases, most solvents, acids, and moderate chemical applications. Due to the absence of pigments, this filler will not cause discoloration of the process medium.

HONGPACK 9000

Operating temperature range	-85°C / + 260°C
Maximum operating pressure	Valve: 200bar Pump: 70bar
Maximum shaft speed	20 m/s
pH value	0-14

describe

HONGPACK 9000 is a high–quality X–woven packing made from polytetrafluoroethylene (PTFE) yarn, woven with graphite and high–temperature lubricant.

Usage environment

HONGPACK 9000 is suitable for various rotating and static applications, including water, steam, slurry, oil, acid, and alkali.

HONGPACK PTFE Tanklid Packing

Size	20-60mm
Operating temperature range	-50°C / +260°C
Appearance	Flat and uniform
Tolerance < 30	-0/+2mm
Tolerance (30-60)	-0/+4mm
Density	0.55-0.75g/m
pH value	0-14
Hot oil content	5-10%

Usage environment

The TANK LID PACKING hatch cover packing is made of a special elastic material with high–pressure retraction elasticity as the inner core, wrapped in high–temperature resistant fiber material, and woven with corrosion–resistant fiber as the outer protective material. Multi functional materials are combined to form sealing fillers with special properties. Used for sealing manhole, filling hole, protective hole, hatch and other parts of large containers such as oil and chemicals.

Polytetrafluoroethylene (PTFE) safety splash guard

The most popular protective cover is compatible with almost all corrosive chemicals (including caustic soda and high concentration sulfuric acid) due to the addition of high–tech fabrics and polytetrafluoroethylene/Keff cables. Can be provided upon request.

This protective cover is commonly used in applications that seal acids, corrosive agents, solvents, fuels, lubricants, and oils. In addition to the types of pipe joints listed on this website, polytetrafluoroethylene (PTFE) protective covers can also be customized according to other accessories such as pumps, expansion joints, and hoses (for more information, please contact us).

Maximum operating temperature 235 ° C/450 ° F
Flange rating: Ansi 150–600lb/DIN PN6–PN40
Pipe diameter size: standard; 1/4 '(10mm) –24 "(600mm). Larger size
Scope of application: Standards; Flanges, elbows, tees, couplings. Can be provided upon request

Polytetrafluoroethylene (PTFE) – Transparent safety splash guard

This protective cover is usually used in applications where the line of sight cannot be obstructed by flanges/joints. Therefore, the release of liquid inside can be seen through the protective cover, providing visual indication. However, it should be noted that we do not recommend using this protective cover for the following applications – external indications that may cause liquid/condensation leakage errors.

Due to the addition of high–tech fabrics and polytetrafluoroethylene/Keff cables, this protective cover is compatible with a range of corrosive chemicals. Can be provided upon request. For strong acids and higher temperatures and pressures, please consider using standard polytetrafluoroethylene (PTFE) or ST/ST protective covers.
Maximum operating temperature 150 ° C/300 ° F
Flange rating: Ansi 150–300lb/DIN PN6–PN40
Pipe diameter size: standard; 1/4 '(10mm) –24 "(600mm). Larger size
Scope of application: Standards; Flanges, elbows, tees, couplings. Can be provided upon request

This protective cover is commonly used in applications of acids, corrosive agents, solvents, fuels, lubricants, and sealing oils. The PTFE transparent protective cover can also be customized according to requirements to be suitable for other accessories such as pumps, expansion joints, and hoses (for more information, please contact us).

Polyvinyl chloride (PVC) safety splash guard

This protective cover is made of heat sealed PVC and aims to provide cost–effective or short–term solutions for low corrosion, high pressure, and high temperature applications. Usually used for water–based liquids, especially low concentration chemicals. Each protective cover comes with an external litmus indicator patch.

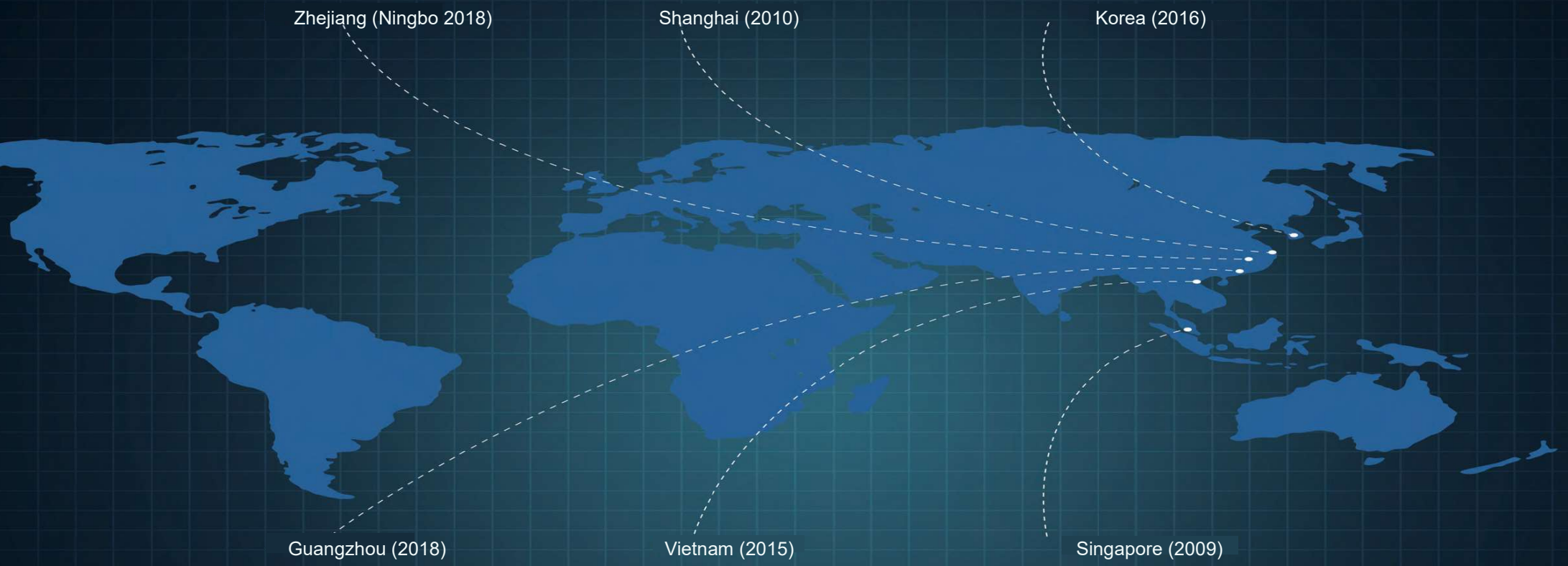
Maximum operating temperature 60 ° C/150 ° F
Flange rating: Ansi 150–300lb/DIN PN6–PN25
Pipe diameter size: 1/4 '(10mm) –24 "(600mm), please contact us for other sizes
Scope of application: Standards; Flanges, elbows, tees, couplings.

Stainless steel safety splash guard

The protective cover includes an external 316 stainless steel/stainless steel strip, an internal 4–layer stainless steel/stainless steel mesh, and an external quick release clip. The key design feature is the internal grid, which can effectively disperse all released pressure, thereby achieving safe dripping. Equally important is the precise alignment of the protective cover with the "curled" central grid section, as other unsuitable protective covers may cause additional lateral spraying or form dangerous fog.

Commonly used for fuel, lubrication, sealing, hydraulic oil, steam, and other chemicals. Its design and structural materials make it suitable for high–temperature and high–pressure application environments. Currently only applicable to flanges – but we can provide protective cover solutions for special applications, so please feel free to contact us for further consultation.

Maximum operating temperature 500 ° C/930 ° F
Flange rating: Ansi 150–15001b/DIN PN6–PN100
Pipe diameter size: standard; 1/4 '(10mm) –24 "(600mm), please contact us for other sizes
Applicable scope: flange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