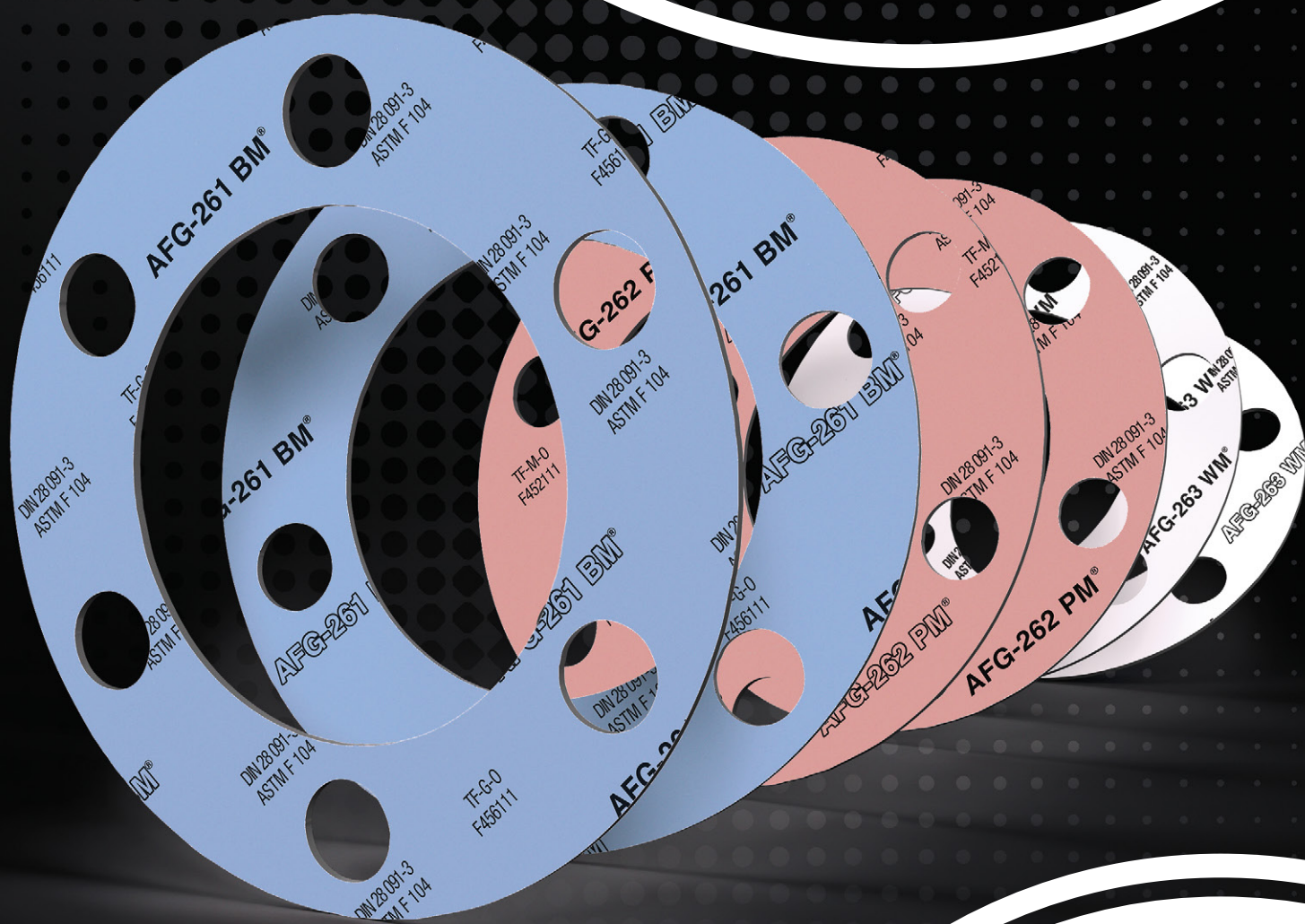


**BIAXIALLY
ORIENTED**
PTFE SHEETS
AFG 261[®] – 266[®]



ABOUT US

The company Afinis Group® offers comprehensive solutions and services in the field of seals and sealing technologies.

For almost three decades, we have been here for you, our customers, with professional products, services and innovative solutions tailor-made for each customer.

We use the modern technologies and trends, the right combination and application of which will ensure our

clients optimal and efficient solution to the client's service and production requirements.

As part of our Afinis Trade® product line, focused on a wide range of products designed to meet your needs, whether you are in the field of industry, maintenance or service, we offer a new series of biaxially oriented PTFE sealing sheets AFG 261® – 266® with excellent chemical resistance and with optimal sealing performance.



WHAT IS PTFE AND WHY TO USE MODIFIED PTFE?

PTFE

PTFE, also known as polytetrafluoroethylene, is a high-performance synthetic fluoropolymer of tetrafluoroethylene. The best-known brand of products based on PTFE is Teflon®.

PTFE is a thermoplastic polymer with a density of approximately 2.160 kg/m³. It acquires its properties through the combined effect of carbon-fluorine bonds, just like all fluorinated hydrocarbons. The basic difference is that this material cannot be processed by melting, while all other fluoropolymers are.

Thanks to its low coefficient of friction, it is an excellent choice in applications that require anti-adhesion

properties or are sensitive to wear. However, these are far from the only advantages. PTFE shows high resistance to temperature, chemicals, even UV radiation.

A variety of compounds are available on the market. Various fillers are used to improve the original properties: glass fiber, carbon, graphite, bronze, stainless steel, mica.

Pure PTFE has a wide range of applications: PTFE coatings for heat exchangers, electrical insulation, O-rings, seals, seats and bearings, for non-stick surfaces, fuel hose linings...

MODIFIED PTFE

Where the properties of standard PTFE are not enough, there is room for a higher quality, more powerful and more efficient version of the material - modified PTFE. Its main advantage is better chemical resistance, minimum cold creep and minimization of material overflow.

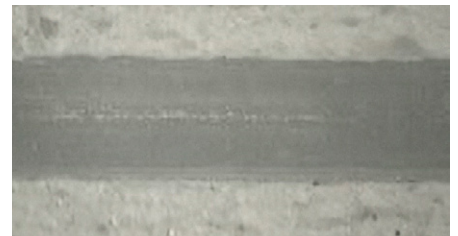
Modified PTFE has a high stability in the environment, which extends its service life, and thus reduces its costs for the frequency of replacement during shutdowns, resulting in financial savings.



biaxially oriented structure



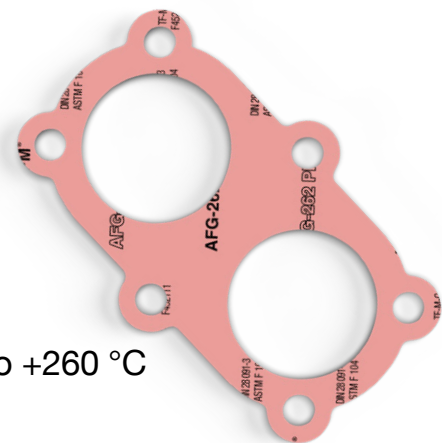
microcell structure



multilayer structure

BENEFITS OF THE MODIFIED PTFE

- Excellent chemical resistance (pH 0 to 14)
- Minimal cold flow
- Minimizes material overflow when tightening the screw (creep)
- Can be used in combination with high pressure/temperature
- Temperature range from cryogenic temperatures from -260 °C to +260 °C
- Excellent stability of dimensions under thermal stress
- Electrical insulating properties
- High resistance to abrasion, weathering and UV radiation



COMPLEX SERIES OF MODIFIED AFG SHEETS

As part of our **AFINIS TRADE®** product line, we offer a **comprehensive range of high-performance biaxially oriented sealing sheets AFG 261® – 266®**. They contain modified PTFE or microcellular modified PTFE with many different fillers. The sealing modified PTFE sheets are suitable for sealing in the entire range of pH environments.

A range of modified sealing sheets are recommended wherever chemical resistance or food safety is paramount.

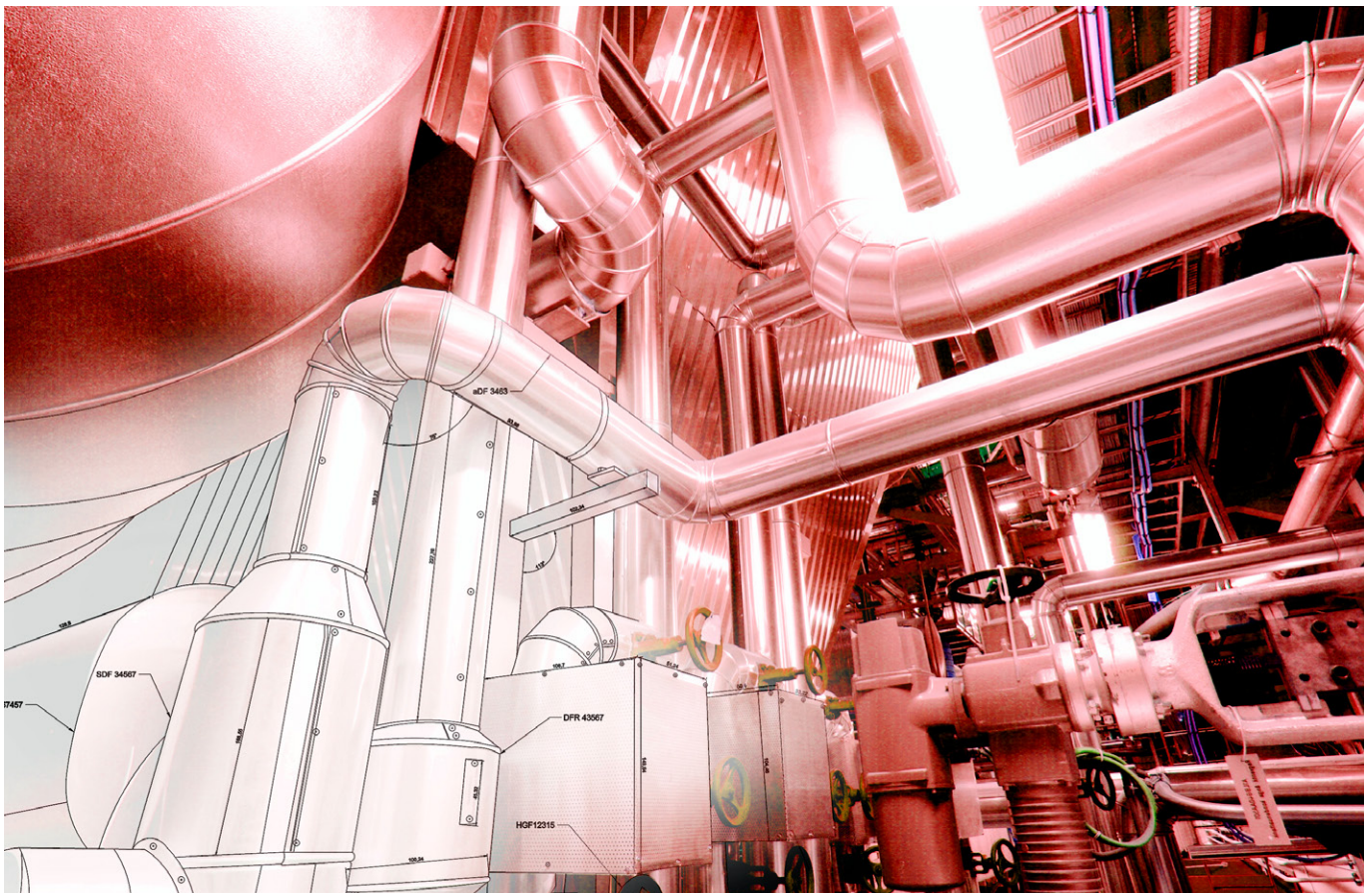
Our biaxially oriented PTFE sealing sheets are a combination of material with excellent chemical resistance and excellent insulating properties, in addition, they have a low coefficient of friction.

They are the ideal solution for achieving the lowest cold flow value and seal integrity in cases where minimal leakage is essential and conventional materials are not suitable. They withstand high temperatures and have excellent anti-adhesion properties.

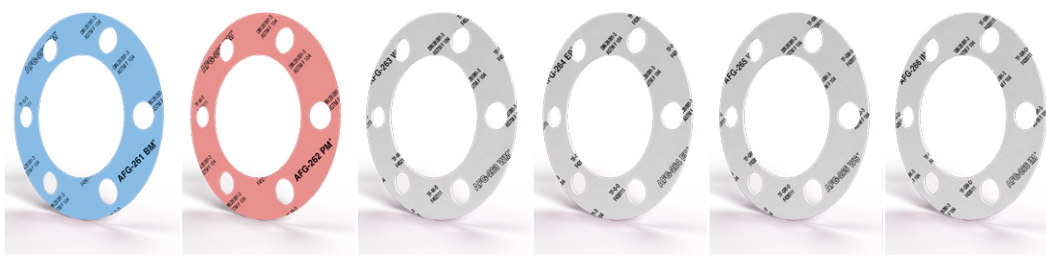
The materials are produced by a patented process and have a specially controlled microporosity and closed cell structure.

Materials from **the AFG 261® – 266®** product range achieve high tightness at low screw torque values. They are suitable for applications with irregular sealing surfaces with reduced load-bearing capacity or with replacement of packaging seals.

Modified PTFE sealing sheets have a wide range of globally recognized certificates, for example TA LUFT, DVGW, BAM, FDA and others.



TECHNICAL PARAMETERS



	AFG-261 BM®	AFG-262 PM®	AFG-263 WM®	AFG-264 EP®	AFG-265 WS®	AFG-266 IM®
Designation according to	F456111 (ASTM F 104)	F452111 (ASTM F 104)	F452111 (ASTM F 104)	F428111 (ASTM F 104)	F428111 (ASTM F 104)	F428111 (ASTM F 104)
	TF-G-O (DIN 28 091-3)	TF-M-O (DIN 28 091-3)	TF-M-O (DIN 28 091-3)	TF-O-O (DIN 28 091-3)	TF-O-O (DIN 28 091-3)	TF-GM-Cr (DIN 28 091-3)
Maximum temperature (°C)	-260 – +260	-260/+260	-260/+260	-260/+260	-260/+260	-260/+260
Maximum pressure (Bar)	50	80	80	200	80	170
Density (g/cm³) DIN 3535-6	1,4	2,2	2,8	0,8	1,3	1,2
Compressibility (%) DIN 3535-6	> 32	> 4	> 4,3	> 58	> 44	> 41
Regeneration (%) DIN 3535-6	> 7	> 1,7	> 2,1	> 18	> 6,3	> 6
pH range	0 – 14	0 – 14	0 – 14	0 – 14	0 – 14	0 – 14
Creep (%) DIN 3535-6	< 19	< 24	< 28	< 65	< 26	< 5
Gas permeability (leakage) (mg*s-1*m-1) DIN 3535-6	< 0,05	< 0,05	< 0,005	–	< 0,002	< 0,01
Tensile strength (MPa) ASTM F152	8 – 14	10 – 17	10 – 14	22	5 – 9	–
Purity (%)	70 – 95	50 – 75	40 – 65	–	70 – 95	–
Filler content (%)	5 – 30	25 – 50	35 – 60	–	5 – 30	–
Permeability class (mbar.l/(s.m)) TA LUFT VD/2440	–	–	–	9,2*10 ⁻⁷	–	–
Number of inserts (pc) 316L	–	–	–	–	–	1
Dimension (mm)	1 500 x 1 500 1 000 x 1 000	1 500 x 1 500 1 000 x 1 000	1 500 x 1 500 1 000 x 1 000	1 500 x 1 500 1 000 x 1 000	1 500 x 1 500	1 500 x 1 500
Dimension tolerance (mm)	+/- 50	+/- 50	+/- 50	+/- 50	+/- 50	+/- 50
Width tolerance (%)	+/- 10	+/- 10	+/- 10	+/- 10	+/- 10	+/- 10
Colour	blue	pink	white	white	white	white

Standard material thicknesses are 1-6 mm, other thicknesses are available on request

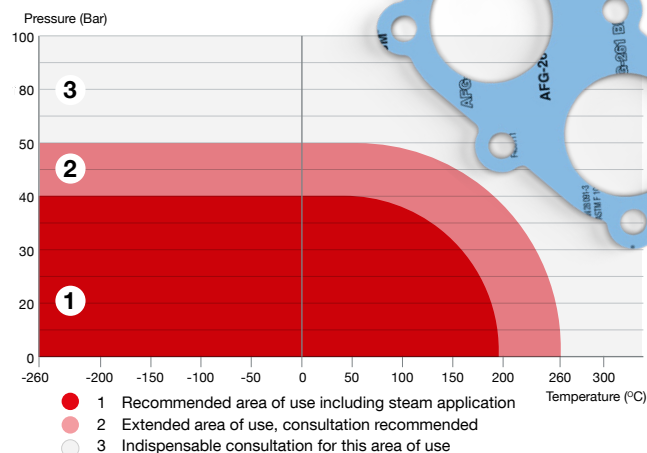
THE MOST USED PTFE SHEETS

AFG-261 BM®

The sealing sheet **AFG-261 BM®** is made of biaxially oriented PTFE, filled with thick glass microbeads.

The sealing sheet **AFG-261 BM®** has excellent sealing properties due to its increased compressive strength with low screw engagement, making it an ideal sheet for uneven surfaces in pipes with glass or ceramic lining. It has high adaptability and gas tightness even with a small surface area and at the same time fulfills the criteria for escaping emissions such as the TA LUFT certificate. It also has an FDA certificate for the food industry. In addition, it has improved flexibility compared to non-calendered ones and graphite sheets. Thanks to its perfect chemical resistance, it is suitable for all the chemicals in the whole range of pH 0 – 14.

Chart – Area of use



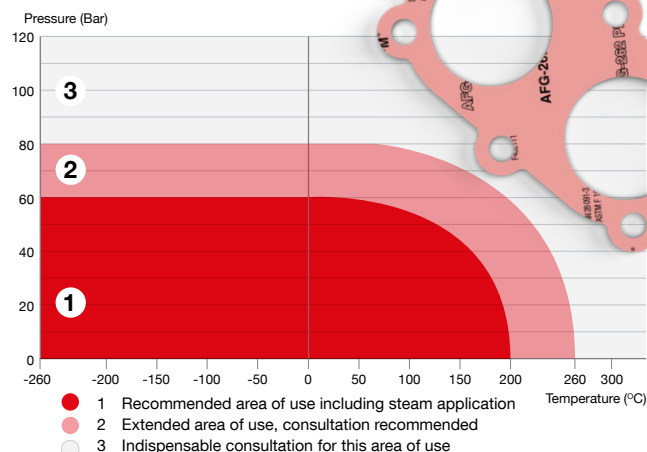
AFG-262 PM®

The sealing sheet **AFG-262 PM®** is made of biaxially oriented PTFE, filled with silicon filler.

The sealing sheet **AFG-262 PM®** has excellent chemical properties that predetermine it especially for the use in the chemical industry, especially with strong acids (except hydrofluoric acid).

Good mechanical properties at medium temperatures of use, pressure entrapment and economic availability predetermined the **AFG-262 PM®** sheet for wide use. According to the worldwide BAM certificate, it is suitable for use in highly explosive environments and where are acids and peroxides.

Chart – Area of use



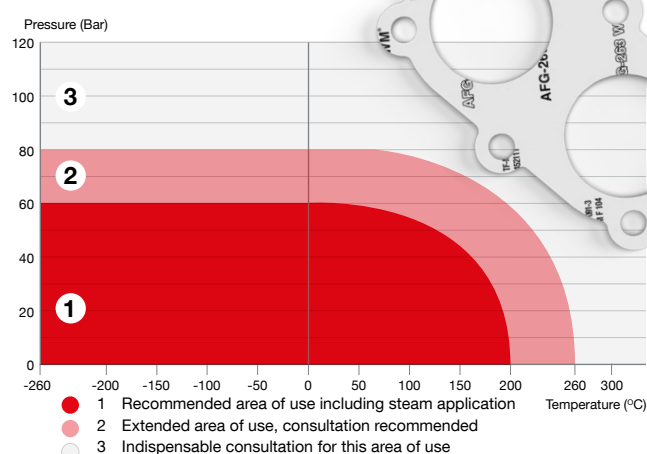
AFG-263 WM®

The sealing sheet **AFG-263 WM®** is made of biaxially oriented PTFE, filled with barium disulphate.

The sealing sheet **AFG-263 WM®** has excellent chemical properties, especially in strongly alkaline applications. It is pigment-free (colorless), that is, developed and designed directly for the food and pharmaceutical industry.

This material meets FDA regulations and is safe for use in aqueous hydrofluoric acid below 49%, but is not suitable for sealing molten alkali metals or fluorine gas.

Chart – Area of use



THE MOST USED PTFE SHEETS

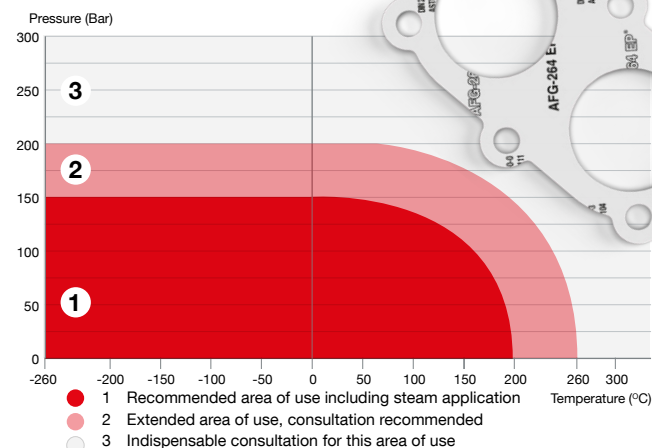
AFG-264 EP®

The sealing sheet **AFG-264 EP®** is made of biaxially oriented expanded 100% PTFE.

The **AFG-264 EP®** sealing sheet is made of a soft material with excellent sealing properties, which exclude the “cold creep” factor and guarantee long-term and reliable sealing.

Thanks to its unique structure, the sheet is characterized by a high level of compression, it easily adapts to the surface, therefore it is suitable for sealing pipes that have a damaged surface.

Chart – Area of use

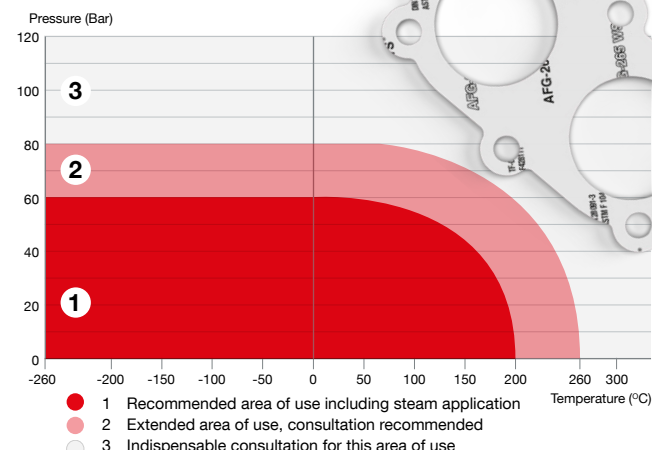


AFG-265 WS®

The sealing sheet **AFG-265 WS®** is made of layers of microcellular modified PTFE with a pure modified PTFE core.

The sealing sheet **AFG-265 WS®** has a unique cellular structure, which is intended for damaged contact surfaces with a low phase. The high-quality layered structure increases the dimensional stability and helps with the installation of a larger seal, when the layers of the sheet are connected by sintering. There is no adhesive layer or possible escape routes. The flexibility of the sheet makes it possible to be used easily in various applications.

Chart – Area of use

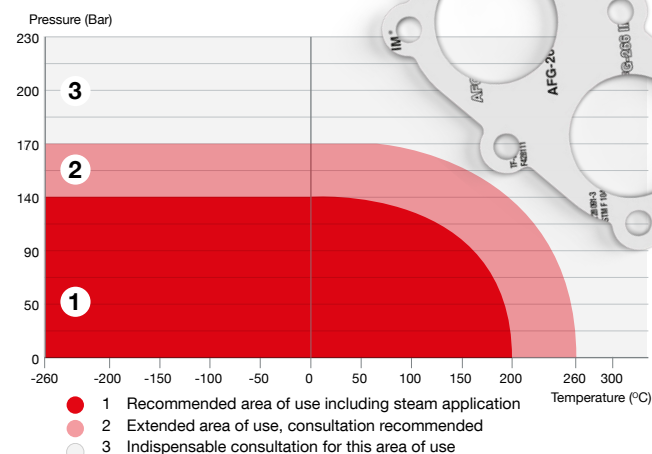


AFG-266 IM®

The sealing sheet **AFG-266 IM®** is made of microcellular modified PTFE with a stainless steel core 316L.

The sealing sheet **AFG-266 IM®** has a unique cellular structure, which is designed for damaged contact surfaces and for high pressure applications. Thanks to its unique production technology, the flow of this sheet is minimal, therefore it is suitable for vertical pipes.

Chart – Area of use



INSTALLATION – RECOMMENDATIONS

1 FIRST CHECK

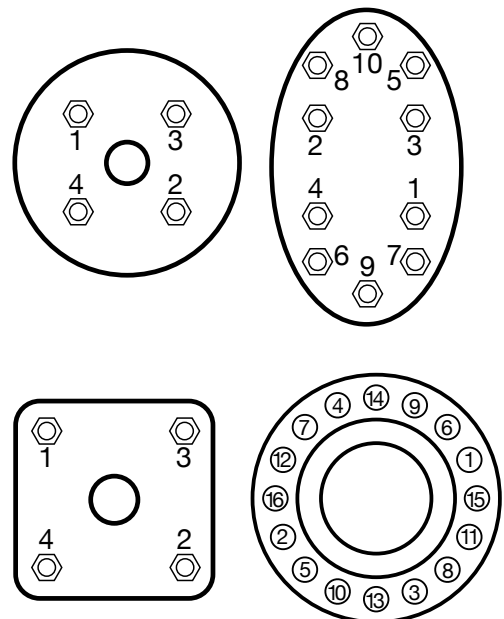
- Is the selected material suitable for the given application?
- Do the temperature and pressure match with the process data?
- Does the seal have the correct dimensions, thickness, internal and external components dimension?
- The screws can supply the seal with the necessary seating tension?
- Was the torque of the screws calculated correctly?

2 BEFORE INSTALLATION

- Remove the old seal and clean the surface of the pipe from all impurities. To achieve the best results, use the metal flange scraper, remover of the aerosol seal and wire brush suitable for the flange. Then check the flange if it is not damaged and ensure that the surface treatment and the surface smoothness are satisfactory.
- Use the tightest seal possible. In the case that the pipes are twisted, bent or heavily pitted, thicker seals will be required.
- If possible, use O-rings on metric threads. Full face seals have a larger area, which requires additional pressure charge.
- Never use anti-seizing agents on the metal base because their particles can accumulate in the imperfections of the surface, creating a surface that is too smooth to be effective. In addition, such coatings will also worsen the resistance of the seal.

3 INSTALLATION

- Center the seal on the pipe, which is especially important if there are raised surfaces. Note: if the standard O-rings are correctly aligned, they should center themselves.
- Use a torque wrench and a well-lubricated connecting elements with hardened surface washers to ensure correct initial engagement.
- Tighten the screw in a star pattern so that the gasket compresses evenly, this means extending it from side to side around the joint.
- All the screws should be tightened in third increments according to the correct screw patterns:
 - a) initially to 30% of the specified torque
 - b) in the second step to 70% of the specified torque
 - c) in the third step to 100% of the specified torque
 - d) in fourth step clockwise with 100% torque
- We recommend not to tighten the system. If you still need to tighten it, consider it before finishing it 12 to 24 hours to cool to room temperature.
- Follow all applicable safety standards during installation including lockout/tagout.
- Never use liquids or metals on the seals or antiadhesion lubricating compounds, because it could lead to premature failure.



CHEMICAL COMPATIBILITY GUIDE

	AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®		AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®
Acetaldehyde	●	●	●	●	●	Calcium Bisulfite	●	●	●	●	●
Acetamide	●	●	●	●	●	Calcium Chloride	●	●	●	●	●
Acetic Acid	●	●	●	●	●	Calcium Cyanamide	●	●	●	●	●
Acetic Anhydride	●	●	●	●	●	Calcium Hydroxide	●	●	●	●	●
Acetone	●	●	●	●	●	Calcium Hypochlorite	●	●	●	●	●
Acetonitrile	●	●	●	●	●	Calcium Nitrate	●	●	●	●	●
Acetophenone	●	●	●	●	●	Cane Sugar Uquors	●	●	●	●	●
Acetylaminofluorene	●	●	●	●	●	Caprolactam	●	●	●	●	●
Acetylene	●	●	●	●	●	Captan	●	●	●	●	●
Acrolein	●	●	●	●	●	Carbaryl	●	●	●	●	●
Acrylamide	●	●	●	●	●	Carbolic Acid, Phenol	●	●	●	●	●
Acrylic Acid	●	●	●	●	●	Carbon Dioxide, Dry	●	●	●	●	●
Acrylic Anhydride	●	●	●	●	●	Carbon Dioxide, Wet	●	●	●	●	●
Acrylonitrile	●	●	●	●	●	Carbon Disulfide	●	●	●	●	●
Adipic Acid	●	●	●	●	●	Carbon Monoxide	●	●	●	●	●
Adiponitrile	●	●	●	●	●	Carbon Tetrachloride	●	●	●	●	●
Air	●	●	●	●	●	Carbonic Acid	●	●	●	●	●
Allyl Acetate	●	●	●	●	●	Carbonyl Sulfide	●	●	●	●	●
Allyl Chloride	●	●	●	●	●	Castor Oil	●	●	●	●	●
Allyl Methacrylate	●	●	●	●	●	Catechol	●	●	●	●	●
Aluminum Chloride	●	●	●	●	●	Caustic Soda	●	●	●	●	●
Aluminum Fluoride	●	●	●	●	●	Cetane (Hexadecane)	●	●	●	●	●
Aluminum Hydroxide (Solid)	●	●	●	●	●	China Wood Oil	●	●	●	●	●
Aluminium, Molten	●	●	●	●	●	Choramben	●	●	●	●	●
Aluminum Nitrate	●	●	●	●	●	Chlorazotic Acid (Aqua Regia)	●	●	●	●	●
Aluminum Sulfate	●	●	●	●	●	Chlordane	●	●	●	●	●
Alums	●	●	●	●	●	Chlorinated Solvents, Dry	●	●	●	●	●
Aminodiphenyl	●	●	●	●	●	Chlorinated Solvents, Wet	●	●	●	●	●
Ammonia, Gas, 70°C and below	●	●	●	●	●	Chlorine, Dry	●	●	●	●	●
Ammonia, Gas, Above 70°C	●	●	●	●	●	Chlorine, Wet	●	●	●	●	●
Ammonia, Liquid, Anhydrous	●	●	●	●	●	Chlorine Dioxide	●	●	●	●	●
Ammonium Chloride	●	●	●	●	●	Chlorine Trifluoride	●	●	●	●	●
Ammonium Hydroxide	●	●	●	●	●	Chloroacetic Acid	●	●	●	●	●
Ammonium Nitrate	●	●	●	●	●	Chloroacetophenone	●	●	●	●	●
Ammonium Phosphate, Monobasic	●	●	●	●	●	Chlorobenzene	●	●	●	●	●
Ammonium Phosphate, Dibasic	●	●	●	●	●	Chlorobenzilate	●	●	●	●	●
Ammonium Phosphate, Tribasic	●	●	●	●	●	Chloroethane	●	●	●	●	●
Ammonium Sulfate	●	●	●	●	●	Chloroethylene	●	●	●	●	●
Amyl Acetate	●	●	●	●	●	Chloroform	●	●	●	●	●
Amyl Alcohol	●	●	●	●	●	Chloromethyl Methyl Ether (CMME)	●	●	●	●	●
Aniline, Aniline Oil	●	●	●	●	●	Chloronitrous Acid (Aqua Regia)	●	●	●	●	●
Aniline Hydrochloride	●	●	●	●	●	Chloroprene	●	●	●	●	●
Aniline Dyes	●	●	●	●	●	Chlorosulfonic Acid	●	●	●	●	●
Misidine	●	●	●	●	●	Chromic Acid	●	●	●	●	●
Antimony trichloride	●	●	●	●	●	Chromic Anhydride	●	●	●	●	●
Aqua Regia	●	●	●	●	●	Chromium Trioxide	●	●	●	●	●
Aroclors or Arochlor	●	●	●	●	●	Citric Acid	●	●	●	●	●
Aromatic Hydrocarbons	●	●	●	●	●	Coke Oven Gas	●	●	●	●	●
Arsenic Acid	●	●	●	●	●	Copper Chloride	●	●	●	●	●
Arseneous Acid	●	●	●	●	●	Copper Sulfate	●	●	●	●	●
Asphalt	●	●	●	●	●	ComOil	●	●	●	●	●
Aviation Gasoline	●	●	●	●	●	Cotton Seed Oil 10	●	●	●	●	●
Barium Chloride	●	●	●	●	●	Creosote	●	●	●	●	●
Barium Hydroxide	●	●	●	●	●	Cresols, Cresylic Acid	●	●	●	●	●
Barium Sulfide	●	●	●	●	●	Crotonic Acid	●	●	●	●	●
Baygon	●	●	●	●	●	Crude Oil	●	●	●	●	●
Beer	●	●	●	●	●	Cumene	●	●	●	●	●
Benzaldehyde	●	●	●	●	●	Cyclohexane	●	●	●	●	●
Benzene, Benzel	●	●	●	●	●	Cyclohexanol	●	●	●	●	●
Benezene Sulphonic Acid	●	●	●	●	●	Cyclohexanone	●	●	●	●	●
Benzidine	●	●	●	●	●	Diazomethane	●	●	●	●	●
Benzoic Acid	●	●	●	●	●	Dibenzofuran	●	●	●	●	●
Benzonitrile	●	●	●	●	●	Dibenzilether	●	●	●	●	●
Benzoquinones	●	●	●	●	●	Dibromo chloropropane	●	●	●	●	●
Benzotrichloride	●	●	●	●	●	Dibromoethane	●	●	●	●	●
Benzoyl Chloride	●	●	●	●	●	Dibutyl Phthalate	●	●	●	●	●
Benzyl Alcohol	●	●	●	●	●	Dibutyl Sebacate	●	●	●	●	●
Benzyl Chloride	●	●	●	●	●	Dichlorobenzene	●	●	●	●	●
Bio-diesel (B100)	●	●	●	●	●	Dichlorobenzidene	●	●	●	●	●
Biphenyl	●	●	●	●	●	Dichloroethane	●	●	●	●	●
Bis(2-chloroethyl)ether	●	●	●	●	●	Dichloroethylene	●	●	●	●	●
Bis(chloromethyl)ether	●	●	●	●	●	Dichloroethyl Ether	●	●	●	●	●
Bis(2-ethylhexyl)phthalate	●	●	●	●	●	Dichloromethane	●	●	●	●	●
Black Sulfate Liquor	●	●	●	●	●	Dichloropropane	●	●	●	●	●
Blast Furnace Gas	●	●	●	●	●	Dichloropropene	●	●	●	●	●
Bleach (Sodium Hypochlorite)	●	●	●	●	●	Dichlorvos	●	●	●	●	●
Boiler Feed Water	●	●	●	●	●	Diesel Oil	●	●	●	●	●
Borax	●	●	●	●	●	Diethanolamine	●	●	●	●	●
Boric Acid	●	●	●	●	●	Diethylaniline	●	●	●	●	●
Brine (Sodium Chloride)	●	●	●	●	●	Diethyl Carbonate	●	●	●	●	●
Bromine	●	●	●	●	●	Diethyl Sulfate	●	●	●	●	●
Bromine Trifluoride	●	●	●	●	●	Dimethoxybenzidine	●	●	●	●	●
Bromoform	●	●	●	●	●	Dimethylaminoazobenzene	●	●	●	●	●
Bromomethane	●	●	●	●	●	Dimethyl Aniline	●	●	●	●	●
Butadiene	●	●	●	●	●	Dimethylbenzidine	●	●	●	●	●
Butane	●	●	●	●	●	Dimethyl Carbamoyl Chloride	●	●	●	●	●
Butanone	●	●	●	●	●	Dimethyl Ether	●	●	●	●	●
Butyl Acetate	●	●	●	●	●	Dimethylformamide	●	●	●	●	●
Butyl Alcohol, Butanol	●	●	●	●	●	Dimethyl Phthalate	●	●	●	●	●
Butyl Amine	●	●	●	●	●	Dimethyl Sulfate	●	●	●	●	●
tert-Butyl Smine	●	●	●	●	●	Dinitrophenol	●	●	●	●	●
Butyl Methacrylate	●	●	●	●	●	Dinitrotoluene	●	●	●	●	●
Butyric Acid	●	●	●	●	●	Dioxane	●	●	●	●	●

● Suitable; ● Depends on the operational conditions; ● Not suitable; ● No reference

CHEMICAL COMPATIBILITY GUIDE

	AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®		AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®
Diprtenylhydrazine	●	●	●	●	●	Lubricating Mineral or Petroleum Types	●	●	●	●	●
Epichlorohydrin	●	●	●	●	●	Sour	●	●	●	●	●
E85 (85% Ethanol, 15% Gas)	●	●	●	●	●	Lye	●	●	●	●	●
Epoxybutane	●	●	●	●	●	Magnesium Chloride	●	●	●	●	●
Ethane	●	●	●	●	●	Magnesium Hydroxide	●	●	●	●	●
Ethers	●	●	●	●	●	Magnesium Sulfate	●	●	●	●	●
Ethyl Acetate	●	●	●	●	●	Maleic Acid	●	●	●	●	●
Ethyl Acrylate	●	●	●	●	●	Maleic Anhydride	●	●	●	●	●
Ethyl Alcohol	●	●	●	●	●	Mercuric Chloride	●	●	●	●	●
Ethylbenzene	●	●	●	●	●	Mercury	●	●	●	●	●
Ethyl Carbamate	●	●	●	●	●	Methane	●	●	●	●	●
Ethyl Cellulose	●	●	●	●	●	Methand, Methyl Alcohol	●	●	●	●	●
Ethyl Chloride	●	●	●	●	●	Methoxychlor	●	●	●	●	●
Ethyl Ether	●	●	●	●	●	Methylacrylic Acid	●	●	●	●	●
Ethyl Hexoate	●	●	●	●	●	Methyl Alcohol	●	●	●	●	●
Ethylene	●	●	●	●	●	Methylaziridine	●	●	●	●	●
Ethylene Bromide	●	●	●	●	●	Methyl Bromide	●	●	●	●	●
Ethylene Dibromide	●	●	●	●	●	Methyl Chloride	●	●	●	●	●
Ethylene Dichloride	●	●	●	●	●	Methyl Chloroform	●	●	●	●	●
Ethylene Glycol	●	●	●	●	●	4,4-Methylene-Bis(2-chloroaniline)	●	●	●	●	●
Ethyleneimine	●	●	●	●	●	Methylene Chloride	●	●	●	●	●
Ethylene Oxide	●	●	●	●	●	Methylene Dianiline	●	●	●	●	●
Ethylene Thiourea	●	●	●	●	●	Methylene Diphenyldiisocyanate	●	●	●	●	●
Ethylidene Chloride	●	●	●	●	●	Methyl Ethyl Ketone (MEK)	●	●	●	●	●
Ferric Chloride	●	●	●	●	●	Methyl Hydrazine	●	●	●	●	●
Ferric Phosphate	●	●	●	●	●	Methyl Iodide	●	●	●	●	●
Ferric Sulfate	●	●	●	●	●	Methyl Isobutyl Ketone (MIBK)	●	●	●	●	●
Fluorine, Gas	●	●	●	●	●	Methyl Isocyanate	●	●	●	●	●
Fluorine, Liquid	●	●	●	●	●	Methyl Methacrylate	●	●	●	●	●
Fluorine Dioxide	●	●	●	●	●	Methyl Pyrridone	●	●	●	●	●
Formaldehyde	●	●	●	●	●	Methyl Tert. Butyl Ether (MTBE)	●	●	●	●	●
Formic Acid	●	●	●	●	●	Milk	●	●	●	●	●
Fuel Oil	●	●	●	●	●	Mineral Oils	●	●	●	●	●
Fuel Oil, Acid	●	●	●	●	●	Molten Alkali Metals	●	●	●	●	●
Gasoline, Refined	●	●	●	●	●	Monomethylamine	●	●	●	●	●
Gelatin	●	●	●	●	●	Muriatic Acid	●	●	●	●	●
Glucose	●	●	●	●	●	Naphtha	●	●	●	●	●
Glycerine, Glycerol	●	●	●	●	●	Naphthalene	●	●	●	●	●
Glycol	●	●	●	●	●	Naphthols	●	●	●	●	●
Grain Alcohol	●	●	●	●	●	Natural Gas	●	●	●	●	●
Grease, Petroleum Base	●	●	●	●	●	Nickel Chloride	●	●	●	●	●
Green Sulfate Liqoor	●	●	●	●	●	Nickel Sulfate	●	●	●	●	●
Heptachlor	●	●	●	●	●	Nitric Acid, Less than 30%	●	●	●	●	●
Heptane	●	●	●	●	●	Nitric Acid, Above 30%	●	●	●	●	●
Hexachlorobenzerte	●	●	●	●	●	Nitric Acid, Crude	●	●	●	●	●
Hexachlorobutadierte	●	●	●	●	●	Nitric Acid, Red Fuming	●	●	●	●	●
Hexachlorocyclopentadiene	●	●	●	●	●	Nitrobenzene	●	●	●	●	●
Hexachloroethane	●	●	●	●	●	Nitrobiphenyl	●	●	●	●	●
Hexadecane	●	●	●	●	●	Nitro-Butanol	●	●	●	●	●
Hexamethylene Diisocyanate	●	●	●	●	●	Nitrocalcite (Calcium Nitrate)	●	●	●	●	●
Hexamethylphosphoramide	●	●	●	●	●	Nitrogen	●	●	●	●	●
Hexane	●	●	●	●	●	Nitrogen Tetroxide	●	●	●	●	●
Hexorte	●	●	●	●	●	Nitrohydrochloric Acid (Aqua Regia)	●	●	●	●	●
Hydraulic Oil, Mineral	●	●	●	●	●	Nitromethane	●	●	●	●	●
Phosphate Esters	●	●	●	●	●	2-Nitro-2-Methyl Propanol	●	●	●	●	●
Hydrazine	●	●	●	●	●	Nitromuriatic Acid (Aqua Regia)	●	●	●	●	●
Hydrobromic Acid	●	●	●	●	●	Nitrophenol	●	●	●	●	●
Hydrochloric Acid	●	●	●	●	●	Nitropropane	●	●	●	●	●
Hydrochloric Acid, dry	●	●	●	●	●	Nitrosodimethylamine	●	●	●	●	●
Hydrochloric Acid 20%	●	●	●	●	●	Nitroso Methylurea	●	●	●	●	●
Hydrocyanic Acid	●	●	●	●	●	Nitrosomorpholine	●	●	●	●	●
Hydrofluoric Acid, Anhydrous	●	●	●	●	●	Norge Niter (Calcium Nitrate)	●	●	●	●	●
Hydrofluoric Acid less then 65% Above 70°C	●	●	●	●	●	Norwegian Saltpeter (Calcium Nitrate)	●	●	●	●	●
Hydrofluoric Acid 65% to Anhydrous Above 70°C	●	●	●	●	●	Octadecyl Alcohol	●	●	●	●	●
Hydrofluoric Acid Up to Anhydrous 70°C & Below	●	●	●	●	●	Octane	●	●	●	●	●
Hydrofluorosilicic Acid	●	●	●	●	●	Oil, Petrdurm	●	●	●	●	●
Hydroflosilicic Acid	●	●	●	●	●	Oils, Animal and Vegetable	●	●	●	●	●
Hydrogen	●	●	●	●	●	Oleic Acid	●	●	●	●	●
Hydrogen Bromide	●	●	●	●	●	Oleum	●	●	●	●	●
Hydrogen Fluoride	●	●	●	●	●	Orthodichlorobenzene	●	●	●	●	●
Hydrogen Peroxide, 10%	●	●	●	●	●	Oxalic Acid	●	●	●	●	●
Hydrogen Peroxide, 10-90%	●	●	●	●	●	Oxygen, Gas (BAM Approval)	●	●	●	●	●
Hydrogen Sulfide, Dry or Wet	●	●	●	●	●	Ozone	●	●	●	●	●
Hydroquinone	●	●	●	●	●	Oil, Petroleum	●	●	●	●	●
Iodine Pentafluoride	●	●	●	●	●	Oils, Animal and Vegetable	●	●	●	●	●
Iodomethane	●	●	●	●	●	Oleic Acid	●	●	●	●	●
Isobutane	●	●	●	●	●	Oleum	●	●	●	●	●
Isocetane	●	●	●	●	●	Orthodichlorobenzene	●	●	●	●	●
Isophorone	●	●	●	●	●	Oxalic Acid	●	●	●	●	●
Isopropyl Alcohol	●	●	●	●	●	Oxygen, Gas (BAM Approval)	●	●	●	●	●
Jet Fuels	●	●	●	●	●	Ozone	●	●	●	●	●
Kerosene	●	●	●	●	●	Palmitic Acid	●	●	●	●	●
Lacquer Solvents	●	●	●	●	●	Paraffin	●	●	●	●	●
Lacquers	●	●	●	●	●	Parathion	●	●	●	●	●
Lactic Acid, 70°C and below	●	●	●	●	●	Paraxylene	●	●	●	●	●
Lactic Acid, Above 70°C	●	●	●	●	●	Pentachloronitrobenzene	●	●	●	●	●
Lime Saltpeter (Calcium)	●	●	●	●	●	Pentachlorophenol	●	●	●	●	●
Nitrates)Lindane	●	●	●	●	●	Pentane	●	●	●	●	●
Linseed Oil	●	●	●	●	●	Perchloric Acid	●	●	●	●	●
Liquified Petroleum Gas	●	●	●	●	●	Perchloroethylene	●	●	●	●	●
Lithium Bromide	●	●	●	●	●	Petroleum Oils, Crude	●	●	●	●	●
Lithium, Elemental	●	●	●	●	●	Petroleum Oils, Refined	●	●	●	●	●
Lubricating Oils, Refined	●	●	●	●	●	Phenol	●	●	●	●	●

● Suitable; ● Depends on the operational conditions; ● Not suitable; ● No reference

CHEMICAL COMPATIBILITY GUIDE

	AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®		AFG-261®	AFG-262®	AFG-263®	AFG-264® AFG-265®	AFG-266®
Phenylenediamine	●	●	●	●	●	Sodium Cyanide	●	●	●	●	●
Phosgene	●	●	●	●	●	Sodium, Elemental	●	●	●	●	●
Phosphate Esters	●	●	●	●	●	Sodium Hydrogen Sulphite	●	●	●	●	●
Phosphine	●	●	●	●	●	Sodium Hydroxide	●	●	●	●	●
Phosphoric Acid, Crude	●	●	●	●	●	Sodium Hypochlorite	●	●	●	●	●
Phosphoric Acid, Pure, Less than 45%	●	●	●	●	●	Sodium Metaborate Peroxyhydrate	●	●	●	●	●
Phosphoric Acid, Pure, Above 45%	●	●	●	●	●	Sodium Metaphosphate	●	●	●	●	●
Phosphoric Acid, Pure, Above 45%, Above 70°C	●	●	●	●	●	Sodium Nitrate	●	●	●	●	●
Phosphorus, Elemental	●	●	●	●	●	Sodium Perborate	●	●	●	●	●
Phosphorus Pentachloride	●	●	●	●	●	Sodium Peroxide	●	●	●	●	●
Phthalic Acid	●	●	●	●	●	Sodium Phosphate, Monobasic	●	●	●	●	●
Phthalic Anhydride	●	●	●	●	●	Sodium Phosphate, Dibasic	●	●	●	●	●
Picric Acid, Molten	●	●	●	●	●	Sodium Phosphate, Tribasic	●	●	●	●	●
Picric Acid, Water Solution	●	●	●	●	●	Sodium Silicate	●	●	●	●	●
Pinene	●	●	●	●	●	Sodium Sulfate	●	●	●	●	●
Piperidine	●	●	●	●	●	Sodium Sulfide	●	●	●	●	●
Polyacrylonitrile	●	●	●	●	●	Sodium Superoxide	●	●	●	●	●
Polychlorinated Biphenyls	●	●	●	●	●	Sodium Thiosulfate	●	●	●	●	●
Potash, Potassium Carbonate	●	●	●	●	●	Soybean Oil	●	●	●	●	●
Potassium Acetate	●	●	●	●	●	Stannic Chloride	●	●	●	●	●
Potassium Bichromate	●	●	●	●	●	Steam, Saturated	●	●	●	●	●
Potassium Chromate, Red	●	●	●	●	●	Superheated	●	●	●	●	●
Potassium Cyanide	●	●	●	●	●	Stearic Acid	●	●	●	●	●
Potassium Dichromate	●	●	●	●	●	Stoddard Solvent	●	●	●	●	●
Potassium, Elemental	●	●	●	●	●	Styrene	●	●	●	●	●
Potassium Hydroxide	●	●	●	●	●	Styrene Oxide	●	●	●	●	●
Potassium Iodide	●	●	●	●	●	Sugar	●	●	●	●	●
Potassium Nitrate	●	●	●	●	●	Sulfur Chloride	●	●	●	●	●
Potassium Pennanganate	●	●	●	●	●	Sulfur Dioxide	●	●	●	●	●
Potassium Sulfate	●	●	●	●	●	Sulfur, Molten	●	●	●	●	●
Producer Gas	●	●	●	●	●	Sulfur Trioxide, Dry	●	●	●	●	●
Propane	●	●	●	●	●	Sulfur Trioxide, Wet	●	●	●	●	●
Propane Sulfone	●	●	●	●	●	Sulfuric Acid, 10%, 70 °C and below	●	●	●	●	●
Beta-Propiolactone	●	●	●	●	●	Sulfuric Acid, 10%, Above 70 °C	●	●	●	●	●
Propionaldehyde	●	●	●	●	●	Sulfuric Acid 0-75%, 260 °C and below	●	●	●	●	●
Propyl Alcohol	●	●	●	●	●	Sulfuric Acid, 75-98%, 70 °C and below	●	●	●	●	●
Propyl Nitrate	●	●	●	●	●	Sulfuric Acid, 75-98%, 70 °C to 260 °C	●	●	●	●	●
Propylene	●	●	●	●	●	Sulfuric Acid, Fuming	●	●	●	●	●
Propylene Dichloride	●	●	●	●	●	Sulfurous Acid	●	●	●	●	●
Propylene Glycol	●	●	●	●	●	Tannic Acid	●	●	●	●	●
Propylene Oxide	●	●	●	●	●	Tartaric Acid	●	●	●	●	●
Propylenimine	●	●	●	●	●	TCDB-p-Dioxin	●	●	●	●	●
Aussie Acid, Hydrocyanic Acid	●	●	●	●	●	Tertiary Butyl Amine	●	●	●	●	●
Pyridine	●	●	●	●	●	Tetrabromethane	●	●	●	●	●
Quinoline	●	●	●	●	●	Tetrachlorethane	●	●	●	●	●
Quinone	●	●	●	●	●	Tetrachloroethylene	●	●	●	●	●
Refrigerant type 10	●	●	●	●	●	Tetrahydrofuran, THF	●	●	●	●	●
Refrigerant type 11	●	●	●	●	●	Thionyl Chloride	●	●	●	●	●
Refrigerant type 12	●	●	●	●	●	Titanium Sulfate	●	●	●	●	●
Refrigerant type 13	●	●	●	●	●	Titanium Tetrachloride	●	●	●	●	●
Refrigerant type 13B1	●	●	●	●	●	Toluene	●	●	●	●	●
Refrigerant type 21	●	●	●	●	●	Toluenediamine	●	●	●	●	●
Refrigerant type 22	●	●	●	●	●	Toluenediisocyanate	●	●	●	●	●
Refrigerant type 23	●	●	●	●	●	Toluene Sulfonic Acid	●	●	●	●	●
Refrigerant type 31	●	●	●	●	●	Toluidine	●	●	●	●	●
Refrigerant type 32	●	●	●	●	●	Toxaphene	●	●	●	●	●
Refrigerant type 11 2	●	●	●	●	●	Transformer Mineral Oil	●	●	●	●	●
Refrigerant type 113	●	●	●	●	●	Transmission Fluid A	●	●	●	●	●
Refrigerant type 114	●	●	●	●	●	Trichloroacetic Acid	●	●	●	●	●
Refrigerant type 114B2	●	●	●	●	●	Trichlorobenzene	●	●	●	●	●
Refrigerant type 115	●	●	●	●	●	Trichloroethane	●	●	●	●	●
Refrigerant type 1 23	●	●	●	●	●	Trichloroethylene	●	●	●	●	●
Refrigerant type 124	●	●	●	●	●	Trichlorophenol	●	●	●	●	●
Refrigerant type 1 25	●	●	●	●	●	Tricresylphosphate	●	●	●	●	●
Refrigerant type 134a	●	●	●	●	●	Triethanolamine	●	●	●	●	●
Refrigerant type 141b	●	●	●	●	●	Triethyl Aluminum	●	●	●	●	●
Refrigerant type 142b	●	●	●	●	●	Triethylamine	●	●	●	●	●
Refrigerant type 143a	●	●	●	●	●	Trifluralin	●	●	●	●	●
Refrigerant type 152a	●	●	●	●	●	Trimethylpentane	●	●	●	●	●
Refrigerant type 218	●	●	●	●	●	Turpentine	●	●	●	●	●
Refrigerant type 290 (Propane)	●	●	●	●	●	Urea, 70°C and below	●	●	●	●	●
Refrigerant type 500	●	●	●	●	●	Urea, above 70° C	●	●	●	●	●
Refrigerant type 502	●	●	●	●	●	Varnish	●	●	●	●	●
Refrigerant type 503	●	●	●	●	●	Vegetable Oil	●	●	●	●	●
Refrigerant type 507	●	●	●	●	●	Vinegar	●	●	●	●	●
Refrigerant type 717 (Ammonia)	●	●	●	●	●	Vinyl Acetate	●	●	●	●	●
Refrigerant type 7 44 (Carbon Dioxide)	●	●	●	●	●	Vinyl Bromide	●	●	●	●	●
Refrigerant type C316	●	●	●	●	●	Vinyl Chloride	●	●	●	●	●
Refrigerant type C318	●	●	●	●	●	Vinylidene Chloride	●	●	●	●	●
Refrigerant type HP62	●	●	●	●	●	Vinyl Methacrylate	●	●	●	●	●
Refrigerant type HPSO	●	●	●	●	●	Water, Acid Mine, wrth Oxidizing Salt	●	●	●	●	●
Refrigerant type HP81	●	●	●	●	●	Water, Acid Mine, No Oxidizing Salts	●	●	●	●	●
Salt Water	●	●	●	●	●	Water, Distilled	●	●	●	●	●
Saltpeter, Potassium Nitrate	●	●	●	●	●	Return Condensate	●	●	●	●	●
Sewage	●	●	●	●	●	Seawater	●	●	●	●	●
Silicon Oil	●	●	●	●	●	Tap Water	●	●	●	●	●
Silver Nitrate	●	●	●	●	●	Whiskey and Wines	●	●	●	●	●
Soda Ash, Sodium Carbonate	●	●	●	●	●	Wood Alcohol	●	●	●	●	●
Sodium Bicarbonate, Baking Soda	●	●	●	●	●	Xylene	●	●	●	●	●
Sodium Bisulfate (Dry)	●	●	●	●	●	Zinc Chloride	●	●	●	●	●
Sodium Bisulfite	●	●	●	●	●	Zinc Sulfate	●	●	●	●	●
Sodium Chlorate	●	●	●	●	●						
Sodium Chloride	●	●	●	●	●						

● Suitable; ● Depends on the operational conditions; ● Not suitable; ● No reference



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