

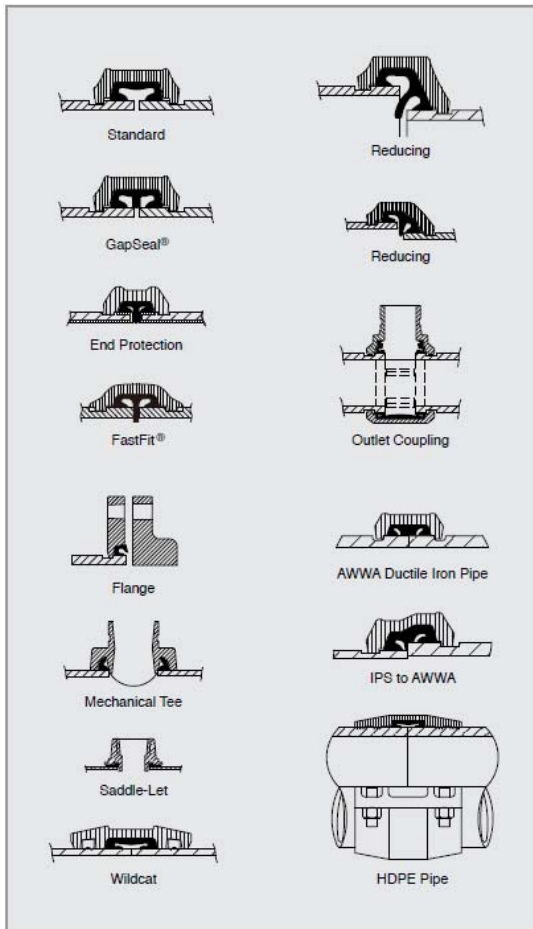
## GASKET SELECTION GUIDE

Over the past 50 years great advances have been made in synthetic elastomer technologies, allowing us to offer a full range of gasket materials for a wide variety of piping applications. **Shurjoint** utilizes the finest materials available in our gaskets which are engineered and designed to meet and exceed industry standards such as ASTM D2000, AWWA C606, NSF61, IAPMO, etc. Our continual research, development and testing all serve to advance this field and to develop new and superior solutions for our changing industry. Selecting the proper gasket for the intended service application requires careful consideration of many factors to assure maximum gasket life. Those factors include temperature, fluid media and concentration, and continuity of service. The gaskets color coding helps to identify the gasket grade and compound.



Proper gasket selection is essential for the optimum performance of **Shurjoint** grooved couplings, flange adapters and mechanical tees

1. Gasket styles: **Shurjoint** grooved couplings utilize several different gasket styles, standard, GapSeal®, EP (End Protection) and FF (Fast Fit). GapSeal® gaskets are compatible with standard gaskets and they are interchangeable with each other. Other special styles are not compatible with standard or GapSeal® gaskets. Always use the correct gasket style for the coupling model you selected.



2. Vacuum service: **Shurjoint** standard gaskets are designed to seal well under vacuum conditions up to 10 inHg (absolute)/254 mmHg (absolute) which may occur when a system is drained. For continuous services greater than 10 inHg (absolute)/254 mmHg (absolute), the use of GapSeal® gaskets or EP (end protection) gaskets in combination with rigid style couplings is recommended. Contact **Shurjoint** for specific recommendations.

3. Dry pipe and freezer services: **Shurjoint** recommends the use of GapSeal® Grade "E" gaskets for dry pipe fire protection systems and freezer applications. The GapSeal® gasket closes off the gap between the pipes or gasket cavity. This will prevent any remaining liquid from entering the cavities and freezing when the temperature drops. Rigid couplings are preferred for dry pipe, freezer and vacuum applications. Reducing couplings are not recommended for these applications.



Do not use the Shurjoint standard lubricant for dry pipe and freezer systems, instead use a petroleum free silicone based lubricant.

4. ANSI/NSF 61 Standard: ANSI/NSF 61 classified gaskets are good for potable water services. The classification categories are "cold" which is limited to +86°F (+30°C) (or maximum ambient distribution temperatures of unheated water) maximum and "hot" which is limited to +180°F (+82°C) (or scalding temperatures of hot domestic water).

5. Lubricant: **Shurjoint** lubricant is recommended for proper gasket installation to prevent the gasket from being pinched. Apply a thin coat to the gasket exterior, gasket lips and or housing interiors. Shurjoint lubricant is available



in one pound (450 grams) and one quart ( 2 pounds or 900 grams) containers. Certified to ANSI/NSF 61.

**GASKET GRADE INDEX**

Compound	Grade	Color Code	General Service Recommendations	Maximum Temp. Range
EPDM	E	Green Stripe	Good for cold & hot water up to +230°F (+110°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. <i>Not recommended for petroleum oils, mineral oils, solvents and aromatic hydrocarbons.</i>	-30°F (-34°C) to +230°F (+110°C)
Nitrile	T	Orange Stripe	Good for petroleum oils, mineral oils, vegetable oils, non-aromatic hydrocarbons, many acids and water +150°F (+65°C).	-20°F (-29°C) to +180°F (+82°C)
EPDM	EH	Green + Red Stripe	Good for cold & hot water up to +250°F (+121°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. <i>Not recommended for petroleum oils, mineral oils, solvents and aromatic hydrocarbons.</i>	-30°F (-34°C) to +250°F (+121°C)
EPDM	E-pw	Double Green Stripe	Specially compounded for cold +86°F (+30°C) and hot +180°F (+82°C) potable water services. The compound is UL classified per ANSI/NSF 61.	≤+180°F (+82°C)
EPDM	Lube-E	Violet* Stripe	A pre-lubricated gasket intended primarily for the fire protection industry.	-30°F (-34°C) to +230°F (+110°C)
White Nitrile	A	White Gasket	Good for oily and greasy food products and processing, as well as pharmaceutical and cosmetics manufacturing. Compounded from FDA approved ingredients (CFR Title 21 Part 177.2600).	+20°F (-7°C) to +180°F (+82°C)
Silicone	L	Red Gasket	Good for dry, hot air without hydrocarbons and some high temperature chemical services. May also be used for fire protection dry systems.	-30°F (-34°C) to +350°F (+177°C)
Neoprene	V	Yellow Stripe	Good for hot lubricating oils and certain chemicals.	-30°F (-34°C) to +180°F (+82°C)
Fluoro-elastomer (Viton)	O	Blue Stripe	Good for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air (Viton) with hydrocarbons to +300°F (+149°C).	+20°F (-7°C) to +300°F (+149°C)
Epichloro-hydrin	M2	White Stripe	Good for aromatic fuels at low temperatures and also for ambient temperature water.	-40°F (-40°C) to +160°F (+71°C)

\* Lube-E gaskets manufactured prior to 2012 were coded with a green stripe, which is the same as the standard EPDM gasket. Thus refer to the original packaging to determine if the gasket is a "Lube-E" or standard "E" gasket. For questions please contact **Shurjoint**.

**Special Gaskets for AWWA ductile iron pipe**

Compound	Grade	Color Code	Recommended Services	Maximum Temp. Range
Nitrile	S	Red Stripe	Specially compounded for use with AWWA ductile iron pipe and used for petroleum products, mineral oils, vegetable oils and air with oil vapors.	-20°F (-29°C) to +180°F (+82°C)
Halogenated Butyl	M	Brown Stripe	Good for water services, mild dilute acids, oil-free air and many chemicals. The compound is UL classified per ANSI/NSF 61.(AWWA ductile iron pipe use)	-20°F (-29°C) to +200°F (+93°C)

Please note that EPDM grade "EH" gaskets can be used for all applications and services that EPDM grade "E" gaskets are suitable for.

**WARNING !**

EPDM gaskets for water services are not recommended for steam services unless couplings or components are accessible for frequent gasket replacement.

Failure to select the proper gasket and compound may result in joint leakage or failure resulting in personal and or property damage. Gaskets should never be exposed to temperatures outside their ratings.

**GENERAL GASKET SERVICE RECOMMENDATIONS**

The following are general service recommendations only and the information provided is based on the best information available from various resources including elastomer manufacturers, leading rubber molders, industry publications and our own laboratory testing and field experience. The information contained herein shall be considered for evaluation purposes and not as a guarantee. When and wherever possible, gasket materials should be tested with simulated service conditions to determine suitability for the intended service application. Unless otherwise noted, the recommendations are based on ambient temperatures. These recommendations do not apply to rubber lined products or rubber sealed valves. If more than one gasket grade is listed the preferred grade is listed first for general services. For chemicals not listed, a combination of chemicals listed or not, service temperatures not listed or borderline services, contact a **Shurjoint** Engineering Representative for a recommendation. Note: **NR = Not Recommended**

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Acetaldehyde	E
Acetamide	T
Acetic Acid up to 10-50% 100°F/38°C	L
Acetic Acid, Glacial 100°F/38°C	L
Acetic Anhydride	E
Acetone	E
Acetonitrile	T
Acetophenone	E
Acetylene	E/T
Acrylic Resin	V
Acrylonitrile	NR
Adipic Acid	T
Air, oil free	E
Air with vaped oil	T
Alkalis	E
Allyl Alcohol to 96%	E
Allyl Chloride	NR
Aluminum Chloride	E/T
Aluminum Fluoride	E/T/O
Aluminum Hydroxide	E/O
Aluminum Nitrate	E/T/V
Aluminum Phosphate	E
Aluminum Salts	E
Aluminum Sulfate	E/T
Alums	E/T
Ammonia Anhydrous (Pure Ammonia)	NR
Ammonia, Gas, Cold	E
Ammonia, Aqua, 10 - 25%	E
Ammonium Alum	V
Ammonium Bifluoride	T
Ammonium Carbonate	E
Ammonium Chloride	E/T
Ammonium Fluoride,	E
Ammonium Hydroxide	E
Ammonia Liquid	E
Ammonium Metaphosphate	E
Ammonium Nitrate	E/T
Ammonium Nitrite	E
Ammonium Persulfate, to 10%	E
Ammonium Phosphate	T
Ammonium Sulfamate	T
Ammonium Sulfate	E/T
Ammonium Sulfide	E
Ammonium Thiocyanate	E
Amyl Acetate	E
Amyl Alcohol	E
Amyl Borate	V

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Amyl Chloride	NR
Anderol	O
Aniline	E
Aniline Oil	E
Animal Fats	A
Anthraquinone	NR
Anthraquinone Sulfonic Acid	NR
Antimony Chloride	E
Antimony Trichloride	E
Argon Gas	E/O
Aroclors	O
Arsenic Acid, to 75%	T/O
Arylsulfonic Acid	NR
ASTM #1, 2 & 3 Oil	T
Barium Carbonate	E
Barium Chloride	E/T
Barium Hydroxide	E/T
Barium Nitrate	V
Barium Sulfide	T
Beer	A
Beet Sugar liquors	A
Benzene	O
Benzol	O
Benzyl Alcohol	E
Benzyl Benzoate	E
Benzyl Chloride	E
Black Sulfate Liquor	T
Bleach, 12% Active Cl <sub>2</sub>	E
Borax	E/O
Bordeaux Mixture	E
Boric Acid	E/T
Bromine	O
Bromine Water	V
Bromotoluene	NR
Butanol (see Butyl Alcohol)	E/T
Butter	A
Butyl Acetyl Ricinoleate	E
Butyl Alcohol	E/T
Butyl Stearate	T
Butylene	T/O
Butylene Glycol	E
Butyne Diol	NR
Calcium Bisulfate	T/O
Calcium Bisulfide	T/O
Calcium Bisulfite	T
Calcium Carbonate	E/T
Calcium Chlorate	E/T
Calcium Chloride	E/T

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Calcium Hydroxide (Lime)	E/T
Calcium Hypochlorite	E
Calcium Hypochloride	E
Calcium Nitrate	E/T/V
Calcium Sulfate	E/T
Calcium Sulfide	E/T
Caliche Liquors	T
Cane Sugar Liquors	A
Carbitol™	E/T
Carbon Dioxide, Dry	E/T
Carbon Dioxide, Wet	E/T
Carbon Disulphide	O
Carbon Monoxide	E
Carbon Tetrachloride	O
Carbonic Acid, Phenol	O
Caster Oil	T/A
Caustic Potash	E
Cellosolve	E/V
Cellulose Acetate	E
Cellulube 220 (Tri-Aryl-Phosphate)	E
Cellulube Hydraulic Fluids	E
China Wood Oil, Tung Oil	T
Chloralhydrate	NR
Chloroacetone	E
Chlorobenzene	O
Chlorobromomethane	NR
Chloroform	O
Chlorosulphonic Acid	NR
Chrome Alum	E/T
Chromic Acid, to 10%	O
Chromic Acid, to 25%	O
Chrome Plating Solutions	O
Citric Acid, Saturated	E
Coconut Oil	A
Cod Liver Oil	A
Coke Oven Gas	T/O
Copper Carbonate	E/T
Copper Chloride	E/T
Copper Cyanide	E/T
Copper Fluoride	E
Copper Nitrate	E/T
Copper Sulfate	E/T
Corn Oil	A
Cotton Seed Oil	A
Cresole, Cresylic Acid	O
Creosote, Coal Tar	T/O
Creosote, Wood	T/O

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Cupric Fluoride	E/T
Cupric Sulfate	E/T
Cyclohexane Alicyclic (Hydrocarbon)	O
Cyclohexanol	V/O
Dextrin	T
Diacetone Alcohol	V
Dibutyl Phthalate	E
Dichloro Difloro Methane	T
Diesel Oil	T
Diethyl Sebacate	E
Diethylamine	T
Diethylene Glycol	E/T
Digester Gas	T
Dimethylamine	T
Diocetyl Phthalate	E
Dioxane	E
Dipropylene Glycol	T
Dowtherm A	O
Dowtherm E	O
Dowtherm SR-1	T/E
Ethanolamine	E
Ethers	NR
Ethyl Acetoacetate	E
Ethyl Acrylate	L
Ethyl Alcohol (Ethanol)	E
Ethyl Chloride	E/T
Ethyl Ether	T
Ethyl Oxalate	E
Ethyl Silicate	T
Ethylene Chlorohydrin	E
Ethylene Diamine	E/T
Ethylene Dichloride (Dichloroethane)	O
Ethylene Glycol	E/T
Ethylene Oxide	NR
Fatty Acid	A
Ferric Chloride, to 35%	E/T/V/O
Ferric Chloride, Saturated	
Ferrous Nitrate	V
Ferrous Sulfate	T
Fish Oils (Solubles)	A
Fluboric Acid	E
Fluorine Gas, Wet	NR
Fluorosilicic Acid, to 30%	V
Fly Ash	E
FM200	E
Foam	E
Formaldehyde	E/T
Formanide	T
Formic Acid, to 25%	E
Freon 11, 130°F (54°C) Max.	T
Freon 12, 130°F (54°C) Max.	T
Freon F-12	T
Freon 123	NR
Freon 134a, 176°(80°C)	E/T
Freon F-21	NR
Freon 22, 130°F/54°C	V
Freon 113 130°F/54°C	T
Freon 114,130°F/54°C	T
Fructose	T

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Fuel Oil	T
Fumaric Acid	E
Furan	NR
Furfuryl Alcohol	E
Gallic Acid	NR
Gasoline, Refined	T
Gasoline, Unleaded	O
Gelatin	A
Glucose	A
Glue	T
Glycerine	E/T
Glycerol	E/T
Glycol	E/T
Grease	T/V/O
Green Sulfate Liquor	T
Halon 1301	E
Heptane	T
Hexaldehyde	E
Hexane	T
Hexanol	T
Hexanol Tertiary	T
Hexyl Alcohol	V/T
Hexylene Glycol	T
Hydrobromic Acid, to 40%	E
Hydrochloric Acid, to 36%, 75°F (24°C)-Max.	E
Hydrocyanic Acid, to 10%	E
Hydrofluoric Acid, to 30%	V/O
Hydrofluosilicic Acid, to 50%	T
Hydrogen Phosphide	NR
Hydrogen Sulfide.	E
Hydroquinone	T/O
Hypochlorous Acid, Dilute	E
Isododecane	V
Isobutyl Alcohol	E
Iso Octane, 100°F/38°C	T
Isopropyl Acetate	E
Isopropyl Alcohol	E
Jet Fuel, JP-4	T/O
Jet Fuel, JP-5	T/O
Kerosene	T
Lactic Acid	A
Lard Oil	V
Latex (1% Styrene & Butadiene)	O
Lauric Acid	T
Lauryl Chloride	NR
Lavender Oil	T
Lead Acetate	E/T
Lead Sulfamate	V
Lead Sulfate	T
Lime and H.O	E/T
Lime Sulfur	O
Linoleic Acid	O
Linseed Oil	A
Lithium Bromide (Brine)	T/O
Lithium Chloride	T/O
Lubricating Oil, Refined	T
Lubricating Oil, Sour	T
Lubricating Oil, to 150°F/66°C	T
Lubricating Oil, 150°F/66°C to 180°F/82°C	V

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Magnesium Chloride	E/T
Magnesium Hydroxide	E/T
Magnesium Nitrate	E/V
Magnesium Sulfate	E/T
Maleic Acid, Saturated	T
Malic Acid	T
Mercuric Chloride	E/T
Mercuric Cyanide	E/T
Mercurous Nitrate	E/T
Mercury	E/T
Methane	T
Methyl Acetate	V
Methyl Alcohol, Methanol	E/T
Methyl Cellosolve (Ether)	V
Methyl Isobutyl Ketone	NR
Methyl Isobutyl Carbinol	E
Methylene Chlorobromide	NR
Methylene Dichloride	O
MIL-05606	O
MIL-08515	O
MIL-L7808	O
Milk	A
Mineral Oils	T
Naphta	O
Naphtalene	NR
Nickel Acetate to 10%, 100°F/38°C	V
Nickel Ammonium Sulfate	V
Nickel Chloride	E/T
Nickel Nitrate	V
Nickel Plating Solution 125°F (52°C) – Max.	E
Nitric Acid, to 10%, 75°F (24°C) – Max.	E
Nitric Acid, 10%-50%, 75°F (24°C) – Max.	O
Nitrocellulose	V
Nitrogen	E
Nitromethane	E
Nitrous Oxide	E
Octyl Alcohol	V
Ogisogiric Acid, to 75%	O
Oil, Crude Sour	T
Oil, Motor	T
Oleic Acid	T
Olive Oil	T/A
Oronite 8200 Silicate Ester Fluid	O
Orthodichlorobenzene	O
OS-45 Silicate Ester Fluid	O
OS-45-1	O
Oxalic Acid	E
Ozone (100 ppm)	E
Palm Oil	T/A
Peanut Oil	A
Perchloric Acid	NR
Perchloroethylene	O
Petroleum Ether (see Benzene)	O
Petroleum Oils	T
Phenol (Carbolic Acid)	O
Phosphoric Acid, to 50%, 70°F (21°C) – Max.	E
Phosphoric Acid, to 85%, 150°F (66°C) – Max.	O
Phosphate Ester	E
Photographic Solutions	T
Phthalic Anhydride	E
Picric Acid	V
Plating Solutions,	V

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
(gold, brass cadmium, copper, lead, silver, tin, zinc)	
Polybutene	T
Polyvinyl Acetate, Solid in Liquid State is 50% solution of Methanol or 60% solution of (H <sub>2</sub> O)	E
Potash	E
Potassium Alum	E/T
Potassium Aluminum Sulfate	E/T
Potassium Bicarbonate	E/T
Potassium Bichromate	E/T
Potassium Borate	E
Potassium Bromate	E
Potassium Bromide	E/T
Potassium Carbonate	E/T
Potassium Chlorate	E
Potassium Chloride	T
Potassium Chromate	T
Potassium Cyanide	E/T
Potassium Dichromate	E
Potassium Ferrocyanide	E
Potassium Fluoride	E
Potassium Hydroxide	T
Potassium Iodide	V
Potassium Nitrate	E/T
Potassium Perborate	E
Potassium Perchlorate	T
Potassium Permanganate, to 10%	E
Potassium Permanganate, to 25%	E
Potassium Persulfate	T
Potassium Silicate	E/T/V
Potassium Sulfate	E/T
Prestone	T
Propane Gas	T
Propanol	E
Propargyl Alcohol	E
Propyl Alcohol	E/T
Propylene Dichloride	L
Propylene Glycol	E
<b>Pydraul F-9 and F-150</b>	<b>NR</b>
Pyroguard "C"	T
Pyroguard "D"	T
Pyroguard 55	E
Pyrrole	E
Rapeseed Oil	A
Ref. Fuel (ISO Octane, 30 Toluene)	T
Rosin Oil	T/V
Salicylic Acid	E
Secondary Butyl Alcohol	T
Sewage	E/T
Silver Nitrate	E
Silver Sulfate	E
Skydrol 200°F (93°C)-Max.	L
Soap Solutions	E/T

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Soda Ash, Sodium Carbonate	E/T
Sodium Acetate	E
Sodium Alum	T
Sodium Benzoate	E/T
Sodium Bicarbonate	E/T
Sodium Bisulfate	E/T
Sodium Bisulfite (Black Liquor)	E/T
Sodium Bromide	E/T
Sodium Carbonate	E/T
Sodium Chlorate	E
Sodium Chloride	E/T
Sodium Cyanide	E/T
Sodium Dichromate, to 20%	E/T
Sodium Ferricyanide	E/T
Sodium Ferrocyanide	E/T
Sodium Fluoride	E/T
Sodium Hydroxide, to 15%	E
Sodium Hydroxide, to 50%	E
Sodium Hypochlorite, to 20%	E
Sodium Metaphosphate	E/T
Sodium Nitrite	E/T
Sodium Nitrate	E
Sodium Perborate	E
Sodium Peroxide	E
Sodium Phosphate, Neutral	T
Sodium Silicate	T
Sodium Sulfate	E/T
Sodium Sulfide	E/T
Sodium Suphite Solution, to 20%	T
Sodium Thiosulfate "Hypo"	T
Sohovis 47	T
Sohovis 78	T
Solvasol #1,2 & 3	T
Solvasol #73	T
<b>Solvasol #74</b>	<b>NR</b>
Soybean Oil	A
Spindle Oil	T
Stannic Chloride	T
Stannous Chloride, to 15%	T
Starch	E/T
<b>Steam</b>	<b>NR</b>
Stearic Acid	T
Stoddard Solvent	T
Styrene	O
Sucrose Solutions	A
Sulfur	E/V
Sulfur Chloride	O
Sulfur Dioxide, Dry	E
Sulfur Dioxide, Wet	E
Sulfuric Acid, to 25%, 150°F (66°C)- Max.	E
Sulfuric Acid, to 25-50%, 200°F (93°C)- Max.	O
Sulfuric Acid, to 50-950%, 150°F (66°C)- Max.	O

CHEMICAL SERVICES	
Chemical Composition	Gasket Grade
Sulfurous Acid	O
Tall Oil	T
Tannic Acid, all conc.	V
Tanning Liquors( 50g. alum. Solution, 50g. dichromate solution)	T
Tartaric Acid	
Terpienol	V
Tertiary Butyl Alcohol	E/T/V
Tetrachloroethylene	O
<b>Tetrahydrofuran</b>	<b>NR</b>
<b>Tetralin</b>	<b>NR</b>
<b>Thiopena</b>	<b>NR</b>
Titanium Tetrachloride	O
Toluene, to 30%	T
Transmission Fluid, Type A	O
Triacetin	T
Trichloroethane	O
Trichloroethylene	O
Triethanolamine	E/T
Trisodium Phosphate	E
Tung Oil	T
Turbo Oil #15 Diester Lubricant	O
Turpentine	T
Urea	T/E
Vegetable Oils	A
Vinegar	A
Vinyl Acetate	E
Vinyl Chloride	O
Vi-Pex	T
Water, to 150°F/66°C	E/T/M/S
Water, to 200°F/93°C	E/M
Water, to 230°F/110°C	E
Water, to 250°F/120°C	EH
Water, Acid Mine	E/T
Water, Bromine	O
Water, Chlorinated, to 3500ppm	E
Water, Deionized	E/M
Water, Potable	E-pw
Water, Seawater	E
Water, waste	E/T/M/S
Whiskey	A
White Liquor	E
Wood Oil	T
Zinc Chloride, to 50%	E
Zinc Nitrate	E
Zinc Sulfate	E/T

Please note that EPDM grade "EH" gaskets can be used for all applications and services that EPDM grade "E" gaskets are suitable for.

### WARNING !

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