

GASKETS

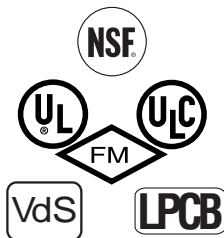
GRINNELL® GASKET TYPES

Pressure responsive gaskets are offered in a variety of types. Although they each serve a specific function they all utilize the same sealing design.

The Grinnell Gasket is designed to provide a three-way sealing action.

- (1) Installation of the gasket over the outside sealing surface of the pipe compresses the lip seal thus forming the initial seal.
- (2) The installation of the housing segments around the gasket and into the pipe groove properly positions the gasket. Tightening of the housing segments forms the gasket to the inside of the housing and compresses it around the pipe-sealing surface thus increasing the gasket's sealing against the pipe.
- (3) The introduction of the system pressure energizes the pressure responsive seal of the gasket and further enhances the sealing action.

Tech Data: G610



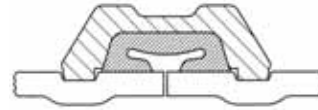
For Fire Protection Pressure Rating and Listing / Approval information contact Tyco Fire & Building Products.

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STYLES

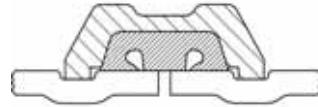
Standard

The standard style gasket, with a “C” shape configuration, is the most commonly used. It is provided as the standard in the Figure 705, 707, & 772 Grinnell Couplings. The gasket is available in two types of material, Grade “E” EPDM and Grade “T” Nitrile.



Tri-Seal

The Tri-Seal gasket is designed to close off the gap or gasket cavity. This is accomplished by positioning the center “rib” of the gasket over the gap between the pipes. The Tri-Seal gasket has two tapered sealing edges in addition to the center rib for additional strength and sealing.



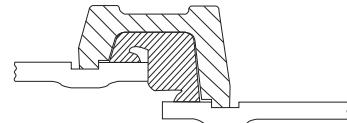
The Tri-Seal gasket can be used with the Figure 705, 707, & 772 Grinnell Couplings. It is recommended for use in low temperature and vacuum services (greater than 10" Hg) applications. Note only a petroleum-free silicone based lubricant is recommended for low temperature applications. The gasket is available in Grade “E” EPDM.

Note: Rigid couplings are recommended for vacuum and low temperature applications.

Reducing Coupling

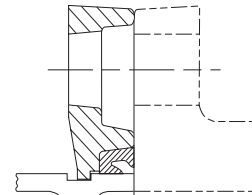
The gasket is provided with ribs used to position the larger pipe so that the sealing lip is located on the sealing surface of the pipe. This gasket is used only with the Figure 716 Grinnell Reducing Coupling and is available in Grade “E” EPDM.

Reducing couplings are not recommended for low temperature applications.



Flange Adapter

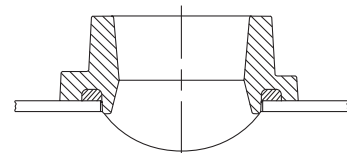
This gasket is specifically designed for use with the Figure 71 Flange Adapter. The gasket has an optimum amount of rubber to provide a dependable seal between both the pipe and mating surface, and to avoid overfilling of the gasket pocket, which causes assembly difficulties. The gasket is available in Grade “E” EPDM.



Mechanical Tee and Strap

The gasket provides a compression type seal, which is designed to conform to the exterior curve (OD) of the pipe. This design is unique to both the Figure 730 Mechanical Tee (threaded and grooved) and Figure 40-5 Strap. The gasket is available in Grade “E” EPDM.

Note: When used in low temperature applications, use a petroleum-free silicone based lubricant otherwise no lubricant is required on Mechanical Tee and Strap gaskets.



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Grinnell® Gasket Grade & Recommendations

The Gasket Recommendation Table has been developed to assure maximum service life. The table was developed from information supplied by the material manufacturers of the elastomer, technical reference literature and testing conducted by Tyco Fire & Building Products.

In evaluating the gasket grade for intended service applications the following consideration must be reviewed: system operating temperature, fluid or solution concentration, and duration of service.

All gasket recommendations are based on a temperature of 70°F (21°C) unless otherwise noted.

Technical and Engineering Services should be consulted if combinations of service solutions are being considered.

Contact Tyco Fire & Building Products for recommendations for services not listed.

Gasket recommendations apply to Grinnell gaskets and valves only.

Grade	Temp. Range	Compound	Color Code	General Service Application
E	-30°F (-34°C) to +230°F (+110°C)	EPDM	Green	Hot water, dilute acids, alkalies, oil free air, and many chemical services not involving petroleum products. Excellent oxidation resistance. NOT FOR USE WITH HYDROCARBONS.
E Tri-Seal	-30°F (-34°C) to +230°F (+110°C)	EPDM	Green	Hot water, dilute acids, alkalies, and many chemical services not involving petroleum products. Excellent oxidation resistance. NOT FOR USE WITH HYDROCARBONS. Recommended for low temperature and vacuum services.
T	-20°F (-29°C) to +180°F (+82°C)	Nitrile	Orange	Petroleum products, vegetable oils, mineral oils and air with oils. Not Recommended for Hot Water Systems. Not Recommended for Hot Dry Air Systems.
O	+20°F (-7°C) to +300°F (+149°C)	Fluoroelastomer	Blue	Oxidizing acids, petroleum products, hydraulic fluids, lubricants, halogenated hydrocarbons.
L	-30°F (-34°C) to +350°F (+177°C)	Silicone	Red Gasket	Air without hydrocarbons, dry heat.
EN & EN Tri-Seal	Cold and Hot Potable Water up to +180°F (+82°C)		Copper	NSF 61 Approved for potable water. Not recommended for petroleum service.

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- Contact Tyco Fire & Building Products for an Engineering evaluation and recommendation where the gasket grade is shown in parenthesis.
- Specify gasket grade when ordering.
- For vacuum or low temperature systems, use Tri-Seal gasket. For low temperature applications, use a petroleum-free silicone lubricant.
- Check gasket color code to be certain it is recommended for the service intended.
- Unless otherwise noted, all gasket listings are based upon a temperature of 70°F (21°C).
- For services not listed contact Tyco Fire & Building Products for recommendation.
- Where more than one gasket is shown, the preferred gasket grade is listed first.

WATER AND AIR

Service	Gasket Grade
Air, (no oil vapors) Temp. -30°F (-34°C) to +230°F (+110°C)	E
Air, Oil Vapor Temp. -20°F (-29°C) to +150°F (+66°C)	T
Water, Temp. to +230°F (+110°C) (NOT RECOMMENDED FOR STEAM SERVICE)	E
Water, Acid Mine	E/T
Water, Chlorine	E
Water, Deionized	E
Water, Seawater	E
Water, Waste (NO PETROLEUM PRODUCTS)	E

Chemical Composition	Gasket Grade	Chemical Composition	Gasket Grade	Chemical Composition	Gasket Grade	Chemical Composition	Gasket Grade
Acetic Acid up to 10%	E	Carbon Dioxide, Wet	E/T	Hexylene Glycol	T	Soda Ash, Sodium Carbonate	E/T
Acetone	E	Carbon Monoxide	E	Hydrochloric Acid to 36%, 75°F (24°C) Max	E	Sodium Bicarbonate	E/T
Acetylene	E/T	Caustic Potash	T	Hydrofluosilicic Acid	E	Sodium Bisulphate	E/T
Alkalis	E	Chrome Alum	T	Isobutyl Alcohol	E	Sodium Bisulphite (black liquor)	E/T
Aluminum Chloride	E/T	Citric Acid	E/T	Isopropyl Alcohol	E	Sodium Bromide	E/T
Aluminum Fluoride	E/T	Copper Chloride	T	Lead Acetate	T	Sodium Chlorate	E
Aluminum Hydroxide	E	Copper Cyanide	E/T	Lithium Bromide	T	Sodium Chloride	E/T
Aluminum Nitrate	E/T	Copper Sulphate	E/T	Magnesium Chloride	E/T	Sodium Cyanide	E/T
Aluminum Salts	T	Cupric Fluoride	E	Magnesium Hydroxide	E/T	Sodium Hydroxide, to 50%	E
Ammonia Gas, Cold	E	Cupric Sulphate	E/T	Magnesium Sulphate	E/T	Sodium Hypochlorite, to 20%	E
Ammonia Liquid	E	Diocetyl Phthalate	E	Methyl Alcohol, Methanol	E/T	Sodium Metaphosphate	T
Ammonium Chloride	E/T	Ethane	E	Methyl Isobutyl Carbinol	E	Sodium Nitrate	E
Amyl Acetate	E	Ethanolamine	E	Mineral Oils	T	Sodium Peroxide	E
Amyl Alcohol	E	Ethyl Alcohol	E	Nickel Chloride	E/T	Sodium Phosphate	T
Aniline	E	Ethyl Chloride	E	Nickel Plating Solution 125°F (52°C) Max	E/T	Sodium Silicate	T
Arsenic Acid to 75%	T	Ethylene Chlorohydrin	E	Nitric Acid, to 10%, 75°F (24°C) Max	E	Sodium Sulfide	T
Barium Carbonate	E	Ethylene Diamine	T	Nitrous Oxide	E	Sodium Sulphite Solution, to 20%	T
Barium Chloride	E/T	Ethylene Glycol	E/T	Ozone	E	Sodium Thiosulphate, "Hypo"	T
Barium Hydroxide	E/T	Ferric Sulphate	T	Phosphate Ester	E	Stannous Chloride, to 15%	T
Benzoic Acid	E	Fluoboric Acid	E/T	Phosphoric Acid to 75%, 70°F (21°C) Max	E/T	Stearic Acid	T
Benzyl Alcohol	E	Fly Ash	E	Potassium Bromide	E/T	Sulphur	E
Borax Solutions	E	Fomaldehyde	E/T	Potassium Carbonate	E/T	Sulphuric Acid, to 25%, 150°F (66°C) Max	E
Boric Acid	E/T	Formamide	E/T	Potassium Chloride	E	Toluene 30%	T
Butyl Alcohol	E/T	Formic Acid	E	Potassium Chromate	T	Triethanolamine	E/T
Butylene	T	Fructose	E/T	Potassium Hydroxide	T	Trisdodium Phosphate - 11lbs./50gal. (5Kg/189L)	E
Calcium Bisulphate	T	Furfuryl Alcohol	E	Propylene Glycol	E	Urea	T
Calcium Chloride	E/T	Glycerin	E/T	Salicylic Acid	E	Vegetable Oil	T
Calcium Hydroxide (Lime)	E/T	Glycerol	E/T	Silver Nitrate	E	Vinyl Acetate	E
Calcium Sulfate	E/T	Glycol	E/T				
Calcium Sulfide	E	Heptane	T				
Carbitol	E/T	Hexaldehyde	E				
Carbon Dioxide, Dry	E/T	Hexane	T				

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GASKET LUBRICANTS

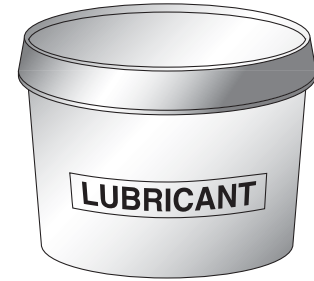
During installation of a Grinnell® Coupling, always lubricate the gasket. For couplings using the Tri-Seal gasket in a low temperature application, use a petroleum-free silicone based lubricant. For mechanical tees and straps when used in low temperature applications, use a petroleum-free silicone based lubricant, otherwise no lubricant is required.

Grinnell Mechanical Piping Products recommends two kinds of lubricant;

La-Co Industries Lubri-Joint

Dow Corning® 7 Release Compound (Silicone)

Check lubricant chart to be certain of the proper lubricant recommended for the service intended. For information on health safety contact Tyco Fire & Building Products for Material Safety Data Sheets (MSDS).



Application	La-Co Industries Lubri-Joint	Dow Corning® 7 Release Compound (Silicone)
Chilled Water	•	•
Heating	•	•
Compressed Air	•	•
Drainage	•	•
Sewage	•	•
Low Temp./Vacuum	•	•
Fire Protection	•	•

Available in:

- 1 quart
- 1 gallon

The table below will give an indication on the approximate number of gaskets which can be lubricated with one container of lubricant.

Gasket Size	Lubri-Joint 1 qt. (946ml) container	Silicone 5.3oz. (150g) tube
1 1/4" / 32mm	650	116
1 1/2" / 40mm	570	94
2" / 50mm	440	73
3" / 80mm	300	50
4" / 100mm	220	36
6" / 150mm	135	22
8" / 200mm	110	18
10" / 250mm	85	14
12" / 300mm	65	10
14" / 350mm	55	9
16" / 400mm	50	8
18" / 450mm	38	6
20" / 500mm	33	5
24" / 600mm	20	3

Silicone Gasket Lubricant available in:

- 8 lb. can