

# Victaulic Chemical Compatibility Guide for the Style 870 High Performance Rigid Coupling Seal Assembly



## 1.0 PRODUCT DESCRIPTION

This is a chemical compatibility guide for the Style 870 high performance rigid coupling seal assembly. Please see [publication 100.02](#) for more information on this coupling.

## 2.0 SEAL GUIDELINES

Victaulic offers a variety of synthetic seal materials for a wide range of applications (see section 7.0 for Reference Materials). To assure the maximum life for the service intended, proper seal selection is essential.

Many factors can affect the performance and longevity of a seal. These factors include, but are not limited to, temperature, fluid, concentrations, a combination of fluids and duration of service. Temperatures outside of the design limits or use with incompatible fluids can reduce the performance capability and service life.

Reference should always be made to the Gasket Chemical Services Guide for each Victaulic seal for specific service guidelines and for a listing of services which are not compatible.

Seal guidelines apply only to Victaulic seals. Guidelines for a particular service do not necessarily imply compatibility of the coupling housing, related fittings, or other components for the same service. Victaulic seals are marked with the seal size and style for identification.

## 3.0 SPECIFICATIONS – MATERIALS

**Seal:** Polytetrafluoroethylene (PTFE) composite.

**Spring Energizer:** Cobalt-chromium-nickel alloy conforming to AMS 5833.

## 4.0 COUPLING SEAL ASSEMBLY

Description	Temp. Range	General Service Guidelines
Spring Energized PTFE	-20°F to +388°F -29°C to +198°C	Suitable for saturated steam and condensate services within the specified temperature range, plus a variety of chemical services

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

## 5.0 SEAL ASSEMBLY COMPATIBILITY

The data and recommendations presented are based upon the best information available resulting from a combination of Victaulic’s field experience, laboratory testing and recommendations supplied by prime producers of materials. The information presented in this guide is general in scope and specific applications should be discussed with your Victaulic sales representative. In addition, contact Victaulic for recommendations for services, chemicals and/or temperatures not listed.

- Unless otherwise noted, ratings indicated are for services within the temperature range specified in section 4.0 of this publication and concentrations are 100%.
- Recommendations are based on pressure and temperature limitations published by Victaulic.
- Seal assemblies may be affected by combinations of chemicals where the chemicals acting individually may not react.
- Caution should be exercised when working with explosive, flammable or toxic fluids.
- Materials should be subjected to simulated service conditions to determine their suitability for the service intended.

Chemical	Overall Rating
Acetaldehyde	1
Acetate Solvent	1
Acetic Acid	1
Acetic Acid, Glacial	1
Acetic Anhydride	1
Acetone	1
Acetyl Chloride (dry)	1
Acetylene	1
Alcohols (arnyl, benzyl, butyl, ethyl, hexyl, isobutyl, isopropyl, methyl, octyl, propyl)	1
Alkali metals	2
Aluminum Chloride, 20%	3
Aluminum Fluoride	3
Amines	1
Ammonia 10%	1
Ammonia Nitrate	1
Ammonia, Anhydrous	1
Ammonia, Liquid	2
Ammonium Bifluoride	3
Ammonium Chloride	1
Ammonium Hydroxide	1
Amyl Alcohol	1
Antimony Trichloride	2
Aqua Regia	3
Argon Gas	1
Arsenic Acid	1
Barium Nitrate	1
Beer	1
Benzene (Coal Tar Product) (Benzol)	1
Bonderite Solution	3
Bromine	3
Butane	1
Calcium Chloride	3
Calcium Hydroxide	1
Calcium Hypochlorite	3
Calcium Oxide	1
Carbon Dioxide (Dry)	1
Carbon Dioxide (Wet)	1

Rating Code Key	
1	Most Applications
2	Limited Applications
3	Restricted Applications

### WARNING

- The information contained herein is general in nature and recommendations are valid only for the Victaulic spring energized PTFE seal.
  - Seal compatibility is dependent upon a number of factors. Suitability for a particular application must be determined by a competent individual familiar with system-specific conditions.
  - Victaulic offers no warranties, expressed or implied, of a product in any application. Contact your Victaulic sales representative to ensure the best seal is selected for a particular service.
- Failure to follow these instructions could cause system failure, resulting in serious personal injury and property damage.

## 5.0 SEAL ASSEMBLY COMPATIBILITY (CONTINUED)

Chemical	Overall Rating	Rating Code Key	
Carbon Monoxide	1	1	Most Applications
Carbon Tetrachloride	1	2	Limited Applications
Carbonic Acid, Aqueous	1	3	Restricted Applications
Caustic Potash (Aqueous)	1		
Chlorine Trifluoride	2		
Chlorine Water	1		
Chlorine, Dry	1		
Chlorobenzene	2		
Chloroform	1		
Chromic Acid 30%	2		
Citric Acid	1		
Clorox (Bleach)	1		
Cream	1		
Cupric Chloride	3		
Deionized Water	1		
Detergents	1		
Diesel Fuel	1		
Diethyl Ether	1		
Diethylene Glycol	1		
Dimethyl Formamide (DMF)	3		
Disthylamine	3		
Dowtherm "A" (Dry)	1		
Dowtherm "E" (Dry)	1		
Epsom Salts	1		
Ethane	1		
Ethanol	1		
Ether	1		
Ethyl Acetate	1		
Ethylene Glycol	1		
Ethylene Oxide	1		
Ferric Chloride	3		
Ferric Nitrate	2		
Ferric Sulfate	2		
Ferrous Chloride	3		
Fluorine	3		
Formaldehyde 100%	1		
Formic Acid	1		
Freon 11	1		
Freon 113	1		
Freon 12	1		
Freon 22	1		
Freon TF	1		
Fuel Oils	2		
Gasoline	2		
Glucose	1		
Glycerine (Glycerol)	1		
Glycols	1		
Heptane	1		
Hexane	1		
Hydraulic Oil (Petro)	1		
Hydraulic Oil (Synthetic)	1		
Hydrochloric Acid 20%	3		

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## 5.0 SEAL ASSEMBLY COMPATIBILITY (CONTINUED)

Chemical	Overall Rating	Rating Code Key	
Hydrocyanic (Prussic) Acid	1	1	Most Applications
Hydrofluoric Acid 20%	3	2	Limited Applications
Hydrogen Gas	1	3	Restricted Applications
Hydrogen Peroxide 10%	3		
Hydrogen Sulfide (Aqua)	1		
Hydrogen Sulfide (Dry)	1		
Iodine	3		
Isopropyl Alcohol	1		
Isopropyl Ether	1		
Jet Fuel (JP3,4,5,6,8)	1		
Jet fuel (JP9, 10)	1		
Kerosene	1		
Ketones	1		
Lead Sulphamate	2		
Lemon Oil	1		
Lime	1		
Linseed Oil	1		
Lithium	2		
Lithium (Elevated Temperature)	3		
Mercuric Chloride (Dilute)	3		
Mercuric Cyanide	2		
Mercury	1		
Methane	1		
Methyl Alcohol	1		
Methyl Chloride	2		
Methyl Ethyl Ketone(MEK)	1		
Mil L-7808	1		
Mineral Oil	1		
Naphtha	2		
Natural Gas Liquid	1		
Nickel Chloride	3		
Nitric Acid, Concentrated	1		
Octyl Alcohol	1		
Oil, Crude, Sweet	1		
Oil, Diesel Fuel	1		
Oil, Silicone	1		
Oleic Acid	1		
Oxalic Acid (Cold)	2		
Oxygen, Liquid	1		
Ozone	1		
Paraffin	1		
Patty Acids	1		
Pentane	1		
Petroleum	3		
Phenol (Carbolic Acid)	1		
Phosphoric Acid	3		
Potash	1		
Potassium	3		
Potassium Chloride	2		
Potassium Dichromate	2		
Potassium Hydroxide	2		
Propane (liquefied)	1		

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## 5.0 SEAL ASSEMBLY COMPATIBILITY (CONTINUED)

Chemical	Overall Rating
Propyl Alcohol	1
Propylene Glycol	2
Sewage	1
Shellac (bleached)	1
Silicone	1
Soap Solutions	1
Sodium (Elevated temperature)	3
Sodium Acetate	1
Sodium Chloride	1
Sodium Cyanide	1
Sodium Fluoride	2
Sodium Hydroxide (50%)	2
Sodium Hypochlorite (<20%)	1
Sodium Hypochlorite (100%)	3
Sodium Nitrate (Aqueous)(Soda Niter)	1
Sodium Perborate	2
Sodium Peroxide	1
Sodium Phosphate, (Aqueous)	1
Sodium Sulfite (Aqueous)	1
Sodium Sulphate (Aqueous)(Glaubers Salt)	1
Stannic Chloride	3
Stannous Chloride	2
Steam	1
Sulfate (liquors)	2
Sulfur Dioxide (dry)	2
Sulfur Hexafluoride	1
Sulfuric Acid (<10%)	3
Sulfuric Acid (cold conc)	3
Tallow	1
Tanning Liquors	2
Tanning Oil	1
Tetrahydrofuran	1
Tetrachloroethane	1
Toluene	1
Transformer Oil	1
Trichloropropane	1
Turbine Oil	1
Urea	2
Vinegar	1
Water Acid, Mine	1
Water, Distilled	1
Water, Salt	1
White Liquor (pulp mill)	1
Xylene	1

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## 6.0 NOTIFICATIONS



- To ensure maximum product performance for the intended service, always ensure seal compatibility.

Failure to select and specify the proper seal material for the intended service may cause joint failure, resulting in property damage.

## 7.0 REFERENCE MATERIALS

[05.01: Victaulic Seal Selection Guide](#)

[24.11: Victaulic In-Place OGS-200 Roll Grooving Tool: Model RG1200](#)

[25.12: Victaulic OGS-200 Roll Groove Specifications](#)

[100.01: Victaulic OGS-200 Grooved End Fittings](#)

[100.02: Victaulic High Performance Rigid Coupling Style 870](#)

[100.12: Victaulic Gate Valve Series 871](#)

[100.13: Victaulic Flexible Loop for Steam Series 159](#)

[I-870: Victaulic Installation Instructions Style 870 Rigid Coupling](#)

### User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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### Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

### Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [www.victaulic.com](http://www.victaulic.com).

### Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

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