

ANNEX 6.3
CORROSION RESISTANCE OF GASKET METALS*

S : Satisfactory

U: Unsatisfactory

F: Fair

- : No Information

C: Copper

A: Aluminum

M: Monel

N: Nickel

S: Iron and Carbon Steel

4 : 304 Stainless Steel

6: 316 Stainless Steel

7: 347 Stainless Steel

SERVICE	C	A	M	N	S	4	6	7
Acetic Acid, Pure	F	S	S	F	U	F	F	-
Acetic Anhydride	U	S	S	-	-	F	F	F
Acetone	S	S	S	S	S	S	S	S
Acetylene	-	S	S	-	S	S	S	-
Air	S	S	S	-	S	S	-	S
Aluminum Chloride	F	U	S	-	F	U	U	F
Aluminum Sulphate	F	-	F	-	U	F	F	F
Alums	F	-	F	-	U	F	F	F
Ammonia, Cold	-	S	S	-	S	S	S	-
Ammonium Chloride	U	U	F	F	-	F	F	-
Ammonium Hydroxide	U	F	-	-	S	S	S	S
Ammonium Nitrate	U	F	-	-	S	S	S	S
Ammonium Phosphate	F	F	S	S	U	S	S	-
Ammonium Sulphate	F	-	S	-	S	S	S	S
Amyl Acetate	F	F	S	-	-	S	S	S
Amyl Alcohol	S	-	S	-	-	-	-	-
Aniline	U	U	S	-	S	S	S	S
Asphalt	S	-	S	-	S	S	-	-
Barium Chloride	-	U	-	S	-	F	S	-
Barium Hydroxide	U	U	-	S	-	S	-	-
Barium Sulphide	U	-	S	-	-	S	S	S
Beer	S	S	S	-	S	S	S	-
Beet Sugar, Liquors	S	S	S	-	S	S	S	-
Benzene	S	S	S	-	S	S	S	-
Benzine	S	S	S	-	S	S	S	-
Black Sulphate Liquor	F	-	S	-	S	S	-	-
Blast Furnace Gas	U	-	-	-	S	-	-	S
Borax	F	F	S	S	S	S	S	S
Boric Acid	F	S	S	S	U	S	S	S
Bromine	U	-	-	-	U	U	U	U
Butane	-	S	S	-	S	-	S	-
Butanol	S	-	S	-	S	-	-	-

* Please see note at the end of this table.

ANNEX 6.3 (Continued)
CORROSION RESISTANCE OF GASKET METALS*

SERVICE		C	A	M	N	S	4	6	7
Butyl Acetate		S	S	-	-	-	S	S	S
Calcium Bisulphide		U	-	U	-	U	-	S	S
Calcium Chloride		S	-	F	-	S	-	-	-
Calcium Hydroxide		-	-	S	S	S	F	F	-
Caliche Liquors		-	-	S	-	S	S	-	-
Cane Sugar Liquors		S	S	S	-	S	S	S	-
Carbolic Acid		U	S	S	-	-	S	S	-
Carbon Dioxide	Dry	S	S	S	-	S	S	S	-
	Wet	F	F	S	-	F	S	S	-
Carbon Bisulphide		U	S	S	-	S	S	S	-
Carbon Monoxide, Hot		U	-	-	-	S	S	S	S
Carbon Tetrachloride		-	-	S	-	-	-	-	-
Castor Oil		-	S	S	-	S	S	-	-
Chlorine	Dry	S	S	S	-	S	S	S	-
	Wet	U	U	U	-	U	U	-	-
Chlorinated Solvents	Dry	S	S	S	-	S	S	-	-
	Wet	U	U	S	-	U	-	-	-
Chloroacetic Acid		U	U	-	F	U	U	U	U
Chlorosulphonic Acid		-	-	F	-	-	F	-	-
Chromic Acid		U	U	F	-	-	-	S	-
Citric Acid		S	S	S	-	U	S	S	-
Coke Oven Gas		S	-	S	-	S	-	S	-
Copper Chloride		-	U	F	-	F	U	U	-
Copper Sulphate		-	U	S	-	U	S	S	-
Corn Oil		-	S	S	-	S	S	S	-
Cotton Seed Oil		-	S	S	-	S	S	S	-
Creosote		S	S	S	-	S	S	S	-
Cresylic Acid		S	S	F	-	F	-	S	-
Dowtherm	A	U	S	-	-	S	-	-	-
	E	S	U	-	-	S	-	-	-
Ethers		S	S	S	-	S	-	-	-
Ethyl Acetate		S	F	S	-	S	S	S	-
Ethyl Cellulose		-	-	S	S	-	-	-	-
Ethyl Chloride		S	-	S	S	S	S	S	-
Ethylene Glycol		S	S	S	-	S	S	S	S
Ferric Chloride		U	U	U	U	U	U	U	U
Ferric Sulphate		U	U	U	U	U	F	S	-

* Please see note at the end of this table.

ANNEX 6.3 (Continued)
CORROSION RESISTANCE OF GASKET METALS*

SERVICE			C	A	M	N	S	4	6	7
Formaldehyde			F	F	S	-	F	S	S	-
Formic Acid			F	U	-	-	U	F	F	-
Freon			S	S	S	-	-	-	-	-
Fuel Oil			S	-	S	-	S	S	-	-
Furfural			S	S	S	-	S	S	S	-
Gasoline			S	S	S	-	S	S	S	-
Gelatin			-	S	S	-	-	S	S	-
Glucose			S	S	S	-	S	S	S	-
Glue			-	S	S	-	S	S	S	-
Glycerol, Glycerin			F	S	S	-	S	S	S	-
Green Sulphate Liquor			-	-	S	-	S	-	-	-
Hydrobromic Acid			-	U	-	-	U	-	-	-
Hydrochloric Acid			U	U	-	-	U	U	U	-
Hydrocyanic Acid			-	-	S	-	-	S	S	-
Hydrofluoric Acid	Cold	Less than 65%	-	U	F	U	U	U	U	U
		More than 65%	F	U	S	-	F	U	U	U
	Hot	Less than 65%	U	U	-	U	U	U	U	U
		More than 65%	F	U	S	-	-	U	U	U
Hydrofluosilicic Acid			-	-	-	-	U	U	U	U
Hydrogen, Cold			S	S	S	-	S	S	S	-
Hydrogen Peroxide			U	S	F	F	U	S	S	-
Hydrogen Sulphide	Dry	Cold	U	S	S	S	S	S	S	S
		Hot	U	S	U	U	U	-	-	S
	Wet	Cold	U	S	S	S	-	S	S	S
		Hot	U	S	U	U	U	-	-	S
Kerosene			S	-	S	-	S	S	S	-
Lacquers, Lacquer Solvents			-	S	S	-	-	S	S	-
Lactic Acid, Cold			-	-	S	S	U	-	F	F
Linseed Oil			S	S	S	-	S	S	S	-
Lubricating Oils, Refined			S	S	S	-	S	S	-	S
Magnesium Chloride			F	U	F	F	F	F	F	-
Magnesium Hydroxide			U	U	S	S	S	S	S	-
Magnesium Sulphate			S	-	S	-	S	S	S	-
Mercuric Chloride			U	U	U	U	-	U	U	U
Mercury			U	U	S	-	S	S	S	-
Methanol			S	S	S	-	S	S	S	-
Methyl Chloride			S	-	S	-	S	-	-	-
Milk			-	S	S	S	S	-	S	-

* Please see note at the end of this table.

ANNEX 6.3 (Continued)
CORROSION RESISTANCE OF GASKET METALS*

SERVICE		C	A	M	N	S	4	6	7
Mineral Oils		S	S	S	-	S	S	S	-
Natural Gas		-	S	S	-	S	S	S	-
Nickel Chloride		U	U	-	-	-	F	F	-
Nickel Sulphate		U	U	-	-	-	S	S	-
Nitric Acid	Concentrated	U	S	U	U	U	F	F	-
	Diluted	U	U	U	U	U	S	S	-
Nitrobenzene		F	-	-	-	S	-	S	-
Oleic Acid		U	S	S	S	-	S	S	-
Oleum Spirits		S	-	S	-	S	-	-	-
Oxalic Acid		-	S	S	-	-	-	-	-
Oxygen	Cold	S	S	S	-	S	S	S	-
	Hot 260 a 540°C	U	-	S	-	S	S	S	S
Palmitic Acid		S	S	S	-	S	S	S	-
Petroleum Oils > 500F		U	S	U	U	S	S	S	-
Phosphoric Acid	Less than 45%	F	-	F	-	U	S	S	-
	More than 45%, Cold	F	U	F	-	U	S	S	-
Picric Acid, Molten		U	F	U	U	S	S	S	-
Potassium Chloride		S	-	S	S	S	S	S	-
Potassium Cyanide		U	U	S	-	S	S	S	-
Potassium Hydroxide		U	U	S	S	-	F	F	-
Potassium Sulphate		S	S	S	S	S	F	F	-
Propane		-	-	S	-	S	S	S	-
Seawater		-	U	S	-	-	F	F	-
Sewage		-	F	S	-	F	F	F	-
Soap Solutions		-	-	S	-	S	S	-	-
Sodium Bicarbonate		-	U	S	S	-	S	S	-
Sodium Bisulphate		F	-	S	S	U	-	-	-
Sodium Carbonate		-	U	S	-	S	S	S	-
Sodium Chloride		F	U	S	S	S	F	S	-
Sodium Cyanide		U	U	F	-	S	-	S	-
Sodium Hydroxide		U	U	S	S	S	F	F	-
Sodium Hypochlorite		-	U	-	-	U	U	U	-
Sodium Metaphosphate		-	S	S	S	-	S	-	-
Sodium Nitrate		F	S	S	S	S	F	S	-
Sodium Perborate		-	S	S	S	-	S	S	-
Sodium Peroxide		-	S	S	S	-	S	S	-

* Please see note at the end of this table.

ANNEX 6.3 (Continued)
CORROSION RESISTANCE OF GASKET METALS*

SERVICE		C	A	M	N	S	4	6	7	
Sodium Phosphate	Monobasic	-	S	S	S	-	-	S	-	
	Dibasic	S	S	S	S	-	-	S	-	
	Tribasic	U	U	S	S	S	-	S	-	
Sodium Silicate		-	U	S	S	S	-	S	-	
Sodium Sulphate		S	-	S	S	S	S	S	S	
Sodium Sulphide		U	U	F	F	S	S	S	S	
Sodium Thiosulphate		U	U	-	-	-	S	S	-	
Soybean Oil		-	-	-	-	-	S	S	-	
Stannic Chloride		U	U	U	U	-	-	-	-	
Steam <200°C		S	S	S	S	S	S	S	S	
Stearic Acid		-	-	S	S	-	S	S	-	
Sulphur		U	S	U	U	S	F	F	-	
Sulphur Chloride		U	-	-	-	-	-	-	-	
Sulphur Dioxide, dry		S	S	S	S	S	S	S	-	
Sulphur Trioxide, dry		S	S	S	-	S	S	-	-	
Sulphuric Acid	Less than 10%	Cold	-	-	-	-	U	F	F	-
		Hot	U	-	-	U	U	U	F	-
	10% to 75%	Cold	U	-	-	-	U	U	F	-
		Hot	U	U	-	U	U	U	U	-
	75% to 95%	Cold	U	-	-	-	-	S	S	-
		Hot	U	U	-	U	F	U	U	-
Fuming		U	-	U	U	-	-	F	-	
Sulphurous Acid		-	-	U	U	S	U	-	-	
Tannic Acid		S	U	S	S	-	F	F	-	
Tar		-	S	-	-	S	S	F	-	
Tartaric Acid		-	S	-	-	S	S	-	-	
Toluene		-	S	S	-	S	-	-	-	
Trichloroethylene		-	-	S	-	-	-	-	-	
Turpentine		-	S	S	-	-	S	S	-	
Vinegar		-	-	S	-	-	F	S	-	
Water		S	S	S	S	S	S	S	-	
Whiskey and Wines		S	-	S	-	U	F	S	-	
Zinc Chloride		U	U	S	-	-	U	U	-	
Zinc Sulphate		U	-	S	-	-	S	S	-	

*NOTE: Properties and application parameters shown throughout this Corrosion Resistance of Gasket Metals Chart are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult with TEADIT. Failure to select proper sealing products could result in property damage and/or serious personal injury. Specifications subject to change without notice; this edition cancels all previous issues