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James Chung
Samjung Industrial Company

Dear James,

Re : Chemical resistance of Shockwave diaphragm material.

Below for your information.

The shockwave diaphragm is tolerant to a very wide range of chemicals. The main area of difference is Shockwave's resistance to acids. Shockwave will resist the acids very well, this is important because it is common for chemicals in the waste gas stream to react with condensed water to form an acid mist that then comes into contact with the diaphragm. A good example is sulphuric acid that forms when sulphur in the waste gas of a burning process comes into contact with water inside the dust collector e.g. coal fired boiler application.

Please see the table below:

Little or no effect on Shockwave:

Acetaldehyde	Chloroacetic acid	Linseed Oil	Potassium salts
Acetic acid	Chronic acid	Magnesium salt	Silver salts
Acetic Anhydride	Chromium salts	Maleic acid	Soap solutions
Acrylonitrile	Copper salts	Manganese salts	Sodium salts
Aluminum Chloride	Ethylene glycol	Mercury salts	Sodium hydroxide
Aluminum sulfate	Ferric salts	Methanol	Sodium hypochlorite
Ammonia	Fluoborate salts	Natural gas	Stearic acid
Ammonium salts	Fluoboric acid	Nickel salts	Sulfur dioxide
Ammonium hydroxide	Fluosilicic acid	Nitric acid-10%	Sulfuric acid, dil.
Amyl acetate	Formaldehyde	Nitroethane	Sulfurous acid
Antimony salts	Formamide	Nitrogen oxides	Tannic acid
Arsenic salts	Formic acid	Nitrous acid	Tanning extracts
Barium salts	Glucose	Oils, animal	Trisodium phosphate
Benzoic acid	Glycerins	Oils, mineral	Urea
Bleaching liquor	Hydrochloric acid	Oils, vegetable	Uric acid
Boric acid	Hydrocyanic acid	Oxalic acid	Water
Bromine	Hydrogen peroxide	Oxygen	Water (brine)
Butyric acid	Hydrogen sulfide	Phosphoric acid	Water (stoam)
Calcium salts	Iodine and solutions	Phthalic acid	Zinc salts
Carbon Dioxide	Lactic acid	Phosphoric acid	
Chlorine (wet/dry)	Lead salts	Plating solutions	

Minor effect on Shockwave:

Acetates	Butane	Me Et Ketone	Skydrol 500-B4
Acetone	Butanol	Nitric acid-30%	Sulfuric acid-90%
Alcohols	Essential Oils	Nitrobenzene	Tetrahydrofuran
Amyl alcohol	Ethers	Oleic acid	Turpentine
Aniline	Ethanol	Phenol	
Benzaldehyde	Furfural	Propanol	
Benzyl alcohol	Lithium grease	Pyridine	

For chemically aggressive environments, Series 4 Viton diaphragm are available.

Regards,
HC Lim