

Omega Std, HDY, HSU, Viva and Wrapflex Polyurethane Element Chemical Compatibility.

Rating Key:

1 = Excellent (0-3%) 3 = Fair (16-35%)
 2 = Good (4-15%) 4 = Poor (>35%)

This chemical resistance data should be used as a guide only – The total environment, including temperature, must be considered when determining chemical compatibility. Refer to the Factory for more detailed fluid resistance information.

The ratings are based on percentage volume increase of the element when immersed for 7 days at 24°C (75°F). Generally, an “Excellent” or “Good” rating will yield satisfactory performance and a “Fair” or “Poor” rating will result in unsatisfactory performance. However, all operating and environmental conditions must be considered.

CAUTION: This chart considers only the chemical resistance of the polyurethane flexible elements and does not consider other coupling components (e.g. hubs, covers hardware etc.). See Table 2 & 3 on page 2 for wrapflex nylon cover chemical resistance guidelines.

TABLE 1* — Chemical Compatibility (Page 1/2)

Omega Viva/ Wrapflex		Omega Viva/ Wrapflex		Omega Viva/ Wrapflex	
Chemical	Rating	Chemical	Rating	Chemical	Rating
Acetaldehyde	4	Calcium Hydroxide (Lime + H2O)	2/1	Hexane	2/1
Acetic Acid	3	Calcium Nitrate	2	Hydrazine	4
Acetic Anhydride	4	Calcium Sulfate	2	Hydrobromic Acid	2
Acetone	4	Carbon Dioxide	1	Hydrocarbon Oil	2/1
Acetyl Bromide	4/3	Carbon Disulfide	2	Hydrochloric Acid, 20%	3/2
Acetyl Chloride	4/3	Carbon Monoxide	1	Hydrofluoric Acid	3/2
Acetylene	3/2	Carbon Tetrachloride	4/3	Hydrogen	2/1
Adipic Acid	2/1	Chloroacetic Acid	4/3	Hydrogen Peroxide	2
Aluminum Chloride	2	Chloroform	4	Hydrogen Sulfide	4/3
Aluminum Sulfate	2	Chromic Acid	4/3	Hydroiodic Acid	2
Aluminum Sulfide	2	Chromium Potassium Sulfate	2	Iodine Solution	2/1
Ammonia	2	Citric Acid	2	Isooctane	2
Ammonium Acetate	3	Cottonseed Oil	2/1	Isopropyl Alcohol (Isopropanol)	3/2
Ammonium Carbonate	2	Cresol (meta)	4	Isopropyl Ether	3/2
Ammonium Hydroxide	2/1	Cupric Chloride	2/1	JP-4 Oil	3/2
Ammonium Nitrate	2	Cupric Nitrate	2	JP-5 & JP-6 Oil	4
Ammonium Persulfate	2	Cupric Sulfate	2	Kerosene	3/2
Ammonium Sulfate	2	Cyclohexanone	4	Lactic Acid	2
Ammonium Sulfide	2	Cyclohexane	2	Lead Acetate	2
Ammonium Thiocyanate	2	Dibutyl Phthalate	4/3	Linseed Oil	3/2
Amyl Acetate	4	Dibutyl Ether	2	Lubricating Oil	2
Amyl Alcohol	3	Dichlorobenzene (Ortho)	3	Magnesium Hydroxide	2/1
Amyl Chloride	3	Dodecyl Mercaptan	2	Magnesium Salts	2
Aniline	4	Diester Oil	2	Malic Acid	4/3
Aniline Hydrochloride	4	Dimethyl Acetamide	4	Mercury	2/1
Animal Fats & Oils	2	Dimethyl Formamide	4	Methyl Alcohol (Methanol)	3/4
Antimony Salts	2	DTE Oil (heavy, med.)	2	Methyl Ethyl Ketone	4
Aqua Regia	4	Ether	2	Methylene Chloride	4
Arsenic Salts	2/1	Ethyl Acetate	4	MIL-D-5606 Oil	4/3
ASTM Oil #1	1	Ethyl Alcohol (Ethanol)	3	MIL-L-7808	2/1
ASTM Oil #2	1	Ethyl Bromide	4/3	Mineral Oil	1
ASTM Oil #3	1	Ethyl Chloride	4/3	Mobil Arctic Oil	2/1
ASTM Ref Fuel A	1	Ethylene Glycol	3/2	Napthalene	2
ASTM Ref Fuel B	2	Esso #90 Lube Oil	2/1	Natural Gas	2
Atlantic Oil	1	Ferric Chloride	2	Nickel Salts	3
Barium Carbonate	2	Ferric Nitrate	2	Nitric Acid	4
Barium Hydroxide	2/1	Ferrous Chloride	2	Nitrobenzene	4
Benzaldehyde	4/2	Ferrous Sulfate	2	Nitrogen	1
Benzene	4	Formaldehyde	2/3	Oleic Acid	2/1
Benzene (Gasoline)	3/2	Formic Acid	4/3	Oxalic Acid (5%)	2/1
Benzoic Acid	3	Freon, 12 or 113	2/1	Oxygen	1
Boric Acid	2/1	Fuel Oil	2	Ozone	1
Bromine	2/2	Gasoline	3/2	Palmitic Acid	2/1
Bunker Oil	2/1	Glycerine (Glycerol)	1	Paints	2/1
Butane	2/1	Glycolic Acid	2/1	Perchloric Acid	4
Butyl Acetate	4	Greases	2	Perchloroethylene	4/3
Butyl Alcohol	3/2	Heptane	2/1	Petroleum	2/1
Calcium Carbonate	2				
Calcium Chloride	2/1				

*One number in rating column denotes that all coupling flex element materials, Omega, Viva and Wrapflex have same chemical resistance. If multiple numbers appear in rating field (e.g. 2/1) first number denotes Omega and Viva rating, second number denotes Wrapflex rating.

TABLE 1 (Cont'd) :
 Chemical Compatibility

Omega Viva/ Wrapflex	
Chemical	Rating
Phenol (Carbolic Acid)	4
Phosphoric Acid (dil.)	3/2
Phosphoric Acid (conc.)	4/3
Potassium Cyanide	2/1
Potassium Salts	2
Propane	2
Propyl Alcohol	3/2
Propylene Glycol	2
Pydraul Oil	4
SAE #10 Oil	1
Seawater	2/1
Silicic Acid	2/1
Skydrol Oil (500)	3/4
Silver Nitrate	2
Soap	2
Sodium Acetate	2/1
Sodium Bicarbonate	2
Sodium Bisulfate	2
Sodium Borate	2
Sodium Carbonate	2
Sodium Chlorate	2
Sodium Chloride	2
Sodium Cyanide	2
Sodium Dichromate	2
Sodium Ferrocyanide	2
Sodium Flouride	3/2
Sodium Hydrosulfite	2
Sodium Hydroxide, 45%	2
Sodium Nitrate	2
Sodium Silicate	2/1
Sodium Sulfate	2
Sodium Sulfide	2
Sodium Hypochlorite, 5% (bleach)	4
Sperry Oil	3/2
Steam	2/4
Stoddard Solvent	2/1
Styrene	2
Sulfur Dioxide	3/2
Sulfuric Acid, 10-50%	4/3
Tannic Acid, 10%	2/1
Tartaric Acid	2/1
Tin Salts	2
Titanium Salts	2
Toluene	4
Transformer Oil	3/2
Trichloroacetic Acid	4
Trichloroethylene	4
Tricresyl Phosphate	4/3
Triethanol Amine	2
Trisodium Phosphate	2
Turpentine	2/3
Urea	2
Varnish	2
Vegetable Oil	2/1
Water	2
Xylene	3
Xylol	4/3
Zinc Chloride	2
Zinc Sulfate	2

Falk Wrapflex Coupling – Nylon Cover –
 Chemical Resistance

The following chemical resistance data should be used as a guide only – testing may be necessary to determine compatibility. The total environment, including temperature, must be considered when determining acceptable operating conditions. Refer to the Factory for more detailed chemical resistance information.

TABLE 2 — Wrapflex Nylon Cover Chemical
 Resistance-Acceptable

Aldehydes (most)
Aromatic Materials (most)
Esters (most)
Chlorinated Aliphatic (most)
Ketones
Alcohols
Chloroform
Ethylene Dichloride
Methylene Chloride

TABLE 3 — Unacceptable – Do No Use

Calcium Bromide *
Calcium Chloride *
Calcium Thiocyanate *
Flouralcohols
Mineral acids (strong)
Oxidizing agents (strong, high temperature)
Phenols
Potassium Thiocyanate *
Strong Acids
Thichloroacetic Acid
Zinc Chloride *

* High concentration (50 – 80%) and elevated temperature.