



DuPont™ Elvaloy® KEE

ketone ethylene ester

Chemical Resistance of DuPont™ Elvaloy® KEE Compounds

Products made with Elvaloy® KEE (ketone ethylene ester) have been used successfully for many years in a variety of chemical environments. Major applications for these products include roofing and geomembranes as secondary containment for petrochemical storage.

The following table provides a starting point to determine whether an Elvaloy®-based product is appropriate for use in contact with some common industrial chemicals. These ratings are offered as a guide only.

Chemical	Rating*	Chemical	Rating*
Acetic acid (50%)	C	Isopropyl alcohol	T
Acetone	C	Jet fuel, JP-4	T
Asphalt	T	Kerosene	B
ASTM #1 oil	A	Lactic acid	T
ASTM #3 oil	A	Linseed oil	A
ASTM reference fuel A	A	Methyl alcohol	A
ASTM reference fuel B	A	Methyl ethyl ketone	X
ASTM reference fuel C	B	Methylene chloride	C
Automatic transmission fluid	T	Mineral oil	T
Benzene	X	Naphtha	T
Butyl alcohol	T	Nitric acid (10%)	B
Calcium chloride (30%)	A	Nitric acid (50%)	C
Calcium hydroxide solutions	T	Perchloroethylene	X
Chlorosulfonic acid	X	Phenol (50%)	C
Cyclohexane	B	Sea water	T
Diocetyl phthalate (DOP)	C	Soap solution (1%)	T
Ethyl acetate	C	Sodium hydroxide (40%)	A
Ethyl alcohol	A	Sulfuric acid (30%)	A
Ethylene dichloride	X	Sulfuric acid (97%)	C
Ethylene glycol	A	Tannic acid (10%)	T
Formaldehyde	X	Tetrahydrofuran	X
Gasoline	B	Tributyl phosphate	X
Gear oil	T	Toluene	C
Glycerine	T	Water	A
Hydrochloric acid (10%)	A	Xylene	C
Isooctane	A		

*The ratings generally correlate as follows:

A	Resistant	May be considered for prolonged contact
B	Somewhat resistant	May be considered for occasional contact at best
C	Not resistant	Inappropriate for contact with this chemical
T	No data	Likely to have minor effect
X	No data	Likely to have severe effect

These data represent a summary of several studies on compounds representing typical flexible formulations based on grades of Elvaloy®. Compound samples (unreinforced) were immersed in the fluids for one month at room temperature. The rating criteria were based on volume swell and retention of physical properties after exposure.

The performance of an Elvaloy®-based product in a chemical environment is influenced by a number of factors such as:

- Other ingredients in the compound
- Construction of the product (e.g. reinforcing fabric)
- Temperature and duration of exposure
- Physical performance demands on the product

Consult the membrane manufacturer when determining a Elvaloy® KEE product for a specific application. Membranes should be tested prior to use.

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