

# E-6000 Product Data Sheet

## Chemical Resistance

### Solvents to which E-6000 products are relatively immune

The sensitivity of E-6000/E-6100 to a solvent can generally be determined by reference to the Hildebrand solubility parameter. Generally speaking, those solvents with a solubility parameter between 6.9 and 10.1 will attack, to varying degrees, hardened E-6000/E-6100. The closer a solvent's solubility parameter is to 8.5, the greater its solvency capability to E-6000 and E-6100.

The following table lists solvents whose solubility parameters are outside the E-6000/E-6100 solvency range and are, therefore, expected to have little adverse effects on performance. In critical or life threatening applications, tests must be performed with the particular solvent under conditions similar to planned service.

Solvent	Solubility Parameter	Solvent	Solubility Parameter
Amyl Alcohol (Mixed Isomers)	11.1	iso-Butyl Alcohol	11.6
n-Butyl Alcohol	11.2	sec.-Butyl Alcohol	11.1
Cyclohexanol	11.4	Ethanol, Anhydrous Proprietary	12.8
Ethanol, 95% Proprietary	12.8	Furfural Alcohol	12.5
n-Hexanol	10.7	Methyl Alcohol, Methanol	14.5
iso-Propyl Alcohol, Anhydrous	11.4	iso-Propyl Alcohol, 91%	10.0
n-Propyl Alcohol	11.9	Tetrahydrofurfural Alcohol	10.8
Ethylene Glycol	17.1	Diethylene Glycol	14.2
Triethylene Glycol	10.7	Propylene Glycol	15.0
Dipropylene Glycol	11.5	1-3 Butylene Glycol	11.6
Hexylene Glycol	11.6	Glycerine Synthetic	17.7
Glycerine, U.S.P.	17.7	Glycerine Synthetic 99.5% USP	17.7
Butyronitrile	10.5	Acetonitrile	11.9
Propylene Carbonate	13.3	Ethylene Carbonate	14.7
Sec. Butanol	10.8	n- Petanol	10.9
n-Butanol	11.4	Isopropanol	11.5
n-Propanol	11.9	Ethylene Glycol	14.2
Glycerol	16.5		

### Solvents Which Dissolve E-6000 Products

The following table lists common solvents which dissolve E-6000 and E-6100 when hardened samples are immersed. The dissolution with these solvents is not instantaneous and therefore does not preclude usage in all cases. Applications where an occasional splash or brief exposure is expected may be acceptable.

Gasoline	Cyclohexane	Perchloroethylene
Ill Trichloroethane	Methylene Chloride	Chloroethane NU
Chevron Solvent 1100	Propyl Acetate	Toluene

### Chemicals Which Have Little or No Effect on E-6000 Products

The E-6000 Series exhibits excellent resistance to water, acids and bases. Thin films of E-6000/E-6100 were immersed in various chemicals for two weeks and exhibited weight gains of less than 2% and tensile strength loss of less than 10%. These chemicals are listed below:

Wine (20% v alcohol)	Beer (3.2%v alcohol)	Acetic Acid (5%w & 10%w)
Sulfuric Acid (3%w & 10%w)	Boric Acid (3.1% w)	Oxalic Acid (3.1& w)
Lactic Acid (3.8% w)	Distilled Water	Sodium Chloride (10% w)
Sodium Carbonate (2.7% w)	Potassium Hydroxide (3.4% w)	Ammonium Hydroxide (3.4%w)
Ammonium Nitrate (50%)	Nitric Acid (10% w & 20% w)	Milk (fresh daily, tested @ 40°F)
Motor Oil (30 w)	Antifreeze	Hydraulic Oil
Phosphoric Acid (30% w & 60% w as P <sub>2</sub> O <sub>5</sub> )		

## Strength

### Adhesive shear strength at various temperatures

Lap shear tests were performed using wood substrate. Each temperature point was taken after a two hour "soak" at the specified temperature.

Temperature (Degrees Fahrenheit)	Adhesive Strength #/inch <sup>2</sup>
90	405
110	410
130	265
150	210
170	145
190	110
210	50

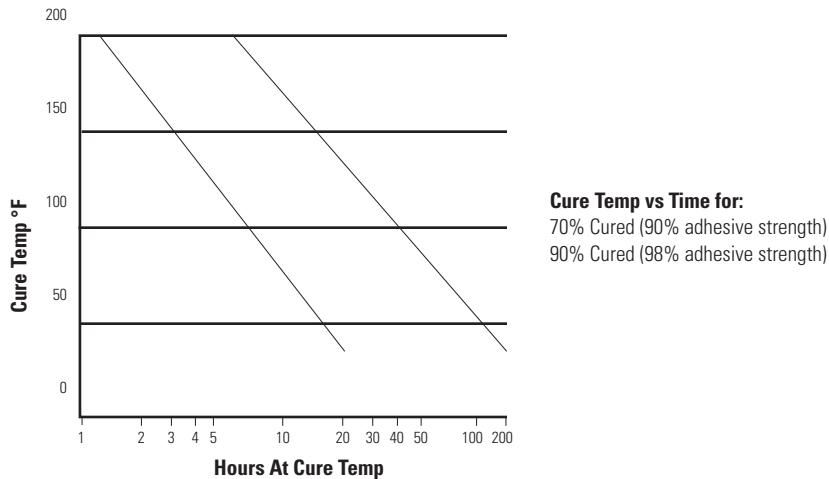
### Dielectric Strength At Breakdown

Pigmentation	Volts Per Mil
Clear	640
White	428
Grey	466
Black	499

### Tensile Strength and Elongation - Tests performed at room temperature

Pigmentation	Tensile Strength	Elongation
Clear	2900 psi	1300%
Grey	2415 psi	1500%
White	2030 psi	1400%
Black	2500 psi	1600%

### Cure Time Versus Temperature



### Specific Gravity Versus Cure Time

Density	Raw	21 Hours	13 Days
E-6000	1.30	1.07	.95
E-6100	1.25	1.10	.97