

Chemical Resistance of Laserlite Polycarbonate Products

In instances where a chemical attack on Polycarbonate Sheet occurs, a number of effects can be observed.

Ethylene chloride, chloroform, tetrachloroethane & other chemicals can cause partial dissolution of Polycarbonate. Chemicals such as benzene, acetone, ethyl acetate & tetrachloride may cause Polycarbonate to swell. In addition chemical attack can include colour change & whitening.

It should be noted that these effects may not always lead to product failure. They will however change &/or reduce the mechanical properties. The most critical effect of chemical attack is stress corrosion cracking or crazing which may or may not be visible to the naked eye. Stress cracks will always result in product failure.

The table below lists the chemical resistance of polycarbonate products to a number of commonly used chemicals at room temperature.

Chemical	Resistance	Chemical	Resistance
Acetic Acid (10% in water)	R	Isopropanol (pure)	R
Acetone	N	Methanol	N
Ammonia (0.1% in water)	N	Methyl Ethyl Ketone	N
Ammonia Nitrate (10% in water)	R	Methylamine	N
Benzene	N	Methylene Chloride	N
Butyl Acetate	N	Nitric Acid (10% in water)	R
Carbon Tetrachloride	N	N-propanol	N
Chloroform	N	Ozone (1% in air)	N
Citric Acid (10% in water)	R	Paraffin, Paraffin Oil, (pure/free from aromatic hydrocarbons)	R
Dibutyl Phthalate	N	Phosphoric Acid (1% in water)	R
Dibutyl Ether	N	Potassium Hydroxide (1% in water)	N
Dimethyl Formaldehyde	N	Propane	R
Doctyl Phthalate	N	Silicone Oil	R
Dioxane	N	Sodium Carbonate (10% in water)	R
Ethanol (pure)	R	Sodium Chloride (saturated/aqueous solution)	R
Ethyl Acetate	N	Sodium Hydroxide (1% in water)	N
Ethylamine	N	Sodium Nitrate (10% in water)	R
Ethylene Chloride	N	Styrene	N
Ethylene Glycol (1:1 with water)	R	Sulphuric Acid (10% in water)	R
Glycerine	N	Tetrachloroethane	N
Hexane	R	Tetrachloroethylene	N
Hydrochloric Acid (10% in water)	R	Trichloroethylene	N
Hydrogen Peroxide (30% in water)	R	Tricresylposphite	N
Iron III Chloride (saturated solution)	R	Triethylene Glycol	R
Isooctane (2, 2, 4 - trimethyl pentane) pure	R	Xylene	N

Key: R = Resistant, N = Non-Resistant

This chemical resistance information is a recommendation only & is not a guarantee unless specifically supplied by Laserlite Building Products. For information on other chemicals not included in this document, please contact your local Laserlite Building Products representative.

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