

GECET[®] Expandable Engineering Resins

CHEMICAL PROPERTIES

GECET foamed products are resistant to virtually all aqueous media including dilute acids and alkalis. In addition, they are resistant to water-miscible alcohols such as methanol, ethanol, and i-propanol, and also to silicone oils.

They have limited resistance to paraffin oil, vegetable oils, diesel fuel, and Vaseline. These substances may attack the surface of foamed materials after long-term contact and may cause deformation through shrinkage.

GECET foamed materials are not resistant to organic solvents such as hydrocarbons, chlorinated hydrocarbons, ketones and esters.

Paints containing thinners and solutions of synthetic adhesives naturally fall into the same category, and this should be taken into account in any painting or bonding operation.

Anhydrous acids such as glacial acetic acid or fuming sulphuric acid destroy the foamed material.

Prolonged exposure to UV light causes yellowing and embrittlement of the foamed material, which should therefore be protected from direct outdoor exposure.

The following table gives a survey of the resistance of GECET to the most common chemical substances.

Chemical Resistance of Fagerdala Brand GECET resins.

Resistant	⊕
Limited resistance	⊖
Non-resistant	-

Test Medium 20°C

Acetic acid 50%	⊕
Acetic acid 100% (glacial)	-
Acetic acid ethyl ester	-
Acetone	-
Acetonyl alcohol	⊕
Allyl alcohol	⊕
Aluminum acetate solution	⊕
Ammonia (aqueous)	⊕
Amyl acetate	-
Amyl alcohol	⊕
Benzene	-
Benzyl alcohol	-
Bleach liquor (12% chlorine)	⊕
Borax solution	⊕
Boric acid solution	⊕
Bromine, liquid	-
Butane	-
Butyl acetate	-
n-Butyl alcohol	⊕
Calcium hypochlorite solution	⊕
Carbon dioxide	⊕
Carbon disulphide	-
Carbon tetrachloride	-
Caustic soda solution	⊕
Chlorine water	⊖
Chloroform	-
Clove oil	-
Cod liver oil	⊖
Common salt	⊕
Cottonseed oil	⊕

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Test Medium	20°C	Test Medium	20°C
Cyclohexane	-	Isopropanol	⊕
Cyclohexanol	⊕	Kerosene	⊕
Cyclohexanone	-	Lactic acid 80%	⊕
Decahydronaphthalene	-	Lanolin	⊖
Dichlorobenzene	-	Lime water	⊕
Diesel oil	⊖	Linseed oil	⊖
Diethyl ether	-	Mercury	⊕
Diethyl ketone	-	Methanol	⊕
Diethylene glycol	⊕	Methyl chloride	-
Dimethylformamide	-	Methyl ethyl ketone	-
1,4-Dioxane	-	Methyl isobutyl ketone	-
Dwarf pine oil	-	Methyl isopropyl ketone	-
Ethanol 95%	⊕	Methyl propyl ketone	-
Ether (diethyl ether)	-	Methylene chloride	-
Ethyl acetate	-	Milk	⊕
Ethyl benzene	-	Mineral oil	⊕
Ethylene chloride	-	Monochlorobenzene	-
Ethylene glycol	⊕	Naphtha	⊕
Fertilizer salts	⊕	Nitric acid conc.	-
Fluorochlorinated hydrocarbons*:		Nitric acid 30%	⊕
Difluorodichloromethane	-	Olive oil	⊖
Difluoromonochloromethane	-	Oleic acid	⊕
Monofluorotrichloromethane	-	Paraffin oil	⊖
Monofluorodichloromethane	-	Peanut oil	⊕
Trifluorotrichloroethane	-	Pentane	-
Tetrafluorodichloroethane	-	Perchloroethylene	
Formaldehyde 30%	⊕	(Tetrachloroethylene)	-
Formic acid 85%	⊕	Petrol	-
Glycerin	⊕	Petroleum	-
Gasoline	-	Petroleum ether	-
Heptane	-	Phosphoric acid 87%	⊕
Heptyl alcohol	⊕	Potassium hydroxide conc.	
Hexchlorocyclohexane	-	(Caustic potash solution)	⊕
Hexane	-	Propane liquid	-
Hydrochloric acid 15%	⊕	i-Propyl alcohol	⊕
Hydrochloric acid conc.	⊕	n-Propyl alcohol	⊕
Hydrofluoric acid 40%	⊕	Propylene chloride	-
Hydrogen peroxide 3%	⊕	Propylene glycol	⊕
Isobutanol	⊕		

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Manufacturers of expandable polystyrene products



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Test Medium	20°C	Test Medium	20°C
Pyridine	-	Sodium sulphite solution	⊕
Rose oil	-	Sugar solution 30%	⊕
Seawater	⊕	Sulphuric acid 50%	⊕
Silicone oil	⊕	Sulphuric acid conc.	⊕
Soda solution	⊕	Table vinegar	⊕
Sodium carbonate	⊕	Tartaric acid solution	⊕
Sodium carbonate solution	⊕	Tetrachloroethane	-
Sodium chloride solution	⊕	Tetrahydrofuran	-
Sodium chromate solution	⊕	Tetrahydronaphthalene	-
Sodium hydrosulfate	⊕	Toluene	-
Sodium hypochlorate solution (12.5% chlorine)	⊕	Trichlorobenzene	-
Sodium phosphate solution (diabasic)	⊕		
Sodium phosphate solution (tribasic)	⊕		

*Tested at atmospheric pressure in liquid or saturated vapor form according to boiling point.

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