FEP protective screen / coating

Protection for sight glass plates

FEP



USAGE

FEP protective screens are used when sight glass plates are subjected to strong chemical exposure. Especially at high pH values, such as with alkalis with a pH of 14, sight glass plates made of Soda-lime glass or Borosilicate glass are no longer suitable for safe and permanent operation. In such cases, the use of FEP protective screens is recommended for safety and cost reasons.

Operating Conditions	
Temperature	up to 120°C
Pressure	dependent on the area of application

When assembling FEP protective panes, small air inclusions or air bubbles may occur between the sight glass plate and the FEP protective pane depending on the thickness. These usually disappear due to the applied working pressure under process conditions.

APPLICATION PROPERTIES

FEP is similar to PTFE in its material properties. The most significant difference lies in the transparency: FEP is – depending on the thickness – transparent to milky-blue. Due to its good light transmission, the underlying process medium can be clearly recognized. By using a FEP protective screen, the pressure-bearing sight glass plate is reliably protected from the aggressive process medium.

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MEASUREMENTS

We deliver FEP protection discs tailored to our sight glass fittings. Special forms and different dimensions are available upon request. If a FEP protection disc is required for your application, we will generally point this out in our offer.

Round Standard FEP Protection Discs	
Diameter D	Standard Material Thickness S
Ø 45 mm	1.5 mm
Ø 63 mm	1.5 mm
Ø 80 mm	1.5 mm
Ø 100 mm	1.5 mm
Ø 125 mm	1.5 mm
Ø 150 mm	1.5 mm
Ø 175 mm	1.5 mm
Ø 200 mm	1.5 mm
Ø 250 mm	1.5 mm

TECHNICAL INFORMATION

Technical Information	
Modulus of Elasticity	30 N/mm²
Thermal Conductivity at 23 °C	0.25 W/(m·Kg)

CHEMICAL RESISTANCE

Process medium	Consistency		
	20°C	60°C	100°C
Acetaldehyde	R	R	R
Acetic acid (10%)	R	R	R
Acetic acid (glac./anh.)	R	R	R
Acetic anhydride	R	R	R
Aceto-acetic ester	R	R	R
Acetone	R	R	R
Other ketones	R	R	R
Acetonitrile	R	R	R
Acetylene	R	R	R
Acetyl salicylic acid	R	R	R
Acid fumes	R	R	R
Alcohols	R	R	R
Aliphatic esters	R	R	R
Alkyl chlorides	ND	ND	ND
Alum	R	R	R
Aluminium chloride	R	R	R
Aluminium sulphate	R	R	R
Ammonia, anhydrous	R	R	R
Ammonia, aqueous	R	R	R
Ammonium chloride	R	R	R
Amyl acetate	R	R	R
Aniline	R	R	R
Antimony trichloride	ND	ND	ND
Aqua regia	R	R	R
Aromatic solvents	R	R	R
Ascorbic acid	R	R	R
Beer	R	R	R
Benzaldehyde	R	R	R
Benzene	R	R	R
Benzoic acid	R	R	R
Benzoyl peroxide	R	R	R
Boric acid	R	R	R
Brines, saturated	R	R	R
Bromide (K) solution	R	R	R
Bromine	R	R	R
Bromine liquid, tech.	R	R	R
Bromine water, saturated aqueous	R	R	R
Butyl acetate	R	R	R

R = Resistant / NR = Not resistant / ND = No test performed yet

CHEMICAL RESISTANCE

Process medium	Consistency		
	20°C	60°C	100°C
Calcium chloride	R	R	R
Carbon disulphide	R	R	R
Carbonic acid	R	R	R
Carbon tetrachloride	R	R	R
Caustic soda & potash	R	R	R
Cellulose paint	R	R	R
Chlorates of Na, K, Ba	R	R	R
Chlorine, dry	R	R	R
Chlorine, wet	R	R	R
Chlorides of Na, K, Ba	R	R	R
Chloroacetic acid	R	R	R
Chlorobenzene	R	R	R
Chloroform	R	R	R
Chlorosulphonic acid	R	R	R
Chromic acid (80%)	R	R	R
Citric acid	R	R	R
Copper salts (most)	R	R	R
Cresylic acids (50%)	R	R	R
Cyclohexane	R	R	R
Detergents, synthetic	R	R	R
Emulsifiers, concentrated	R	R	R
Ether	R	R	R
Fatty acids (>C6)	R	R	R
Ferric chloride	R	R	R
Ferrous sulphate	R	R	R
Fluorinated refrigerants	R	R	R
Fluorine, dry	R	R	NR
Fluorine, wet	ND	ND	ND
Fluorosilic acid	ND	ND	ND
Formaldehyde (40%)	R	R	R
Formic acid	R	R	R
Fruit juices	R	R	R
Gelatine	R	R	R
Glycerine	R	R	R
Glycols	R	R	R
Glycol, ethylene	R	R	R
Glycolic acid	R	R	R

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CHEMICAL RESISTANCE

Process medium	Consistency		
	20°C	60°C	100°C
Hexamethylene diamine	R	R	R
Hexamine	R	R	R
Hydrazine	R	R	R
Hydrobromic acid (50%)	R	R	R
Hydrochloric acid (10%)	R	R	R
Hydrochloric acid (conc.)	R	R	R
Hydrocyanic acid	R	R	R
Hydrofluoric acid (40%)	R	R	R
Hydrofluoric acid (75%)	R	R	R
Hydrogen peroxide (30%)	R	R	R
Hydrogen peroxide (30 - 90%)	R	R	R
Hydrogen sulphide	R	R	R
Hypochlorites	R	R	R
Hypochlorites (Na 12-14%)	R	R	R
Iso-butyl-acetate	R	R	R
Lactic acid (90%)	R	R	R
Lead acetate	R	R	R
Lead perchlorate	ND	ND	ND
Lime (CaO)	R	R	R
Maleic acid	R	R	R
Manganate, potassium (K)	R	R	R
Meat juices	R	R	R
Mercuric chloride	R	R	R
Mercury	R	R	R
Methanol	R	R	R
Methylene chloride	R	R	R
Milk products	R	R	R
Moist air	R	R	R
Molasses	R	R	R
Monoethanolamine	R	R	NR
Naptha	R	R	R
Napthalene	R	R	R
Nickel salts	R	R	R
Nitrates of Na, K and NH3	R	R	R
Nitric acid (<25%)	R	R	R
Nitric acid (50%)	R	R	R
Nitric acid (90%)	R	R	R
Nitrite (Na)	R	R	R
Nitrobenzene	R	R	R

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CHEMICAL RESISTANCE

Process medium	Consistency		
	20°C	60°C	100°C
Oils, diesel	R	R	R
Oils, essential	R	R	R
Oils, lubricating + aromatic additives	R	R	R
Oils, mineral	R	R	R
Oils, vegetable and animal	R	R	R
Oxalic acid	R	R	R
Ozone	R	R	R
Paraffin wax	R	R	R
Perchloric acid	R	R	R
Petroleum spirits	R	R	ND
Phenol	R	R	R
Phosphoric acid (20%)	R	R	R
Phosphoric acid (50%)	R	R	R
Phosphoric acid (95%)	R	R	R
Phosphorous chlorides	R	R	R
Phosphorous pentoxide	ND	ND	ND
Phthalic acid	R	R	R
Picric acid	R	R	R
Pyridine	R	R	R
Salicyl aldehyde	R	R	R
Sea water	R	R	R
Silicic acid	R	R	R
Silicone fluids	R	R	R
Silver nitrate	R	R	R
Sodium carbonate	R	R	R
Sodium peroxide	R	R	R
Sodium silicate	R	R	R
Sodium sulphide	R	R	R
Stannic chloride	R	R	R
Starch	R	R	R
Sugar, syrups & jams	R	R	R
Sulphamic acid	ND	ND	ND
Sulphates (Na, K, Mg, Ca)	R	R	R
Sulphites	R	R	R
Sulphonic acids	R	R	R
Sulphur	R	R	R

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CHEMICAL RESISTANCE

Process medium	Consistency		
	20°C	60°C	100°C
Sulphur	R	R	R
Sulphur dioxide, dry	R	R	R
Sulphur dioxide, wet	R	R	R
Sulphur dioxide (96%)	R	R	R
Sulphur trioxide	R	R	R
Sulphuric acid (<50%)	R	R	R
Sulphuric acid (70%)	R	R	R
Sulphuric acid (95%)	R	R	R
Sulphuric acid, fuming	R	R	R
Sulphur chlorides	R	R	R
Tallow	R	R	R
Tannic acid (10%)	R	R	R
Tartaric acid	R	R	R
Trichlorethylene	R	R	R
Urea (30%)	R	R	R
Vinegar	R	R	R
Water, distilled.	R	R	R
Water, soft	R	R	R
Water, hard	R	R	R
Wetting agents (<5%)	R	R	R
Yeast	R	R	R
Zinc chloride	R	R	R

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