



FEP – Fluoropolymer

Technical Data

100% virgin grade high performance resins are used to manufacture clear tubes used for an “inside out” style of UV disinfection equipment.

Water travel through these tubes and is exposed to ultraviolet “UV” light. The light comes from UV lamps that are oriented around the tubes. The powerful UVC germicidal rays penetrate the specialty FEP material and perform disinfection. Lamps are not in the water.

Advances in FEP materials have allowed us to bring novel disinfection systems to market.

Features – key issues

- Tubes are manufactured in USA
- Virgin FEP resin
- Low fouling
- High UVC light transmission
- Long life
- Chemically inert
- Working temperature from -200°C to +205°C



Data – FEP

- General:** Meets or exceeds requirements in ASTM D 3296 and ASTM D 2116
- Temperature:** -100°F to 400°F
- Flammability:** FEP resists combustion and does not promote flame spread
- FDA:** FEP is approved for use in food contact applications in compliance FDA regulation: 21 CFR 177.1550
- USP CLASS VI:** FEP meets the requirements of USP Class VI
- NSF:** FEP tubing is certified to NSF 51, NSF 61 and NSF 372



This FEP has been tested and certified by WQA against NSF/ANSI 51, NSF/ANSI 61 to Commercial Hot (180° F/82° C), and NSF/ANSI 372 for lead free compliance.

FEP Properties			
Property	Specification	Unit	Value
Continuous working temperature	Maximum	Degree C	205
Chemical resistance			Excellent
Specific gravity	D 792	g/cm3	2.15
Dielectric constant	D 150 at 103 Hz	-	2
Dielectric disipation factor	60	61	0.0001
Dielectric strength		kV/mm	50
Volume resistivity	200 psi	201 psi	>10 18th
Tensie strength		Selectable	30
Elongation		=	300
Compressive strength			15
Impact strength	2"	2"	No break
Felxural Modulus	2.13"	2.13"	660
Tensile Modulus	14"	14"	350
Hardness			55-60
Melting (gel) point	Provided	Provided	270
Thermal conductivity	SPST	SPST	0.25
HDT	DIN 75	Degree C	
method A			59
method B			57

Data – FEP

x = resistant ND = no data NR = not recommended

Chemical	Resistance				Resistance				Resistance		
	20°C 68°F	60°C 140°F	100°C 212°F		20°C 68°F	60°C 140°F	100°C 212°F		20°C 68°F	60°C 140°F	100°C 212°F
Acetaldehyde	X	X	X	Emulsifiers, concentrated	X	X	X	Oils, diesel	X	X	X
Acetic acid (10%)	X	X	X	Ether	X	X	X	Oils, essential	X	X	X
Acetic acid (glac./anh.)	X	X	X	Fatty acids (>C6)	X	X	X	Oils, lubricating	X	X	X
Acetic anhydride	X	X	X	Ferric chloride	X	X	X	Oils, mineral	X	X	X
Aceto-acetic ester	X	X	X	Ferrous sulphate	X	X	X	Oils, vegetable and animal	X	X	X
Acetone	X	X	X	Fluorinated refrigerants	X	X	X	Oxalic acid	X	X	X
Other ketones	X	X	X	Fluorine, dry	X	X	NX	Ozone	X	X	X
Acetonitrile	X	X	X	Flourine, wet	ND	ND	ND	Paraffin wax	X	X	X
Acetylene	X	X	X	Fluorosilic acid	ND	ND	ND	Perchloric acid	X	X	X
Acetyl salicylic acid	X	X	X	Formaldehyde (40%)	X	X	X	Petroleum spirits	X	X	ND
Acid fumes	X	X	X	Formic acid	X	X	X	Phenol	X	X	X
Alcohols	X	X	X	Fruit juices	X	X	X	Phosphoric acid (20%)	X	X	X
Aliphatic esters	X	X	X	Gelatine	X	X	X	Phosphoric acid (50%)	X	X	X
Alkyl chlorides	ND	ND	ND	Glycerine	X	X	X	Phosphoric acid (95%)	X	X	X
Alum	X	X	X	Glycols	X	X	X	Phosphorous chlorides	X	X	X
Aluminium chloride	X	X	X	Glycol, ethylene	X	X	X	Phosphorous pentoxide	ND	ND	ND
Aluminium sulphate	X	X	X	Glycolic acid	X	X	X	Phthalic acid	X	X	X
Ammonia, anhydrous	X	X	X	Hexamethylene diamine	X	X	X	Picric acid	X	X	X
Ammonia, aqueous	X	X	X	Hexamine	X	X	X	Pyridine	X	X	X
Ammonium chloride	X	X	X	Hydrazine	X	X	X	Salicyl aldehyde	X	X	X
Amyl acetate	X	X	X	Hydrobromic acid (50%)	X	X	X	Sea water	X	X	X
Aniline	X	X	X	Hydrochloric acid (10%)	X	X	X	Silicic acid	X	X	X
Antimony trichloride	ND	ND	ND	Hydrochloric acid (conc.)	X	X	X	Silicone fluids	X	X	X
Aqua regia	X	X	X	Hydrocyanic acid	X	X	X	Silver nitrate	X	X	X
Aromatic solvents	X	X	X	Hydrofluoric acid (40%)	X	X	X	Sodium carbonate	X	X	X
Ascorbic acid	X	X	X	Hydrofluoric acid (75%)	X	X	X	Sodium peroxide	X	X	X
Beer	X	X	X	Hydrogen peroxide (30%)	X	X	X	Sodium silicate	X	X	X
Benzaldehyde	X	X	X	Hydrogen peroxide (30 - 90%)	X	X	X	Sodium sulphide	X	X	X
Benzene	X	X	X	Hydrogen sulphide	X	X	X	Stannic chloride	X	X	X
Benzoic acid	X	X	X	Hypochlorites	X	X	X	Starch	X	X	X
Benzoyl peroxide	X	X	X	Hypochlorites (Na 12-14%)	X	X	X	Sugar, syrups & jams	X	X	X
Boric acid	X	X	X	Iso-butyl-acetate	X	X	X	Sulphamic acid	ND	ND	ND
Brines, saturated	X	X	X	Lactic acid (90%)	X	X	X	Sulphates (Na, K, Mg, Ca)	X	X	X
Bromide (K) solution	X	X	X	Lead acetate	X	X	X	Sulphites	X	X	X
Bromine	X	X	X	Lead perchlorate	ND	ND	ND	Sulphonic acids	X	X	X
Bromine liquid, tech.	X	X	X	Lime (CaO)	X	X	X	Sulphur	X	X	X
Bromine water, sat. aqueous	X	X	X	Maleic acid	X	X	X	Sulphur dioxide, dry	X	X	X
Butyl acetate	X	X	X	Manganate, potassium (K)	X	X	X	Sulphur dioxide, wet	X	X	X
Calcium chloride	X	X	X	Meat juices	X	X	X	Sulphur dioxide (96%)	X	X	X
Carbon disulphide	X	X	X	Mercuric chloride	X	X	X	Sulphur trioxide	X	X	X
Carbonic acid	X	X	X	Mercury	X	X	X	Sulphuric acid (<50%)	X	X	X
Carbon tetrachloride	X	X	X	Methanol	X	X	X	Sulphuric acid (70%)	X	X	X
Caustic soda & potash	X	X	X	Methylene chloride	X	X	X	Sulphuric acid (95%)	X	X	X
Cellulose paint	X	X	X	Milk products	X	X	X	Sulphuric acid, fuming	X	X	X
Chlorates of Na, K, Ba	X	X	X	Moist air	X	X	X	Sulphur chlorides	X	X	X
Chlorine, dry	X	X	X	Molasses	X	X	X	Tallow	X	X	X
Chlorine, wet	X	X	X	Monoethanolamine	X	X	NX	Tannic acid (10%)	X	X	X
Chlorides of Na, K, Ba	X	X	X	Naptha	X	X	X	Tartaric acid	X	X	X
Chloroacetic acid	X	X	X	Napthalene	X	X	X	Trichlorethylene	X	X	X
Chlorobenzene	X	X	X	Nickel salts	X	X	X	Urea (30%)	X	X	X
Chloroform	X	X	X	Nitrates of Na, K and NH3	X	X	X	Vinegar	X	X	X
Chlorosulphonic acid	X	X	X	Nitric acid (<25%)	X	X	X	Water, distilled.	X	X	X
Chromic acid (80%)	X	X	X	Nitric acid (50%)	X	X	X	Water, soft	X	X	X
Citric acid	X	X	X	Nitric acid (90%)	X	X	X	Water, hard	X	X	X
Copper salts (most)	X	X	X	Nitric acid (fuming)	X	X	X	Wetting agents (<5%)	X	X	X
Cresylic acids (50%)	X	X	X	Nitrite (Na)	X	X	X	Yeast	X	X	X
Cyclohexane	X	X	X	Nitrobenzene	X	X	X	Zinc chloride	X	X	X
Detergents, synthetic	X	X	X								