

GENERAL REFERENCE

Chemical resistance of PEEK at high temperature

Chemical	°C	°F	Rating
Acetic acid	200	420	□
Ammonia gas	200	420	■
Carbon monoxide gas	200	420	■
Ethylene glycol	200	420	□
Ethylene glycol (50%)	140	284	■
Hydrogen sulphide gas	200	420	■
Liquid ammonia	200	420	□
Methane	200	420	■
Methylethylketone	200	420	■
Nitrobenzene	200	420	■
Phosphoric acid (50%)	200	420	■
Sodium hydroxide solution	200	420	■
Sulphuric acid (50%)	200	420	□
Sulphur dioxide gas	200	420	■

Chemical characteristics of PEEK®

PEEK exhibits excellent resistance to a wide range of organic and inorganic chemicals. The compatibility of PEEK with many chemicals at 20°C (68°F) has been investigated and the results for unreinforced grades are given in the table below.

PEEK is compatible with almost any of the solvents used in HPLC. The only solvents which will attack PEEK are concentrated nitric acid and sulphuric acids. However, PEEK tubing can safely withstand 20-30% nitric acid when passivating a system.

Methylene chloride, DMSO, and THF may cause swelling in PEEK. The highest temperature we recommend for PEEK is 100°C. The tubing will maintain the stated pressure rating up to this temperature.

Chemical resistance of PEEK and other polymers

A

Resistance at 20°C	PEEK	PA	PE	PP	PPS	FEP	ETFE	PFA	PTFE	NBR	EPDM
Acetaldehyde	■	■	-	-	-	■	-	■	-	■	■
Acetic acid (20 %)	■	■	■	■	■	■	■	■	■	□	■
Acetic acid (80 %)	■	■	■	■	■	■	-	■	■	-	-
Acetic acid (glacial)	■	■	■	■	■	■	■	■	■	■	■
Acetone	■	■	□	■	■	■	■	■	■	■	■
Acetonitrile	■	■	-	-	■	■	■	■	■	□	■
Acrylic acid	■	-	-	-	■	■	-	■	-	-	-
Ammonia, anhydrous	■	□	-	-	■	■	-	■	-	-	-
Ammonia (10 %)	■	□	□	■	■	■	■	■	■	-	-
Ammonia (Liquid)	□	■	-	-	■	■	-	■	-	-	-
Ammonium hydroxide	■	-	■	■	■	■	■	■	■	-	-
Aqua regia	■	■	-	-	■	■	-	■	-	■	■
Aromatic hydrocarbons	■	-	□	■	■	■	-	■	-	-	-

B

Resistance at 20°C	PEEK	PA	PE	PP	PPS	FEP	ETFE	PFA	PTFE	NBR	EPDM
Benzene	■	■	□	■	■	■	■	■	■	-	-
Benzoic acid	■	-	-	-	■	■	-	■	-	-	-
Benzaldehyde	■	-	-	-	■	■	-	■	-	-	-
Bromine/dibromoethane	■	-	-	-	■	■	-	■	-	-	-
Bromine (dry)	■	-	-	-	■	■	-	■	-	-	-
Bromine (wet)	■	□	-	-	■	■	-	■	-	■	■
Boric acid	■	-	-	-	■	■	-	■	-	-	-
Butanol	■	-	■	■	■	■	■	■	■	-	-

LEGEND

- Suitable
- Marginal; dependent on application
- Not recommended
- No data available