

# PROFESSIONAL PLASTICS, INC.

## Chemical Resistance Chart 3

Chemical Resistance of Plastics @ 20° C

Technical Info





Chemical Resistance of Plastics @ 20° C

	Acids dilute or weak	Acids strong and conc.	Alcohols, aliphatic	Aldehydes	Bases	Esters	Hydrocarbons, aliphatic	Hydrocarbons, aromatic	Hydrocarbons halogenated	Ketones	Oxidizing agents, strong
ACL	✗	✗	▲	■	▲	▲	●	●	▲	▲	✗
ECTFE/ ETFE	●	▲	●	●	●	●	●	●	●	▲	■
FEP/TFE/ PFA	●	●	●	●	●	●	●	●	●	●	●
FLPE	●	●	●	▲	■	●	●	●	▲	●	■
XLPE	●	●	●	▲	●	▲	▲	▲	■	▲	■
HDPE/XLPE	●	●	●	▲	●	▲	▲	▲	■	▲	■
LDPE	●	●	●	▲	●	▲	■	■	✗	▲	■
PC	●	✗	▲	■	✗	✗	■	✗	✗	✗	✗
PCT	●	■	●	■	▲	■	●	✗	✗	■	✗
PET	●	✗	●	✗	✗	✗	●	✗	✗	✗	✗
PMMA	▲	✗	✗	▲	■	✗	▲	✗	✗	✗	✗
PMP	●	●	●	▲	●	▲	■	■	✗	■	■
PP/PPCO	●	●	●	▲	●	▲	▲	■	■	▲	■
PS	●	■	●	✗	●	✗	✗	✗	✗	✗	✗
PSF	●	▲	▲	■	●	✗	▲	✗	✗	✗	▲
PUR	▲	■	■	▲	✗	✗	●	✗	✗	✗	✗
PVC Bottles Flexible PVC Tubing	●	●	●	✗	●	✗	●	✗	✗	✗	▲
PVDF	●	●	●	●	●	▲	●	●	✗	✗	▲
TPE	●	■	●	✗	●	✗	✗	✗	✗	✗	✗

Resin Codes

ACL-	acetal (polyoxymethylene)
ECTFE-	Halar ECTFE (ethylene-chlorotrifluoroethylene copolymer)
ETFE-	Tefzel ETFE (ethylene-tetrafluoroethylene)
FEP-	Teflon FEP (fluorinated ethylene propylene)
FLPE-	fluorinated high-density polyethylene
HDPE-	high-density polyethylene
LDPE-	low-density polyethylene
PC-	polycarbonate
PCT-	poly (1,4 cyclohexylene dimethylene terephthalate)
PET-	polyethylene terephthalate
PFA-	Teflon PFA (perfluoroalkoxy)
PMMA-	polymethyl methacrylate (acrylic)
PMP-	polymethylpentene ("TPX")
PP-	polypropylene
PPCO-	polypropylene copolymer
PS-	polystyrene
PSF-	polysulfone
PUR-	polyurethane
PVC-	polyvinyl chloride
PVDF-	polyvinylidene fluoride
TFE-	Teflon TFE (tetrafluoroethylene)
TPE-	thermoplastic elastome
XLPE-	cross-linked high-density polyethylene

Chemical Resistance Classifications

-  30 days of constant exposure cause no damage.. Plastic may even tolerate for years.
-  Little or no damage after 30 days of constant exposure to the reagent.  
  
Some effect after 7 days of constant exposure to the reagent. Depending on the plastic, the effect may be crazing, cracking, loss of strength or discoloration. Solvents may cause softening, swelling and permeation losses with LDPE, HDPE, PP, PPCO and PMP. The solvent effects on these five resins are normally reversible; the part will usually return to its normal condition after evaporation.
-  Not recommended for continuous use.
-  Immediate damage may occur. Depending on the plastic, the effect will be a more severe crazing, cracking, loss of strength, discoloration, deformation, dissolution, or permeation loss.

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