

TECHNICAL SPECIFICATIONS

Heat and Chemical Resistance of General Plastic Materials

ASTM-D5701 (specimen: 1/8 inch-thick plate, time: 24 hours)

The results below are based on a test run under the non-stress conditions. Note that actual molded plastic parts are subject to residual stress.

Plastic Material	Heat Resistance(°C)	Weak Acid	Strong Acid	Weak Alkalis	Strong Alkalis	Oil	Acetone	Benzene	Alcohol	Aldehyde
High-density polyethylene	90-110	◎	△	◎	◎	○ (60°C GasolineX)	×	×	◎	○
Polypropylene	100-120	◎	△	◎	◎	○	◎	◎	◎	○
ABS	70-100	◎	△	◎	◎	△ (GasolineX)	×	×	△	△
Hard vinyl chloride resin (Polyvinylchloride)	60- 80	◎	○	○*	◎	○ (60°C GasolineX)	×	×	◎	○
Polyamide (Nylon)	80-140	○	×	○*	○	○	◎	◎	△	◎
Polycarbonate	120-130	◎	△	○	×	△ (GasolineX)	×	×	△	×
Acetal **) (Polyacetal)	120	△	×	△	×	○	◎	◎	◎	◎
Phenolic	130-150	△	×	△	×	○	○	○	○	△

◎:Good resistance ○:Fairly good resistance △:Slightly poor resistance

×:Poor resistance(should not be used)

*) Affected by calcium hydroxide(cement, etc.).

**) Tested on polyacetal (homopolymer).

Note : This table is not an indication for the guarantee of product quality.

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Chemical Resistance of Special Clear Polyamide

A specimen was dipped in each solvent at 23°C for six months.

Alcohol		Amic Acids		Ketone, Ester and Ether	
Ethyl alcohol	×	Hydroxamine 30%	○	Acetone	△
Allyl alcohol	×	Ethyl amine 33%	△	Ethyl ether	○
n-Buthyl alcohol	×	Aniline	×	Diisobutyl ketone	○
t-Buthyl alcohol	×	Saturated Hydrocarbons		Acetic ether	○
Ethylene glycol	×	n-Hexane	○	t-Butyl methyl ether	○
Amyl alcohol	×	n-Heptane	○	Alkalis	
Butylen glycol	×	Isooctane	○	Caustic soda 50%	○
1,3 Butanediol	×	Gasoline	○	Other Organic Chemicals	
Aromatics		Gasoline (Methanol 5%)	×	Carbon bisulfide	○
Benzene	○	Coal oil	○	Acrylic nitrile	×
Toluene	○	Cyclohexane	○	Inorganic Salts	
Ethyl benzene	○	Paraffin oil	○	Aluminum sulfate (Sat.)	○
Xylene	○	Aldehydes		Ammonium carbonate (Sat.)	○
Organic Acids		Formalin	○	Ammonium nitrate (Sat.)	○
Benzonic acid (Sat.)	△	Benzaldehyde	×	Ammonium phosphate (Sat.)	○
Formic acid (Conc.)	×	Chemicals incl. Chlorine or Fluorine		Ammonium sulfide 40%	△
Tartaric acid (Sat.)	△	Carbon tetrachloride	○	Chloride of potash (Sat.)	○
Inorganic Acids		1,2-Dichloroethylene	×	Potassium bichromate (Sat.)	○
Nitric acid 10%	△	1,2-Dichloroethane	△		
Nitric acid 30%	×	1,2-Dichlorobenzene	○		
Sulfuric acid 10%	○	Chloroform	×		
Sulfuric acid 40%	○	Trichloroethylene	○		

○:Good resistance △:Fair resistance (limited use according to working conditions) ×:Poor resistance

sat.:Saturated conc.:Concentrated