Chemical Resistances

Resin-Codes, Temerature & Chemical Resistance of Plastics

DIN-Abbreviation	Chemical Designation	Tolerated Temperature Range in use	Microwave use *	Auto-clavable *
ABS	Acryl-Butadienestyrene-Copolymer	- 40°C + 85 (100)°C	Y	N
E-CTFE	Ethylene-Chlortrifluoroethylene	- 76°C + 150 (170)°C	Y	Y
ETFE	Ethylene-Tetrafluoroethylene	-100°C +150 (180)°C	Y	Y
FEP	Tetrafluoroethylene-Perfluoropropylene	- 200°C + 205°C	Y	Y
HDPE	High-density Polyethylene	- 50°C + 80 (120)°C	Y	N
LDPE	Low-density Polyethylene	- 50°C + 75 (90)°C	Y	N
MF	Melamine	+ 80 (120)°C	Y	N
PA	Polyamide (PA6)	- 30°C + 80 (140)°C	Y	N
PC	Polycarbonate	-100°C + 135 (140)°C	Y	Y
PE	Polyethylene (cf. HDPE/LDPE)			

DIN-Abbreviation	Chemical Designation	Tolerated Temperature Range in use	Mircowave use *	Auto-clavable *
PFA	Perfluoroalkoxy	-200°C + 260°C	Y	Y
PMMA	Polymethylmethacrylate	- 40°C + 85 (90)°C	Y	N
PMP (TPX®)	Polymethylpentene	0°C + 120 (180)°C	Y	Y
POM	Polyoxymethylene	- 40°C + 90 (110)°C	N	N
PP	Polypropylene	- 10°C + 120 (140)°C	Y	Y
PS	Polystyrene	- 10°C + 70 (80)°C	Y	N
PTFE	Polytetrafluoroethylene	- 200°C + 260°C	Y	Y
PVC	Polyvinylchloride	- 20°C + 80°C	Y	N
PVDF	Polyvinylidenfluoride	- 40°C + 105 (150)°C	Y	Y
SAN	Styrene-Acrylonitrile	- 20°C + 85 (95)°C	Y	N
SI / NR	Silicone-/Nature-Rubber	- 50°C + 180 (250)°C	Y	Y

* please take care of temperature resistance!

Listing of Plastics and their Chemical Resistance to Substance Groups

Substance Group at 20°C	LDPE	HDPE	PP	PMP TPX®	PS	SAN	PTFE PFA FEP	ECTFE ETFE	PC	PA
Alcohols, aliphatic	A	A	A	A	A	A	A	A	B	C
Aldehydes	B	B	B	B	D	D	A	A	C	C
Bases	A	A	A	A	A	A	A	A	D	C
Esters	B	B	B	B	D	D	A	A	D	A
Hydrocarbons, aliphatic	C	B	B	C	D	D	A	A	C	A
Hydrocarbons, aromatic	C	B	C	C	D	D	A	A	D	A
Hydrocarbons, halogenated	D	C	C	D	D	D	A	A	D	B
Ketones	B	B	B	C	D	D	A	B	D	A
Oxidants (oxidizing acids), strong	C	C	C	C	C	D	A	A	D	D
Acids, dilute, weak	A	A	A	A	B	B	A	A	A	C
Acids, conc., strong	A	A	A	A	B	C	A	B	D	D

A – high resistance

B – good resistance; no, or only minor damage resulting from exposures of more than 30 days.

C – marginal resistance; for some types of plastic, extended exposure can result in damage (hairline cracks, loss of mechanicanical strength, discoloration, etc..)

D – non-resistant; exposure can lead to deformation or destruction.