

# Plastics Reference



	Suitable for Microwaves	Suitable for Autoclaving	Transparency	Max. Operating Temp. (°C)	Brittleness Temp (°C)	Density (g/cm <sup>3</sup> )
<b>ECTFE</b>	Yes	Yes	Translucent	150	-100	1.70
<b>HDPE</b>	Yes	No	Translucent	105	-50	0.95
<b>LDPE</b>	Yes	No	Translucent	80	-50	0.92
<b>PC</b>	Yes	Yes*	Transparent	125	-130	1.20
<b>PFA</b>	Yes	Yes	Translucent	250	-270	2.15
<b>PMP</b>	Yes	Yes	Transparent	150	0	0.83
<b>POM</b>	No	Yes*	Opaque	130	-40	1.42
<b>PP</b>	Yes	Yes	Translucent	125	0	0.90
<b>SAN</b>	No	No	Transparent	70	-40	1.03

\*Frequent autoclaving may reduce mechanical stability. "Autoclaving" refers to steam sterilization at 250°F/121°C at 15 PSIG for 20 minutes.

<b>+</b> Excellent chemical resistance	<b>0</b> Good to limited resistance	<b>-</b> Poor chemical resistance
Continuous exposure to the substance does not cause damage within 30 days. The plastic may remain resistant for years.	Continuous exposure to the substance causes minor damages, some of which is reversible, within 7-30 days (e.g., swelling, softening, decrease of mechanical strength, discoloration).	Not suitable for continuous medium exposure to the substance. Immediate damage may occur (loss of mechanical strength, deformation, discoloration, cracking, dissolution).

## Chemical resistance of plastics to classes of substances at 20°C

	SAN	PC	POM	PMP	LDPE	HDPE	PP	ECTFE	PFA
<b>Alcohols, aliphatic</b>	+	+	+	+	+	+	+	+	+
<b>Ether</b>	-	-	+	-	0	0	0	+	+
<b>Aldehydes</b>	-	0	0	0	+	+	+	+	+
<b>Ester</b>	-	-	-	0	0	0	0	+	+
<b>Hydrocarbons, aliphatic</b>	-	0	+	0	0	+	+	+	+
<b>Hydrocarbons, aromatic</b>	-	-	+	-	0	+	0	+	+
<b>Hydrocarbons, halogenated</b>	-	-	+	-	0	0	0	+	+
<b>Ketones</b>	-	-	+	0	0	0	0	0	+
<b>Alkalis</b>	+	-	+	+	+	+	+	+	+
<b>Acids, strong or concentrated</b>	-	-	-	+	+	+	+	+	+
<b>Acids, weak or diluted</b>	0	0	-	+	+	+	+	+	+
<b>Oxidizing acids, oxidizing agents</b>	-	-	-	-	-	-	-	+	+

## Abbreviations of the described plastics to DIN 7728

<b>SAN</b>	Styrene Acrylonitrile Copolymer	<b>PMP</b>	Polymethylpentene
<b>PMMA</b>	Polymethylmethacrylate	<b>ECTFE</b>	Ethylene-chlorotrifluoroethylene copolymer
<b>PC</b>	Polycarbonate	<b>FEP</b>	Perfluoroethylene-propylene copolymer
<b>POM</b>	Polyoxymethylene	<b>PFA</b>	Perfluoroalkoxy copolymer
<b>LDPE</b>	Low density Polyethylene		
<b>HDPE</b>	High density Polyethylene		
<b>PP</b>	Polypropylene		

The recommendations listed here are based on technical literature and information provided by the manufacturers of raw materials. They were prepared carefully and are intended to inform and advise. However, they cannot replace suitability testing performed by the user under actual working conditions.