Technical annex

Chemical resistance

Chemical resistance comparison table

Resistance against	Chemical formula	PA6, Polyamide 6 PA6.6, Polyamide 6.6	PA12, Polyamide 12 PA11, Polyamide 11	PP, Polypropylene PE, Polyethylene	TPU	PFA PVDF
Acetic acid (10%)	C2H4O2	1	2	3	0	3
Acetone	C3H6O	3	3	3	0	3
Ammonia (30%)	NH3	3	3	3	0	3
Benzine	_	3	3	2	1	3
Brake fluid	-	3	3	3	0	3
Caustic soda	NaOH	3	3	3	1	3
Ethyl alcohol (40%)	C2H6O	3	3	3	1	3
Glycol	C2H6O2	3	3	3	0	3
Hydrochloric acid (10%)	HCL	0	1	3	0	3
Methanol	CH4O	2	3	3	1	3
Methyl ethyl ketone	C4H8O	3	3	3	0	3
Nitric acid (10%)	HNO3	0	0	2	0	3
Ozone	03	2	2	2	1	3
Paint thinner	-	3	3	1	0	3
Perchlorethylene	C2Cl4	2	2	2	0	3
Paraffin	-	3	3	1	0	3
Phosphoric acid (10%)	H3O4P	1	2	3	0	3
Sea water	-	3	3	3	2	3
Soap solution	-	3	3	3	2	3
Sodium chloride	NaCI	3	3	3	3	3
Sulphuric acid (10%)	H2SO4	1	2	3	0	3
Toluene	C7H8	3	3	1	0	3
Trichlorethylene	C2HCl3	1	2	0	0	3
Turpentine	-	3	3	0	0	3
Urine	-	3	3	3	3	3

Resistance against oils and greases	Chemical formula	PA6, Polyamide 6 PA6.6, Polyamide 6.6	PA12, Polyamide 12 PA11, Polyamide 11	PP, Polypropylene PE, Polyethylene	TPU	PFA PVDF
Cutting oils *	_	3	3	2	1	3
Diesel oil	_	3	3	2	2	3
ASTM Oil Nr. 3	_	3	3	2	1	3
Fuel oil	_	3	3	2	1	3
Hydraulic oils *	_	3	3	2	1	3
Mineral oils	_	3	3	2	3	3
Spark-erosion liquids	_	3	3	2	1	3
Skydrol	_	1	2	2	0	3
Transformer oils *	_	3	3	2	1	3

* Synthetic additives can affect the oil resistance of plastics. Please contact PMA for further information

Key:

3 = Excellent resistance/suitable for permanent contact

2 = Resistant/suitable for occasional contact 1 = Relatively resistant/suitable for short-term contact

0 = Not recommended

Important

The chemical resistance of plastic products is also dependant on factors such as temperature, amount of time exposed to chemicals (e.g. occasional contact or immersed) as well as the concentration of the specific chemicals. The stated chemical resistances are valid for a temperature of 20°C. The chemical resistance table above serves only as a guide for the use of polyamide products in conjunction with the listed chemicals. Each specific application should be controlled for suitability by the end-user.