

Material	Unit	Polyamide	Polyamide	Polyamide	Polyethylene	Polyoxymethylene
Material abbreviation		PA6 V-0	PA6 V-2	PA6 GF30	PE	POM
For article series (example)		50.6xx PA/FLzzzz 50.2xx PA/FLzzzz	50.6xx PAzzzz Lamellar insert for 50.6xx M	50.2xx PAzzzz 10.xx15 PAzzzz	1xx MG	
Colours		RAL 7032 RAL 7035 RAL 9005	RAL 7001 RAL 7035 RAL 9005	RAL 7001 RAL 7035 RAL 9005		
Details to ingredients						
Halogen-free		yes	yes	yes	n.i.	n.i.
Phosphorus-free		yes	yes	n.i.	n.i.	n.i.
Silicone free		yes	yes	yes	n.i.	n.i.
Physical characteristics						
Density	g/cm ³	1,1 - 1,5	1,13 / 1,15	1,36	0,92	1,40
Moisture absorption at +23°C	%	2,0 - 3,0	2,6 / 3,4	2,0	n.i.	0,2
Linear shrinkage	%	1,2 - 2,5	1,2 - 2,5	0,5 - 1,5	n.i.	1,2 - 3,2
Thermal characteristics						
Flammability to UL94		V0 flame-retardant	V2 flame-retardant	HB	n.i.	HB
UL test number		E86034	E80168	E86034	n.i.	E41871
min. continuous operating temp. static	°C	-40	-40	-40	-35	-40
dynamic	°C	-20	-20	-25	-30	-30
max. continuous operating temperature	°C	125	ca. 120	ca. 115	90	90
Heat distortion temperature (ISO 75) method A	°C	85	65	210	n.i.	105
(ISO 75) method B	°C	185	160	220	n.i.	n.i.
Melting point	°C	225	ca. 220	225	ca. 120	ca. 165
Heat conductivity	W/mK	ca. 0,22	0,22	0,24	0,3 - 0,5	n.i.
Mechanical characteristics						
Tensile modulus (ISO 527)	MPa	ca. 3300	3300	9500	n.i.	2700
Impact at 23 °C (ISO 179/1eU)	kJ/m ²	no break	no break	no break	n.i.	210
Impact, notched, at 23 °C (ISO 179/1eA)	kJ/m ²	ca. 3,2	ca. 4,5	4 - 10	n.i.	6
Surface hardness (ISO 2039-1)	MPa	ca. 130	n.i.	ca. 200	n.i.	145
Electrical characteristics						
Volume resistivity (IEC 60093)	Ω x cm	1 E 15	n.i.	1 E 15	n.i.	1 E 13
CTI Comparative tracking index (IEC 60112)	V	600	n.i.	575	n.i.	600
Resistance						
Weather		Generally resistant	Generally resistant	Generally resistant	2	k.A.
UV		Generally resistant	Generally resistant	Generally resistant	Generally resistant	UV sensitive
Ozone		3	3	3	n.i.	X
Ozone 20 ppm in air (RT)		n.i.	3	3	n.i.	3
Ozone 1 ppm in water (RT)		n.i.	2	2	n.i.	n.i.
Ageing		n.i.	n.i.	n.i.	n.i.	n.i.
Acetone (2%) (RT)		1	2	2	2-3	2
Ethanol (40 Vol.) (RT)		2	2	2	1	2
Ammonia (20% by weight) (RT)		1	2	2	1	2
Benzole(RT)		1-2	2	2	X	2
Petrol Normal/ Super fuel to DIN (RT)		1	2	2	X	2
Brake fluid (Hydraulan-BASF) (60°C)		1-2	2	2	2	2
Steam (Sterilization DIN 58946)		3	3-x	3-x	X	2
Diesel fuel to DIN		1	2	2	2	2
Crude oil / fuel oil / mineral oil (RT)		1	2	2	2	2
Faeces		2	n.i.	n.i.	1	n.i.
Gear oil, mild alloy (<=130°C)		n.i.	2	2	n.i.	2
Hydraulic oil (mineral oil based) (100°C)		2	2	2	3	k.A.
Potassium hydroxide solution		1	3 (50 % by wgt)	3 (50 % by wgt)	1	3 (50 % by wgt)
Kerosene		2	n.i.	n.i.	X	n.i.
Carbon dioxide		1	n.i.	n.i.	1	n.i.
Paints		2	n.i.	n.i.	Z.e.	n.i.
Solvents (RT)		1 - 2	2	2	Z.e.	2
Stove enamelling (150°C)		n.i.	2	2		3
Glue (RT)		n.i.	2	2	1	2
Air, atmospheric (RT)		1	2	2	up to 90°C	2
Air, containing oil vapour		1	n.i.	n.i.	up to 90°C	n.i.
Seawater		1	2	2	1	2
Methanol (RT)		1 - 2	2 (9 - 14%)	2 (9 - 14%)	1	2
Sodium chloride (aqueous) (RT)		1	3 (10% by wgt)	3 (10% by wgt)	1	n.i.
Oil (vegetable, etheric) (RT)		2 - 3	2	2	2 - 3	2
Petroleum (80°C)		1 - 2	2	2	2 - 3	2
Phosphoric acid (50%)		X	X	X	1	X
Nitric acid (40%)		X	X	X	X	X
Hydrochloric acid (38%)		X	X	X	1	n.i.
Sulphuric acid (30%)		X	X	X	1	n.i.
Soap solution (80°C/<10% by weight)		1	2	2	1	2
Silicon oils and greases (<=80°C)		1 - 2	2	2	1	2
Terpentine (oil)		1 - 2	2 (1%)	2 (1%)	3	2
Transformer oil (DIN 51507) (50°C)		1 - 2	2	2	3	2
Drinking water		1	2	2	1	2
Detergent solution (heavy-duty) (20°C/80°C)		/3	2 / 3	2 / 3	1	2 / 2

Key for resistance ratings:

1 = very good resistance 3 = mean/ conditional resistance n.i. = no information
 2 = good resistance X = not resistant Z.e. = determine precise composition

The values provided here are guideline values only, based on our current state of knowledge and cannot be used as the basis for any legally binding assurance of certain characteristics or concrete cases of application. To ascertain the concrete suitability of a particular product, a test of the finished part under the specific application conditions is necessary.