

Plastic/Elastomer

Plastic changes

their properties with temperature fluctuations. For this reason, plastic/elastomer articles should be stored below freezing in a warmer environment before processing to ensure full functionality.

Catalogue icon	Abbr	Material description	Operating temperature range	Mechanical properties	Range of application (examples)	Stress cracking
K01	PA	Polyamide, halogen-free	-30°C to 80°C	stiff, hard, very solid, very tough, abrasion-resistant	Cable glands, collecting holder, cable bracket, plug terminals	low
K02	PS	Polystyrene, halogen-free	-30°C to 60°C	brittle, notch-sensitive, stiff, very hard	Cable glands, row clamps, counter cradle	powerful
K03	PE	Polyethylene, halogen-free	-40°C to 80°C	soft to stiff, tough, low strength	Protective caps, round clamps, counter cradle	powerful
K04	PP	Polypropylene, halogen-free	-40°C to 90°C	form stiff, hard, solid, lower notched impact strength	Terminal housings, pipe clamps, nail clamps	possible
K05	PC	Polycarbonate, halogen-free	-40°C to 120°C	high strength, hardness and toughness, impact-resistant	Terminal housing	possible
K06	SBR/ NBR	Styrene butadiene nitrile rubber, halogen-free	-30°C to 100°C	good abrasion and weather resistance	Sealing rings	no
K07	CR	Neoprene (Chloroprene rubber), halogenated	-40°C to 120°C	good weather, chemical and ageing resistance	Sealing rings	no
K08	NBR	Nitrile butadiene rubber, halogen-free	-40°C to 120°C	flexible at low temperatures, high impact elasticity, low weather resistance	Sealing rings	no
K09	PVC	Polyvinyl chloride hard, halogenated	-20°C to 65°C	solid, stiff, hard, low notch sensitivity	Plastic ducts	low
K10	Soft PVC	Polyvinyl chloride soft, halogenated	0°C to 50°C	flexible, soft, good abrasion resistance	Protective caps	no
K11	ABS	Acrylonitrile butadiene styrene, halogen-free	-30°C to 80°C	very tough even with low temperatures, hard, stiff, scratch-resistant	Mounting plates, fittings for plastic ducts	low
K12	ASA	Acrylic acid ester-styrene-acrylonitrile graft copolymer, halogen-free	-30°C to 85°C	impact resistant even in the cold, strength similar to ABS	Device tank housing	low
K14	POM	Polyoxymethylene, halogen-free	-40°C to 100°C	solid, stiff, tough, also at high temperatures, elastic spring behaviour	Cable brackets	few
K15	SBR	Styrene butadiene rubber, halogen-free	-50°C to 100°C	high abrasion resistance, good heat and cold resistance	Sealing rings	no
K16	CR/ NBR	Chloroprene /Nitrile butadiene rubber, halogenated	-20°C to 100°C	high impact elasticity, improved weather resistance	Sealing rings	no
K17	CR/ SBR	Chloroprene /Styrene butadiene rubber, halogenated	-20°C to 70°C	high abrasion resistance, lower heat and cold-resistance	Sealing rings	no
K18	TPE	Thermoplastic elastomers, halogen-free	-40°C to 120°C	very good resistance to weathering, ozone and ageing	Sealing rings	no
K19	FS 31	Moulding material 31 (Phenolic resin), halogen-free	to 125°C	high strength, high hardness, high temperature resistance	Illumination sockets	low
K20	SI	Silicone rubber, halogen-free	-40°C to 180°C	good ageing and high temperature stability	Sealing rings	no
K21	PUR	Polyurethanes, halogen-free	-25°C to 60°C	high tensile strength, buckling and abrasion resistance	Industrial hoses, seals, adhesives	low
K22	PET	Polyethylene terephthalate, halogen-free	-40°C to 190°C	high strength, very low moisture absorption	Illumination sockets	low
K23	UP-GF	Glass fiber reinforced polyester, halogen-free	-50°C to 180°C	high tensile strength, high hardness, high temperature resistance	Cable duct, handrail, construction profiles	low
K24	PBT	Polybutylene terephthalate, halogen-free	-50°C to 150°C	high strength, high abrasion resistance, good chemical resistance	Illumination sockets	no

The information on halogen-free properties is based on searches of the relevant technical literature or supplier information. The statements always refer to chemically pure materials without flame-retardants. Tests according to DIN VDE 0604-2-100 have not been carried out.

Chemical resistances

Catalogue icon	Water	Acids (10 %)	Alkalies (10 %)	Alcohol (ethanol)	Petrol	Benzene	Mineral oil	Vegetable and animal fats	Solvent
K01	+	o	+	+	o	+	o	+	o
K02	+	o	+	+	-	-	o	o	+
K03	+	+	+	+	o	-	o	+	-
K04	+	+	+	+	o	o	+	+	o
K05	+	o	-	+	-	-	+	+	o
K06	+	o	o	+	-	-	o	o	o
K07	+	-	-	+	o	+	o	o	o
K08	+	o	+	+	+	o	+	o	o
K09	+	+	+	+	+	-	+	+	-
K10	+	+	o	+	-	N/A	-	o	-
K11	+	o	N/A	+	-	-	+	-	-
K12	+	o	o	+	-	-	+	+	-
K14	+	o	o	+	+	+	+	+	-
K15	+	+	+	+	-	-	-	-	o
K16	+	o	o	+	o	-	+	+	o
K17	+	o	o	N/A	-	-	o	N/A	N/A
K18	+	+	+	N/A	+	N/A	+	N/A	-
K19	+	o	o	+	+	o	+	N/A	o
K20	+	o	o	+	o	-	+	+	o
K21	+	-	-	N/A	+	N/A	+	+	o
K22	+	+	o	+	+	o	+	N/A	o
K23	+	+	+	+	+	o	+	+	+
K24	+	o	+	+	+	o	+	+	o

+ = constant o = conditionally constant - = inconstantly N/A = not available

Source: Plastic tables, e.g. Plastic Compendium, Franck, Vogel-book publisher, manufacturers' data sheets

The information given in the tables is intended as a guide for the preselection of products and is based on our current knowledge.

The properties can be negatively influenced by the geometry of the products and the type of application.

More detailed information is available on request. To test the suitability of a product, a test under the specific environmental conditions is required.



Further chemical resistances can be found on our homepage at www.kleinhuis.de > Download > Catalogues