

# Usable technical plastics

**JESA.**  
bearing solutions

Thermoplastic	Chem. Abrev.	Key features	Special properties	Service temperature range	JESA products application examples
Polyamide	<b>PA</b>	-Good mechanical resistance -High tenacity -Good properties of sliding and wear -Easy shaping	Characteristic depending on the moisture content	-70 to +120°C  Briefly up to 140°C	<b>Building of machines :</b> Cogwheels, pebbles, cushions, ball bearing cages <b>Electrotechnic:</b> Ventilator rotors, crankcases, control elements of electrical tools.
Polyoxymethylene	<b>POM</b>	-High hardness and rigidity, resistance and good tenacity -High chemical resistance -Favourable behavior to friction and abrasion -Good dimensional stability	-Excellent for snapped mounting  -Precision pieces	-40 to + 100°C  Briefly up to 150°C	<b>Building of machines :</b> Cogwheels, pebbles, cushions  <b>Furniture industry :</b> Snap and sliding elements
Thermoplastic elastomer	<b>TPE</b>	-Mechanical features and hardness can be chosen according to the structure and the number of soft segments	-Characteristics similar to those of rubber.	-40 to + 80°C  Briefly up to 125°C	<b>Building of machines :</b> Pebbles, buffers
Acrylonitrile-butadiene-styrene	<b>ABS</b>	-Rigid, firm, also in low temperatures -High impact strength -High hardness and good resistance in scratches -Very high surface brightness -Low electrostatic load -Easy shaping	-Decorative purposes  -Can be galvanized	-45 to + 85°C  Briefly up to 100°C	<b>Micromechanic et electrotechnic :</b> Control elements, cover
Polybutylene terephthalate	<b>PBT</b>	-Good electric properties -Excellent resistance to heat -Excellent surface aspect -Good dimensional stability -Chemical resistant -Good behavior to friction and wear	- Plastic with high performance - Shaped easier than that of PET	-40 to +140°C  Briefly up to 200°C (may vary according to grades and loads)	Automotive industry, housing, actuator components, cogwheels
Polyetheretheretone	<b>PEEK</b>	-High traction and flexion resistance, almost unchanged up to 143°C   -High rigidity -High resilience -High dynamic resistance -Firm and resistant to abrasion -Good dimensional stability	-Plastic with high performance -Outstanding mechanical, thermal and electrical properties -Often in metal replacement -Expensive	Up to +250°C  Briefly up to 300°C	<b>Micromechanic :</b> Cogwheels
Polyphenylene sulfide	<b>PPS</b>	-Outstanding heat resistance -Remarkable flame retardancy without flame retardant -Excellent resistance to chemical agents -Very good electric and dielectric properties -Good mechanical properties -Excellent dimensional stability -Insensitive to moisture -Excellent electrical insulator	-High performance plastic with specific grades for certain applications	-40 to +240°C Briefly up to 260°C (may vary according to grades and loads)	Connectors High temperature exposed components
Polyetherimide	<b>PEI</b>	-High heat stability -Outstanding mechanical resistance -Outstanding elasticity modulus -Good chemical resistance -Possible transparency	-Plastic with high performance	-40 to +180°C Briefly up to 210°C (may vary according to grades and loads)	Cogwheels, automotive industry with high temperatures, high performance micromechanical components
Polyphthalamide	<b>PPA – PA6T/BI</b>	- Low incidence of the moisture -Good properties at high heat -Chemical resistance to oil and fuel -Excellent electrical properties -Dimensional stability	-High performance plastic with specific grades for certain applications	-40°C to +185°C Briefly up to 280°C (may vary according to grades and loads)	Cogwheels, technical automotive components