

Thermoplastic Polyurethane Elastomer (TPU)

▶ Application

| Molding method | Application | |
|-------------------|---|--|
| Injection molding | Automotive parts | Ball joint, Dust cover, Tire chains, Side molding |
| | Machinery/ Industrial components | O-ring, Sealing materials, Gears, Connector |
| | Sporting goods | Sports shoes, Fin, Goggles |
| | Others | Watch band, Caster, Roller, Heel top piece of shoes |
| Extrusion molding | Hose/ Tube | Pressure-resistant hose, Tube, Inner part of fire hose |
| | Belt | Conveyor belt, Air mattress, Tarpaulin, Driving belt, Round belt |
| | Electrical wire/ Cable | Electrical wire/ Cable covering, Computer wiring, Curl cord |
| | Others | Ropes, Medical disposables |
| Calendar molding | Conveyor belt, Film, Flexible container | |

▶ Characteristics

TPU for molding, developed with our original technology

- The best abrasion-resistance and the highest level of strength and elongation, compared with other elastomers based on polyester, polyolefin and polystyrene
- Settable shore hardness covering a wide range of variation
- Free from vulcanization process
- High recoverability and recyclability of scraps
- Well-balanced characteristics, such as cold-resistance and oil-resistance
- An abundant product grade with high functionality as shown below, and also capable of coloring various resins by using our CP series

▶ Representative Products

Standard grade

| Product name | Polyol | Characteristics |
|--------------|---------------|--|
| P-1000 | Ester | General-purpose grade |
| P-7000 | | Enhanced low temperature properties |
| P-2000 | Ether | Hydrolysis-resistance, Antibacterial activity |
| P-4000 | Caprolactone | Excellent in injection moldability |
| P-800 | Polycarbonate | Hydrolysis-resistance, Antibacterial activity, Heat-resistance |

Highly functional grade

| Product name | Characteristics |
|-----------------------------------|--|
| PH (Heat-resistant type) | Higher heat-resistance compared with conventional TPU <ul style="list-style-type: none"> •Less compression strain under high temperature, and higher softening point •High resistance against heated oil/grease •Wide application range because of fewer changes in property in wide temperature range |
| PS (Non-adhesive type) | Characteristics of both silicone and TPU <ul style="list-style-type: none"> •Low adhesion and excellent releasability •Wide application range because of less decrease in elastic modulus under high temperature and fewer change in shore hardness under low temperature |
| PM (Moisture-permeable type) | Higher moisture-permeability (2~3 times as compared with conventional TPU) <ul style="list-style-type: none"> •Applicable to non-porous materials •Water-swelling and non-swelling types |
| P-8794S (Shock absorbing type) | Excellent in shock absorption property compared with conventional TPU <ul style="list-style-type: none"> •Excellent in hydrolysis-resistance, heat-resistance and oil-resistance, because of polycarbonate-based TPU •Greater variation in shore hardness with temperature compared with standard type |

