APPLICATIONS IN FOCUS

THERMAL MANAGEMENT

THE PRODUCT PORTFOLIO FOR HIGH TEMPERATURE APPLICATIONS

www.terplastics.com
www.tergroup.com

TER Plastics POLYMER GROUP

TER® GROUP

High-Performance Polymers

High-performance polymers stand head and shoulders above engineering plastics thanks to their specific spectrum of properties. PPS is characterised by outstanding chemical resistance at continuous operating temperatures of up to 240°C and by outstanding creep resistance. The long-term operating temperature of LCP also extends as high as 240°C. In the short term, it can even withstand temperatures of up to 340°C. Both materials are inherently flame-resistant. Combining them with long-fibre technology can lead to considerable improvements in both creep resistance and dynamic load capacity.

High-temperature polyamides

In comparison with conventional polyamides, high-temperature polyamides are characterised by an elevated glass transition point and melting point. Continuous operating temperatures of up to 230°C can be achieved using special additives. Partially aromatic constituents lead to increased dimensional stability and creep resistance. Long-chain constituents improve the chemical resistance, especially with respect to aggressive salts. This group includes PA 4.6, PA 4T, PPA and PA 10T.

Heat-resistant polyamides

Polyamides 6 and 66, and PA 66/6 blends, are characterised by outstanding workability and balanced technical properties. General heat stabilisation processes lead to continuous operating temperatures of up to 160°C. Specific stabilisation can raise this level to up to 210°C. Additional modifications of the viscosity and sliding friction behaviour pave the way for a broad range of applications in the automotive, mechanical engineering, furniture and sports industries. Long-fibre technology can be used to bring about considerable improvements in heat resistance, creep behaviour and dynamic force absorption.

Thermoplastic elastomers

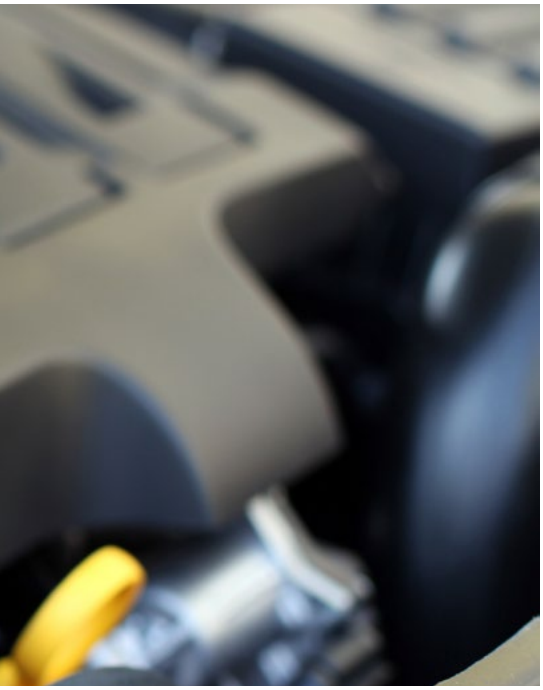
Soft, flexible materials are no exception when it comes to meeting the required thermostabilities. Thermoplastic elastomers are characterised by good resilience and a broad range of hardness grades (Shore A 40 – Shore D 50). The products withstand continuous operating temperatures of 110°C. In the short term, exposure to temperatures of up to 150°C is also possible. In the event of even higher thermal requirements, it is possible to use TPC (thermoplastic copolyester). These ranges of products are available in continuous operating temperature classes ranging from 120°C to 175°C.

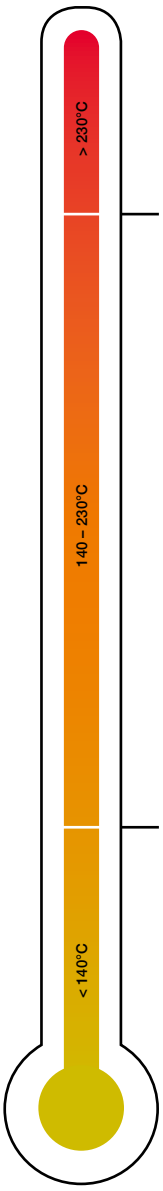
Transparent acrylic solutions for high heat requirements

For requirements concerning transparency and maximum thermal stability, the material PMMI will stand the toughest specifications. PMMI is characterised by a transparency of over 90% while keeping the optical properties on exposure to temperatures of up to 170°C.
PMMA is often used in interior automotive applications where thermal requirements and transparency or extreme high gloss finishes are a must. With the greatest transparency, more than 90%, and outstanding weathering resistance, PMMA will stand continuous operating temperatures up to 110ºC.

Styrenic materials for automotive applications

Heat-resistant ABS is predominantly used in the automotive industry. Components can withstand exposure to elevated temperatures reaching as high as 115°C, e.g. for external bodywork parts, seat base covers or seat parts. ABS is excellently suited to dyeing but can also be painted. Where external bodywork parts are not painted, ASA is used. This is characterised by outstanding weather resistance.





Producer	Brand	Product	Key Features	Applications
DSM	Xytron	PPS	Outstanding strength and dimensional stability, excellent chemical resistance	Water pump wheels, throttle valve housings, radiator coolant applications
Polyplastics	DURAFIDE	PPS	Very high thermal shock resistance, good dimensional stability, outstanding strength	Ignition coil parts, voltage converter, electric motor isolators, Li-ion battery separator
Sumitomo	SUMIKASUPER	LCP	Inherently flame-resistant and dimensionally stable	Cable connectors, pin connectors, electromechanical components
DSM	Stanyl Diablo	PA46	High temperature resistance with good viscosity	Intake manifolds, engine housings
DSM	Akulon Diablo	PA66 + PA6	Improved workability with good chemical resistance	Air ducts, turbo resonators
DOMO	Technyl Red	PA 66	Improved heat aging resistance with good processability	Charge air elbow
DSM	ForTii MX	PPA	Improved elongation at break with high strength and rigidity	Oil modules, thermostat housings
TPP	TEREZ HT	PPA	High rigidity and creep resistance	Automotive parts in the oil and brake circuits
TPP	TEREZ XT	PA46	High degree of crystallisation with optimum strength above 140°C	Chain tensioners, tribologically modified
DSM	Arnitel C	TPC (TPE-E)	Resistant to heat and hydrolysis Shore 50 D – 60 D	Cable applications
DSM	Stanyl	PA46	High degree of crystallisation with optimum strength above 140°C	Radiator end caps, ball bearings, chain tensioners
RÖHM	Pleximid	PMMI	Very high thermostability with good chemical resistance at the same time	Light guides, lenses, headlights
DOMO	Technyl One	PA66	Halogen-free flame resistance with outstanding electrical properties	Mini circuit breakers
DSM	ECOPAXX	PA4.10	Bio-based, improved elongation at break, generous processing window	Engine covers
DSM	ForTii	PA4T	Halogen-free, flame-resistant, with good creep resistance	Cable connectors, pin connectors
Teknor Apex	Sarlink	TPV	Resistant to chemicals and abrasion, OEM-listed	Sealing elements, air ducts, inlay mats in the automotive sector
RÖHM	Plexiglas	PMMA	High thermostability with good flow behaviour	Dashboard, black piano lacquer applications
Polyplastics	Duracon HPX-Series	POM	Good rigidity and strength at elevated temperatures	Fastening clips, spherical joint shells
LOTTE	Starex	ABS	Also in low-emission types, ideal for automotive and E&E-Applications	Interior parts in the automotive sector, centre console, glove box
LOTTE	Starex	ASA	Excellent color stability, good chemical resistance	Exterior parts in the automotive sector (unpainted)
Toray	Toyolac	ABS	Less mould deposition due to lower resin content, broad range of types	Interior parts in the automotive sector, centre console, glove box
Versalis	Sinkral	ABS	Low gloss, very light intrinsic color	Door panels, centre console

SUMITOMO CHEMICAL

TEKNOR APEX

TER GROUP TEREZ PERFORMANCE POLYMERS

TORAY Innovation by Chemistry

eni versalis

TER Plastics POLYMER GROUP
Hertener Mark 7 · 45699 Herten · Germany
P +49 (0)2366 5661-0
F +49 (0)2366 5661-333
info@terplastics.com
www.terplastics.com

AIF_TM_08/2020_EN