

APPLICATIONS IN FOCUS



# STRUCTURAL INTEGRITY

THE PRODUCT PORTFOLIO FOR  
EXTRA STIFFNESS AND IMPACT STRENGTH



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## Structural components with high surface requirements

The TEREZ GT2 product line offers an excellent basis for meeting aesthetic and functional design requirements. This material stands for high strength and rigidity and is available with a glasfibre content of up to 60%. Low level of moisture uptake guarantees high dimensional stability. When being processed at mold temperatures of min. 100 °C highest surface qualities can be achieved. The X versions stand for increased stiffness and strength perpendicular to flow.

## Highest standards in metal replacement

The TEREZ GT3 product line is based on a PA66 Blend with a partially aromatic component. In comparison with PA66 there is much less moisture uptake and therefore constant mechanical performance in dry and conditioned state. High stiffness and strength are combined with high dimensional stability and cost effective manufacturing. An excellent product line for metal replacement. The X versions stand for increased stiffness and strength perpendicular to flow.

## Long fibre technology

Long fibre “upgraded” reinforced plastics show a perfect fit to increasing demands in creep resistance, fatigue resistance combined with high ductility compared to the short fibre versions:

- Improved dynamic load
- Higher ductility
- Improved creep resistance
- Reduced distortion

The production of these compounds is a result of highest know-how in textile technology combined with compounding technology. The length of the pellets can be adjusted between 6-14 mm. The long-fiber technology is based on the well approved high-performance materials TEREZ GT2, GT3 TEREZ, TEREZ HT and PA6, PA66 and PPS.



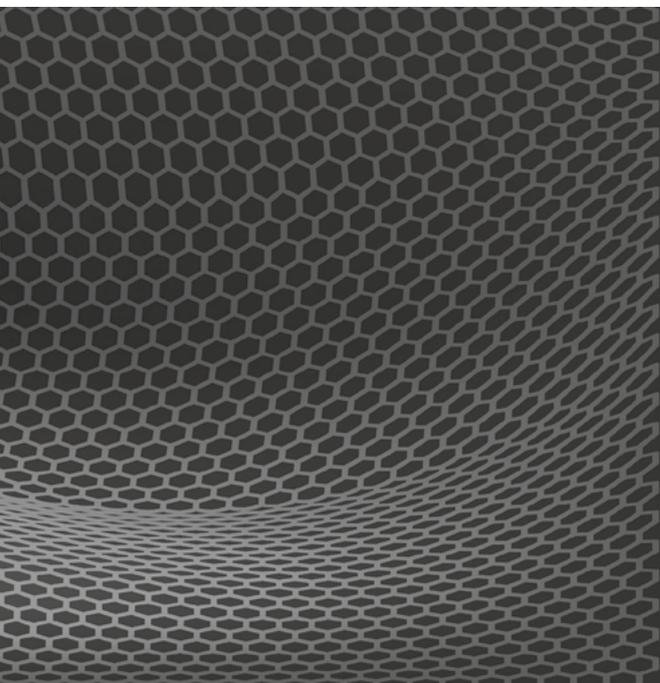
## High performance Thermosets

Phenolic resins are synthetic polymers formed as condensation products of phenols and aldehydes. Phenolic resins are proven in a broad range of applications and are the industry-standard in areas as diverse as refractories and composite parts for rail interiors. High performance Thermosets set the standard in:

- Brake pads, shoes, drum linings
- Oil filters
- Under-the-hood parts

## Versatile engineering thermoplastics

PA6 and PA66 are being used in a wide range of applications as for example injection molded parts for automotive or sports industry and stock shapes or convoluted tubes produced in an extrusion process. The portfolio includes specially modified grades as e. g. hydrolysis modified, flameretarded, flow improved, impact modified, high stiffness and strength, but also tribologically modified.



Manufacturer	Brand	Product	Key Features	Example Applications
DSM	Xytron	PPS	Outstanding strength and dimensional stability, excellent chemical resistance, low water absorption	Waterpump impeller, throttle valve housings
Polyplastics	DURAFIDE	PPS	Very high thermal shock resistance, good dimensional, stability, outstanding strength, low water absorption	Lamp reflectors, ignition coil parts
DSM	Akulon	PA6	Good sliding friction behaviour, good noise and vibration absorption, high mechanical strength	Housings for electrical equipment, e.g. drills
Solvay	Technyl	PA6	Very good electrical insulation properties	Housings, flanges, sliding elements
TPP	TEREZ	PA6	High dynamic loading capacity, quick and easy to use	Door handles, anchor bolts
DSM	Akulon	PA66	Quick and easy to use, good resistance to chemicals	Switch plates, lamp shades
Solvay	Technyl	PA66	Good viscosity even at low temperatures, high thermal stability	Intake manifolds, cable plugs
TPP	TEREZ	PA66	High mechanical strength	Rollers, seat shells and seat bases, exterior mirror mountings
TPP	TEREZ GT2	PA MXD6	Low speed and volume of water absorption relative to other polyamides, excellent surface reproduction, high rigidity	Pumps, hydraulic valves, propellers
TPP	TEREZ GT2X	PA MXD6	Very low tendency to creep, high dimensional stability, reduced tendency to warp	Pneumatic switching elements, office equipment, functional parts, bicycle brake components
TPP	TEREZ GT3	PA66+PA6I	High rigidity and strength even in a conditioned state, linear thermal expansion comparable with that of aluminium	Bearings, housings, fasteners
TPP	TEREZ GT3X	PA66+PA6I	Improved flow behaviour, improved surface quality, optimised transverse strength, reduced tendency to warp	Mounting hardware, switch components
TPP	TEREZ PA66 HGL	PA66	Good impact strength and energy absorption, increased thermostability at the same time as improved creep resistance	Gear wheels, sports equipment, agricultural machinery, furniture
TPP	TEREZ PA6 HGL	PA6	Excellent impact strength and energy absorption, even at low temperatures	Sports equipment, vacuum cleaner covers, furniture, garden equipment
TPP	TEREZ PBT HGL	PBT	High dimensional stability, good insulating properties, low tendency to creep, good low-temperature impact strength	Electric mirror adjustment, accelerator and clutch pedal
TPP	TEREZ GT2 HGL	PA MXD6	Very high strength and rigidity with low water absorption, excellent surface reproduction, low warping	Pumps, hydraulic valves, propellers, pump housings
TPP	TEREZ PPS HGL	PPS	High thermostability and chemical resistance, inherently flame-resistant	Pumps, fuel injector systems, flanges, dampers and hot air nozzles
TPP	TEREZ HT HGL	PPA	Very high rigidity and outstanding creep resistance, improved dynamic loading capacity	Automotive parts in the oil and brake circuits, oil modules, engine components
TPP	TEREZ GT3 HGL	PA66+PA6I	High strength and rigidity even in a conditioned state, significantly improved crash performance	Pump housings, mounting hardware, dashboards, centre consoles, airbags
Hexion	Bakelite	PF	High temperature stability, corrosion resistance, very low creep	Pulleys, (bicycle) brake pistons, functional parts, gas meters
Hexion	Bakelite	UP	Very low thermal expansion, very good flame resistance	Cooker knobs, cooker mouldings, power control switches
Hexion	Keripol	UP	Very high creep resistance, very good insulating properties	Fitting components, circuit breakers and motor protection switches
Hexion	Bakelite	EP	No stress-corrosion cracking, maximum chemical resistance, high temperature resistance	Spark plug connectors, high-voltage components in the electrical ignition system, magnetic coils

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