ULTRA POLYMERS
a Spirit of Partnership

Ultramid

PA6, PA66, PA6/66, PA6/6T

BASF's Ultramid® grades are molding compounds on the basis of PA6, PA66 and various co-polyamides such as PA66 / 6. The range also includes PA610 and partially aromatic polyamides such as PA6T / 6. The molding compounds are available unreinforced, reinforced with glass fibers or minerals and also reinforced with long-glass fibers for special applications. Ultramid® is noted for its high mechanical strength, stiffness and thermal stability. In addition, Ultramid® offers good toughness at low temperatures, favorable sliding friction behavior and can be processed without any problems. Owing to its excellent properties, this material has become indispensable in almost all sectors of engineering for a wide range of different components and machine elements, as a high-grade electrical insulation material and for many special applications.

Applications:

- Automotive: engine parts, cables
- Cable ties
- Packaging: sausage casing
- E&E
- Mechanical engineering

Attractive combination of properties:

- High strength and stiffness
- Excellent toughness
- Good resilience properties
- Outstanding chemical resistance dimensional stability
- Low tendency to creep
- Outstanding sliding friction properties
- Easy processing

To find more about Ultrapolymers:

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Ultramid® B - PA 6 (unreinforced) is a tough, hard material affording parts with good damping characteristics and high shock resistance even in the dry state and at low temperatures. PA 6 is distinguished by particularly high impact resistance and ease of processing.

Ultramid® A - Among the unreinforced polyamides, PA 66 along with Ultramid® T (PA6/6T) is the material with greatest hardness, rigidity, abrasion resistance and thermostability. It is one of the preferred materials for parts subject to mechanical and thermal stresses in electrical, mechanical, automotive and chemical engineering.

Ultramid® C - This is the name given to copolyamides (PA6/66) made from PA 6 and PA 66 building blocks. They exhibit different properties according to their composition.

Ultramid® T - This class of partly aromatic copolyamides (PA6/6T) possesses very high thermostability (melting point 298 °C), rigidity, dimensional stability and constant mechanical properties under conditions of varying humidity.

Glass-fibre reinforced Ultramid® - These materials are distinguished by high mechanical strength, hardness, rigidity, thermostability and resistance to hot lubricants and hot water. Parts made from them have particularly high dimensional stability and creep strength. Glass-fibre reinforced Ultramid® T is moreover exceptional for its extraordinarily high heat resistance (290 °C).

Flame retardant products - These Ultramid® grades include C3U, A3X2G5, A3X2G7, A3X2G10, B3UG4 and T KR4365G5. They are particularly suitable for electrical parts required to meet enhanced specifications for fire safety and tracking current resistance.

Mineral-filled Ultramid® - The special advantages of these polyamides lie in increased rigidity, good dimensional stability, low tendency to warp, smooth surfaces and good flow characteristics.

	Viscosity number	Relative viscosity	Additives	Ultramid® applications
Ultramid® B26 HM 01	140	2.6	Lubricants, plasticizers, stabilizers	Cable sheathing
Ultramid® B27 E	150	2.7	-	Compounds, monofilaments, paper coating
Ultramid® B33 L	195	3.3	Lubricants	BOPA, monofilaments, paper coating
Ultramid® B33 LV	195	3.3	Lubricants	BOPA
Ultramid® B33 SL	195	3.3	Lubricants	BOPA, artificial sausage casing, monofilaments
Ultramid® B33 LXM	195	3.3	Lubricants, plasticizers	Monofilaments
Ultramid® B36 LN	218	3.6	Lubricants, nucleation	Flat film
Ultramid® B36 LNV	218	3.6	Lubricants, nucleation	Flat film
Ultramid® B40 L	250	4	Lubricants	Blown film, artificial sausage casing, monofilaments
Ultramid® B40 LN	250	4	Lubricants, nucleation	Flat film
Ultramid® B36 SL	250	4	Lubricants	Artificial sausage casing, blown film
Ultramid® B36 SLN	250	4	Lubricants, nucleation	Extrusion lamination, blown film, flat film

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Injection molding grades (unreinforced)

Characteristics	Ultramid B®	Ultramid A®	Ultramid C® Copolyamide
Easy flowing, very fast processing, high impact strength once conditioned	B3S		
Easy flowing to medium viskosity, fast processing, high impact strength, even at dry state		A3K A4K	
Impact-modified to give very high impact strength even at dry state and low temperatures; fast processing	B3L	A3Z	
High resistance to heat aging		A3W A4H	
Flame-retardant (UL 94 V-0)			C3U
Dry-running material with improved tribological properties for unlubricated systems		A3R	

Injection molding grades (reinforced)

Characteristics glass-fiber reinforced (10% to 50%)	Ultramid B®	Ultramid A®	Ultramid T®	Ultramid C® Copolyamide
High-impact grades, good heat-aging resistance and dielectric properties	B35EG3 B3EG3...6 B3G8	A3EG5...10		
Impact-modified to give enhanced notched impact strength and breaking strength	B3ZG3 B3ZG6 B3ZG8		T KR 4357 G6	
Very high heat-aging resistance even in lubricants		A3HG5...10		
Very high heat-aging resistance	B3WG3...10	A3WG3...10		
With enhanced hydrolysis resistance		A3HG6HR/ A3WG6...7 HRX		
Very high resistance to distortion and heat aging			T KR 4355 G5 T KR 4355 G7	
Flame retardant	B3UG4	A3X2G5...10 A3UG5	T KR 4365 G5	C3UG4

mineral-filled (15% to 40%)

Grades with very high rigidity and strength; low warpage	B3WM602
Grades with medium rigidity and strength; low warpage	B3M6
Flame retardant	B3UM4

glass-fiber, mineral or glass-bead reinforced

Grades with medium rigidity and strenght; low warpage	B3WGM24 BG40GM45HS B3GK24	A3WGM53

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