Ultramid® Advanced N: New polyphthalamide portfolio for sophisticated components in the automotive and electronics industries

Abdullah Shaikh
Head of PPA Business, Performance Materials Europe
BASF: a pioneer in the polyamide (PA) and polyphthalamide (PPA) market

Major trends across various industries:

- Miniaturization
- Increased functionality and functional integration
- Improved durability, quality and overall performance

Today: BASF launches Ultramid® Advanced N, a long-chain PPA, to address customer needs for high performance materials
BASF offers solutions for challenging applications

Automotive
- Gear wheels
- Fuel quick connectors
- Thermostat housings
- Structural parts

E and E
- Connectors
- Surface Mount Devices (SMD)
- Switches & circuit breakers
- LED lighting

Consumer
- Jacks in mobile devices
- Appliance components
- Parts for mobile phones, tablets and laptops
Ultramid® Advanced N: the new long-chain PPA by BASF

**Ultramid® Advanced N offers**
- Stable mechanical properties at elevated temperatures
- Excellent dimensional stability
- Outstanding chemical resistance for longer performance
- Better processing compared to standard PPA

**Broad portfolio**
- Unreinforced
- Different glass fiber reinforcements
- Heat stabilizers according to target industry
- Flame retardant packages
- Special grades
Ultramid® Advanced N: stable mechanical properties over a broad temperature range

Dynamic-mechanical analysis, ISO 6721-7: tested dry as molded
Comparison of Ultramid® Advanced N with a corresponding PA66
Ultramid® Advanced N: outstanding chemical resistance

Ultramid® Advanced N is resistant to

- Hot oil
- Glysantin® in water (up to 135°C!)
- Calcium chloride (CaCl₂)
- Aggressive fuels (e.g. with high methanol contents)
- Acids (better than other PPAs)

Ultramid® Advanced N is suitable for applications in contact with aggressive media
Ultramid® Advanced N:
very low water uptake, best choice for lead-free soldering

Moisture uptake test at 70°C and 62% relative humidity
Comparison of Ultramid® Advanced N to PA6T (both 35% GF)

- Ultramid® Advanced N demonstrates high dimensional stability due to lower water uptake
- Ultramid® Advanced N fulfills up to JEDEC Class 1 – no blistering during lead-free soldering
Ultramid® Advanced N: outstanding flame retardant grades

- Flame retardant free of halogens
- “V-0” rating (UL 94 test) at 0.4 mm for miniaturized parts
- Excellent electrical properties – highest CTI class
- Optimized for less corrosion and low migration
- Laser-sensitive grades available

Test sample made of Ultramid® Advanced N, laser-marked
BASF
We create chemistry