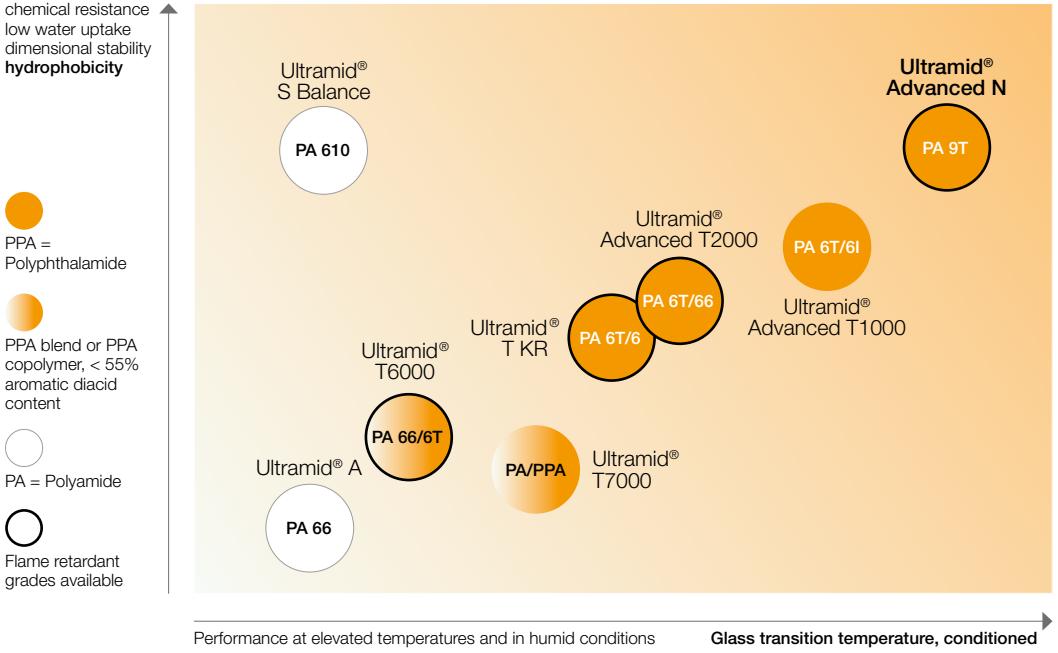
The superhero for engineers

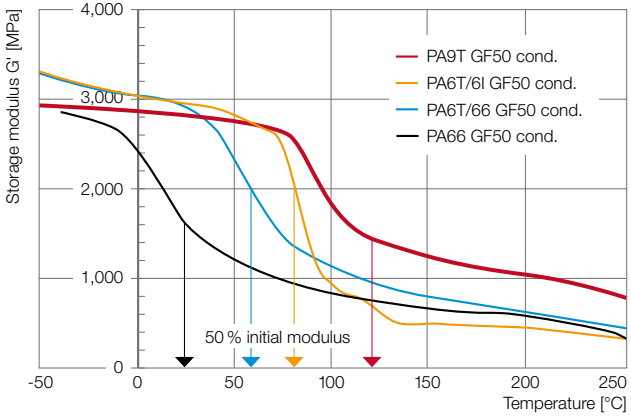
Ultramid® Advanced N for challenging applications

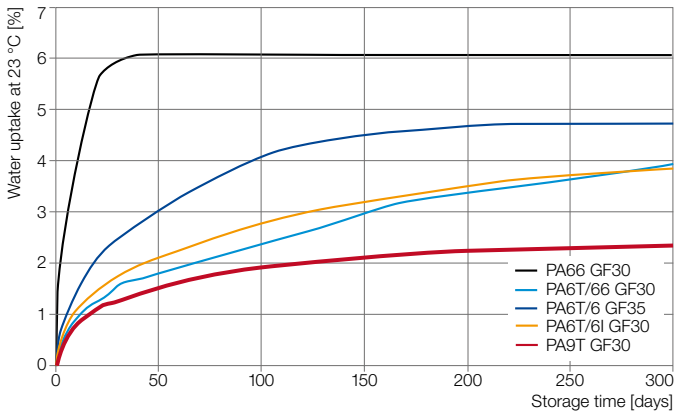
BASF
We create chemistry

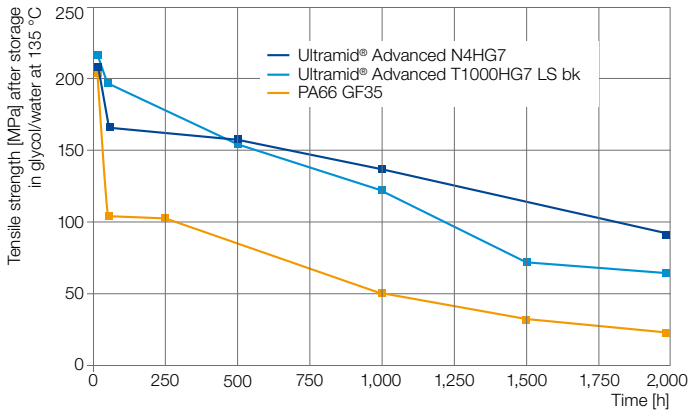
Ultramid® Advanced N shows constant mechanics up to 100 °C (glass transition temperature: 125 °C). It has the highest chemical resistance and lowest water absorption of all Ultramid® Advanced PPAs. With its high toughness and flexibility even for unreinforced grades, it is also suitable for extrusion. The portfolio comprises flame retardant and laser transparent grades.



ULTRAMID® ADV







High strength and stiffness over broadest temperature range

- Easier dimensioning of thin-wall parts
- Highest mechanical properties of all Ultramid® grades at temperatures above T_g

Stable mechanics at elevated temperatures

High dimensional stability and lowest water uptake of all Ultramid® PA and PPA grades

- Small influence on properties due to low water uptake
- No blistering during soldering, therefore perfectly suitable for lead-free soldering

High dimensional stability

Perfect lead-free soldering

Superior resistance to many challenging media such as glycol/water even at highest application temperatures

- High retention of properties even after ageing at elevated temperatures in coolants (up to 135° C), acids, brake fluids, road salt solutions and other challenging media

Outstanding chemical resistance

ANCED N

Mechanical properties

Ultramid® Advanced	T_g [°C]	T_m [°C]	HDT A ISO 75 [°C]	Water uptake ISO 62 [%]	Specific gravity ISO 1183 [g/cm³]	E-modulus at 23 °C ISO 527 [MPa]	Tensile strength at 23 °C ISO 527 [MPa]	Elongation at break ISO 527 [%]	Charpy notched ISO 179/1eA [kJ/m²]	Flow spiral length [mm]	Shrinkage longit./ perpend. [%]
N4H	125	300	130	2.5	1.1	2,600 / cond. 2,600	65 / cond. 65	7	6	370	1.7 / 1.8
N3HG6	125	300	270	2	1.4	10,000 / cond. 10,000	185 / cond. 160	2.5	9	360	0.5 / 0.9
N4HG7	125	300	270	1.9	1.4	11,500 / cond. 11,500	215 / cond. 200	2.6	10	290	0.5 / 0.9
N3U41G6	125	300	265	2	1.4	10,500 / cond. 10,500	140 / cond. 130	2.2	6.5	–	0.3 / 1.0

E&E properties

Ultramid® Advanced	Moisture absorption ISO 62 23 °C / 50 % r.h. [%]	UL 94 Class [mm]	GWFI IEC 60695-2-12 [°C (mm)]	GWIT IEC 60695-2-13 [°C (mm)]	CTI IEC 60112	RTI UL 746 B at 1.5 mm [°C]
N4U41	1.1-1.2	V-2 (0.4) V-0 (1.5)	960 (0.75)	750 (0.75)	600	150
N3U41G6	1.0	V-0 5VA (1.5)	960 (1)	775 (1)	600	150

Processing

Ultramid® Advanced	T_m DIN 53 765 [°C]	Melt temperature [°C]	Mold temperature [°C]
N4H	300	320-340	125-160
N3HG6	300	320-340	125-170
N3U41G6	300	310-340	100-160

Ultramid® Advanced N

Product portfolio and applications

	Ultramid® Advanced	Reinforcement	Stabilization	Colors
Unreinforced	N4H	–	standard (H)	LS bk, un
Glass-fiber reinforced	N3HG6	30 % GF	standard (H)	LS bk, un, LT bk
	N3WG6	30 % GF	high (W)	LS bk, un
	N4HG7	35 % GF	standard (H)	LS bk, un
	N4WG7	35 % GF	high (W)	LS bk
Flame retardant	N4U41	–	standard, FR	LS bk
	N3U41G6	30 % GF	standard, FR	LS bk, un, colors*
	N3U42G6	30 % GF	standard, FR	LS bk
	N2U40G7	35 % GF	standard, FR	LS bk, un, colors*
	N2U45G7	35 % GF	standard, FR	LS bk
	N2U49G10 SI	50 % GF	standard, FR	Bk
Mineral filled	N2GM28	10 % GF, 40 % Min	high (W)	Bk, wt
	N25EM8 / M9	40 / 45 % Min	standard (E)	Bk

LS: laser sensitive; LT: laser transparent; LR: light reflective; IM: impact modified
*Besides pre-colored compounds in black, grey, orange and white, UL® certified masterbatches are available for self-coloring

For challenging applications

- Connectors (e.g., auto connectors)
- Power electronics (e.g., IGBT)
- Consumer electronics (e.g., mobile CCM)
- Electric powertrain
- Motors & actuators
- Thermal management
- Structural parts
- Extruded tubes/pipes

→ blow molding and extrusion possible

The right material for the right part: choose the suitable material for your application!
PPA Product Selector on www.ppa.basf.com

For further questions please contact the Ultra-Infopoint: +49 621 60-78780 / ultraplaste.infopoint@basf.com

www.ultramidadvancedn.basf.com

PME 1909 E