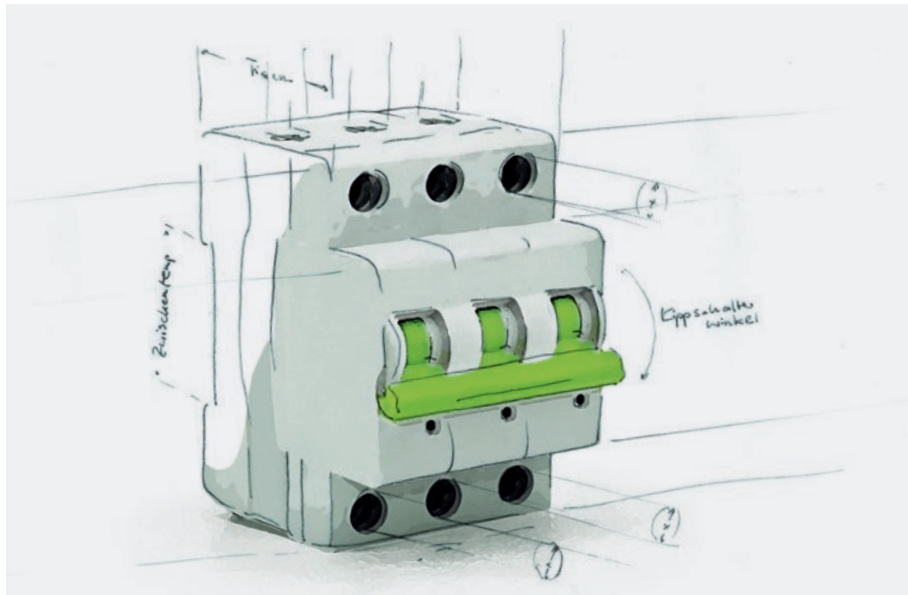


Bridging the gap between PA and PPA for E&E applications

BASF
We create chemistry

Ultramid® One J

Ultramid® One J is a high-temperature polyamide (PA66/6T) outperforming PA66 in mechanical and dielectric properties in presence of humidity and at elevated temperatures. It allows easy processing similar to standard PA with low tool corrosion, thus closing the gap to the Ultramid® Advanced PPA portfolio. It has been proven that the mold temperature has no significant influence on the mechanical properties. Ultramid® One J shows high flowability and opens up new, colorful possibilities with even white color shades for miniaturization parts with electrical protection. The UL cards testify to excellent RTI and GWIT values, the used flame-retardant is without halogens.



chemical resistance
low water uptake
dimensional stability
hydrophobicity



PPA =
Polyphthalamide



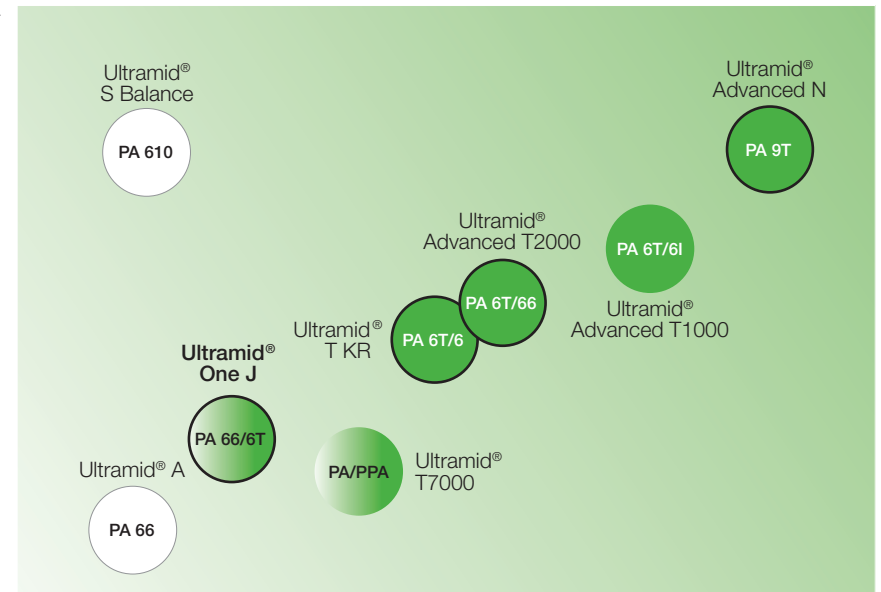
PPA blend or PPA
copolymer, < 55%
aromatic diacid
content



PA = Polyamide



Flame retardant
grades available



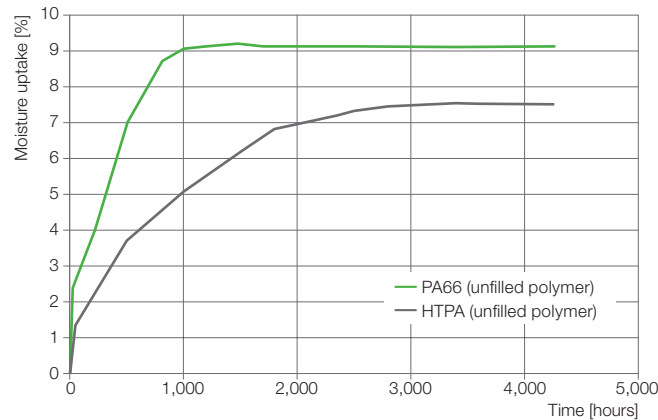
Performance at elevated temperatures and in humid conditions

Glass transition temperature, conditioned

ULTRAMID® ONE

Ultramid® One J 60X1 V30

- V-0 UL rating at 0.4 mm
- High RTI values of up to 150 °C
- CTI of 600 V
- GWIT: 800 °C (0.8 mm)



| Product | T _m [°C] | HDT A ISO 75 [°C] | E-modulus ISO 527 [GPa] | Tensile strength ISO 527 [MPa] |
|---|------------------------|-------------------------|-------------------------------|--------------------------------------|
| Ultramid® A3U42G6 (PA66 GF30 FR) | 260 | 230 | 11.0/7.5 | 145/95 |
| Ultramid® One J 60X1 V30 (66/6T GF30 FR) | 280 | 257 | 11.0/9.1 | 145/110 |
| Ultramid® Advanced T2340G6 (PA6T/66 GF30 FR) | 310 | >280 | 10.5/10.5 | 150/130 |

Easily colorable, beside orange and grey, even pure white products are possible.

Grey
RAL 7035

White
RAL 9003

Orange
RAL 2003

Good dimensional stability

- Lower water uptake compared to PA66
- Small influence on properties due to low water uptake



Bridging the gap between PA66 and PPA

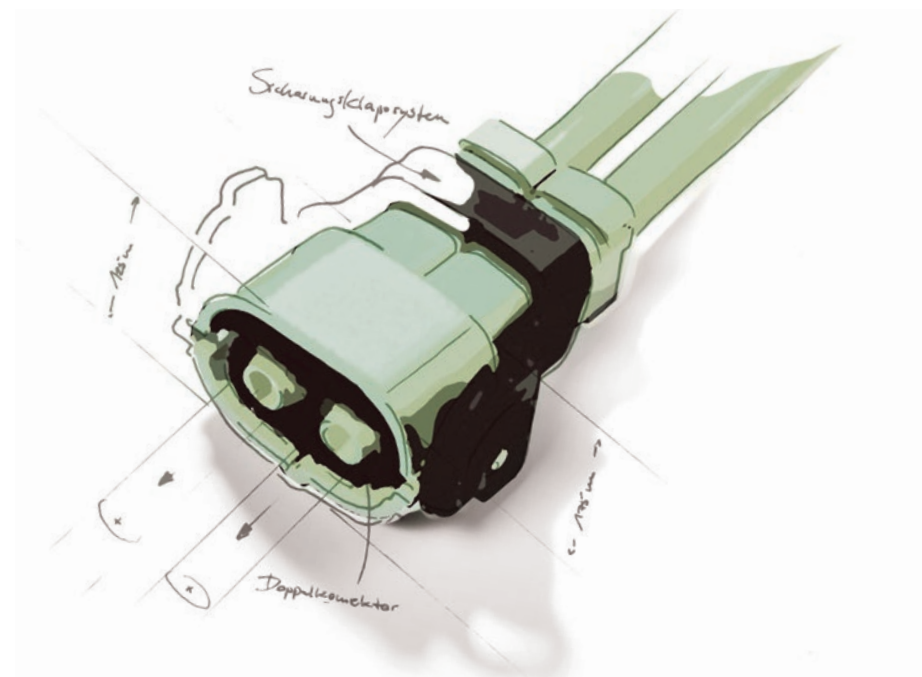
Ultramid® One J is bridging the gap between PA66 and PPA grades for key properties, also in conditioned state.

Mechanical properties

| Ultramid® One J | Tensile modulus at 23 °C ISO 527-1/-2 [MPa] | Stress at break at 23 °C ISO 527-1/-2 [MPa] | Strain at break at 23 °C ISO 527-1/-2 [%] | Charpy unnotched impact strength at 23 °C ISO 179/1eU [kJ/m²] | Charpy notched impact strength at 23 °C ISO 179/1eA [kJ/m²] |
|--------------------|--|--|--|---|---|
| 60X1 V30 | 11,000 / cond. 9,100 | 145 / cond. 110 | 2.5 / cond. 3.3 | 65 / cond. 62 | 10 / cond. 10 |
| 206 V60 nat | – / – | – / – | 2.4 / 2.6 | 90 / 90 | 15 / 15 |
| 219HT V35 | – / – | 200 / – | 3 / – | – / – | – / – |

Processing

| Ultramid® One J | Melt temperature injection molding [°C] | Mold temperature injection molding [°C] |
|--------------------|---|---|
| 60X1 V30 | 285-300 | 90-110 |
| 206 V60 nat | 280-300 | 90-110 |
| 219HT V35 | 270-310 | 85-110 |



Ultramid® One J

Product portfolio and applications

| | Ultramid® One J | Reinforcement | Colors |
|------------------------|-----------------|---------------|------------------------------|
| Flame retardant | 60X1 V30 | 30 % GF | bk, nat, grey, orange, white |
| Glass-fiber reinforced | 206 V60 | 60 % GF | nat, white |
| | 219HT V35 | 35 % GF | bk |

Please check regional availability with your BASF contact.

Possible applications

For mainly E&E applications:

- Connectors
- MCBs, MCCBs
- Consumer electronics
- Electric shower

Ultramid® One J 219HT with high purity
for fuel cell components.



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

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. (September 2023)

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