FORWARD AM
Innovating Additive Manufacturing

BASF
We create chemistry

Ultrasint® PA6

The Best Material Solution for Durable Parts with Outstanding High Temperature Performance

Ultrasint® PA6 is the material of choice for advanced technical applications in tough environments. Besides PA6 being one of the most-used technical polymer for serial production applications, Ultrasint® PA6 boasts high strength and rigidity, uncompromising media tightness, as well as excellent thermal distortion and heat-ageing performance – properties where other PBF materials often show limitations. Ultrasint® PA6 thus redefines the horizon for PBF applications.

Benefits at a Glance

- High strength and rigidity
- Media tightness as-printed
- High HDTs
- Excellent heat-ageing performance
- Color: Natural

Example Applications

- Engine compartment parts
- Jigs and fixtures
- Piping and media flow/storage parts
- Fluid reservoirs
- Multi-purpose industrial goods

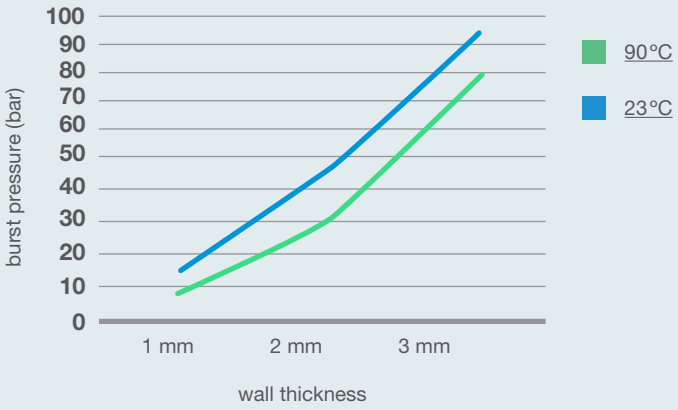
Material Properties

Tensile strength	**47 MPa**
Young's modulus	**1700 MPa**
Elongation at break	**16 %**
Charpy impact unnotched	**6,8 kJ/m²**
HDT B (0.45 MPa, dry)	**192 °C**

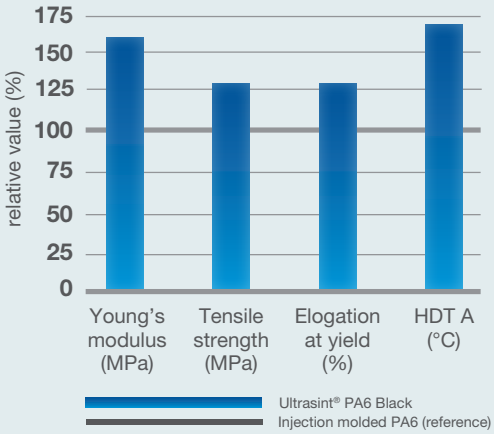
Key Features

Ultrasint® PA6 combines high thermal resistance with outstanding mechanical performance – without compromise.

Burst Pressure (even) at High Temperatures



Benchmark with Injection Molded PA6



- Burst pressure up to 90 bar (geometry-dependent)
- Excellent long-term heat ageing performance up to ~120 °C
- Even higher thermal resistance for short-term use
- Superior performance vs. injection molded neat PA6
- Lower water uptake compared to Injection Molding
- Reduced ductility is easily compensated via redesign

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