

SELECTIVE LASER SINTERING

PA 11 BLACK



Product Description

PA 11 Black provides excellent ductility and temperature resistance without sacrificing tensile strength. It offers one of the highest elongation break thresholds in the nylon family.

Applications

The material is suited for functional, moving parts with features like snap fits and living hinges. Its black color makes it desirable for optical applications due to low reflectivity.

Key Product Benefits

- ▶ High elongation at break
- ▶ Flexibility
- ▶ Uniform black color

Tolerances

For well-designed parts, tolerances of ± 0.012 in. plus ± 0.002 in./in. for each additional inch can typically be achieved. Note that tolerances may change depending on part geometry.

Properties

Property	Test Method	Value
Color	-	Black
Sintered Density	ASTM D792	1.03 g/cm ³
Water absorption (20 °C, 50% relative humidity)	ASTM D570	0.3 ± 0.2%
Water absorption, 24 hrs. in boiling water	ASTM D570	1.5 ± 0.2%
E-Module (x-y plane)	ASTM D638, test speed 10mm/min	1,800 ± 200 MPa
E-Module (z plane)	ASTM D638, test speed 10mm/min	1,800 ± 200 MPa
Tensile strength (x-y plane)	ASTM D638, test speed 10mm/min	52 ± 4 MPa
Tensile strength (z plane)	ASTM D638, test speed 10mm/min	49 ± 4 MPa
Elongation at break (x-y plane)	ASTM D638, test speed 10mm/min	30 ± 7%
Elongation at break (z plane)	ASTM D638, test speed 10mm/min	18 ± 7%
Heat deflection temperature @ 0.46 MPa*	ASTM D648	188 °C (370 °F)
Heat deflection temperature @ 1.82 MPa*	ASTM D648	48 °C (118 °F)

* From supplier data sheet