

# SELECTIVE LASER SINTERING

# PA 11 BLACK

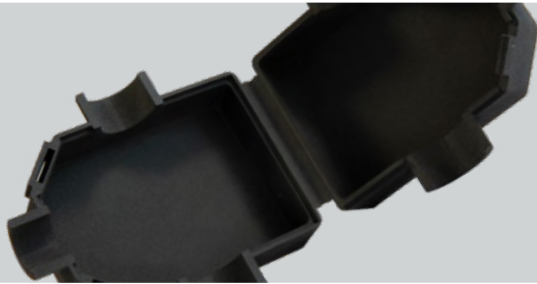


## Product Description

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  $\pm 0.012$  in. plus  $\pm 0.002$  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 <sup>3</sup>
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