

## SELECTIVE LASER SINTERING

# PA 12 MINERAL-FILLED

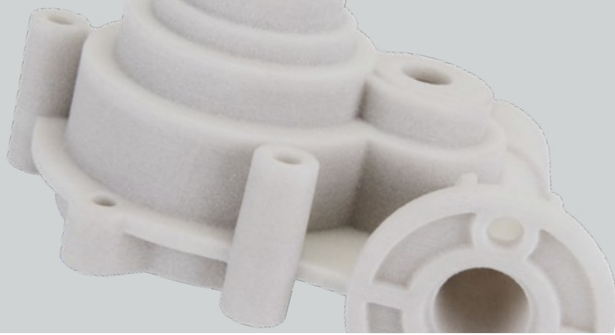


### Product Description

This 25% mineral-filled nylon offers the highest stiffness among KingStar Mold' selective laser sintering materials. It's an excellent choice when stiffness and high temperature resistance are the most important requirements.

### Applications

The material's stiffness and temperature resistance makes it suited for components like armatures and mounting plates.



### Key Product Benefits

- ▶ Excellent strength to weight performance
- ▶ High temperature resistance
- ▶ Parts can be oriented to achieve maximum strength in X-build direction

### Tolerances

For well-designed parts, tolerances of  $\pm 0.010$  in. plus  $\pm 0.0015$  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                                   | -                              | Light Gray             |
| Sintered Density                        | ASTM D792                      | 1.20 g/cm <sup>3</sup> |
| E-Module (x-y plane)                    | ASTM D638, test speed 10mm/min | 3,100 $\pm$ 400 MPa    |
| E-Module (z plane)                      | ASTM D638, test speed 10mm/min | 2,500 $\pm$ 200 MPa    |
| Tensile strength (x-y plane)            | ASTM D638, test speed 10mm/min | 38 $\pm$ 5 MPa         |
| Tensile strength (z plane)              | ASTM D638, test speed 10mm/min | 32 $\pm$ 7 MPa         |
| Elongation at break (x-y plane)         | ASTM D638, test speed 10mm/min | 3 $\pm$ 1%             |
| Elongation at break (z plane)           | ASTM D638, test speed 10mm/min | 2 $\pm$ 1.5%           |
| Heat deflection temperature @ 0.46 MPa* | ASTM D648                      | 184 °C (363 °F)        |
| Heat deflection temperature @ 1.82 MPa* | ASTM D648                      | 179 °C (354 °F)        |

\* From supplier data sheet