

OPM's Design Guide for Industrial OXFAB® Parts

This documents intent is to provide designers with basic information concerning process capabilities of OPM's OXFAB® laser sintering process.

Process Technology:

Additive manufacturing utilizing laser melting of ultra-high performance thermoplastic.

Materials Technology:

Poly-Ether-Ketone-Ketone (PEKK) thermoplastic

- OXFAB® N - unfilled
- OXFAB® ESD - 15% carbon filled.

Material Properties

- Density: .049 PCI
- Melt Temperature: 585F
- Service Temperature: -300F to +300F
- Smoke & Toxicity: UL94-V0

Maximum Component Size:

26.910"L x 14.625"W x 20.910"H"

Linear Tolerance:

As a general rule normal linear tolerance is $\pm .015$ " up to 1.00" and a maximum of $\pm .050$ " at 24".

Minimum Thickness:

0.040"

Maximum Thickness:

1.00"

Thickness Tolerance:

- $\pm .005$ " @ .060"
- $\pm .010$ " @ 1.00"

Hole Tolerance:

$\pm .010$ " per .250" Diameter

Section Dish:

$\pm .005$ "

Straightness:

Axial bow $\pm .005$ " per inch of length.

Surface Texture:

- 200-550 RMS as melted
- 63-125 RMS tumbled

Finishes:

- Aluminum Ion Vapor Deposition
- Aluminum Chromate IVD
- Nickel & Copper Plating
- Aerospace epoxy paint

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Disclaimer:

Tolerances are as sintered prior to available post process machining.

