UniFuse™ IN718 60um 400W Turbine Blade Use Case (As Printed)

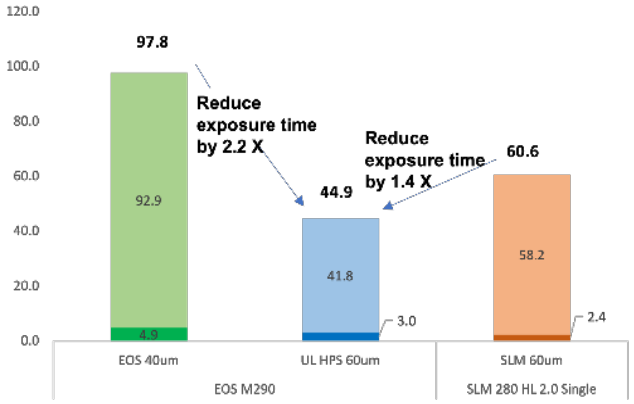
Uniformity Labs powder and scanning provide more repeatable and reproducible mechanical properties across the build bed, as demonstrated by substantially tighter property standard deviations.

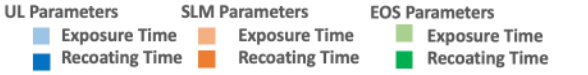
UniFuse™ IN718 ultra-low porosity powder and High Performance Scanning, in this example of production printing, **achieves a 2.2X faster exposure time** when compared to competitors' lower layer thickness scan strategies targeting best-in-class mechanical properties. This throughput improvement is typical for UniFuse™ IN718 builds.

UniFuse™ IN718 60um 400W mechanical properties are **comparable or superior** in UTS, YS, Elongation, and density compared to competitors' lower layer thickness and same layer thickness parameter sets.

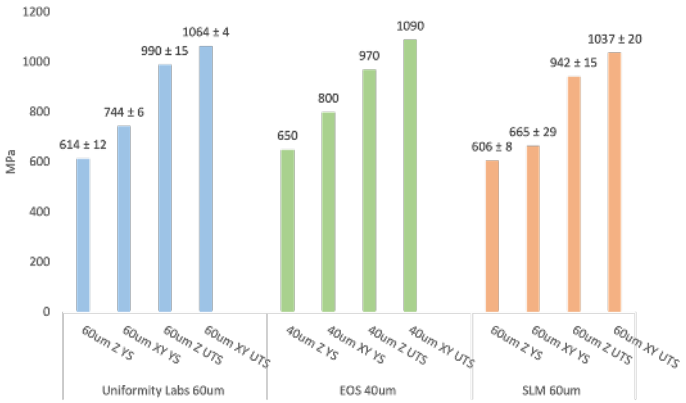
Layer thickness: UL 60um, EOS 40um, SLM 60um
Parts per build: 45
Laser Power: 400W

Single Layer Platform Build Times (Hours)





As Printed Mechanical Performance



Vertical Surface Roughness	Ra (µm)	Sa (µm)
EOS 40um	NA	4 – 5
SLM 60um	6 – 10	NA
Uniformity 60um	6 – 8	5.8 - 7

Elongation	Vertical	Horiz.
EOS 40um	32%	25%
SLM 60um	31 ± 5%	38 ± 5%
Uniformity 60um	36 ± 1.3%	30 ± 1.1%

Density	g/cm³	%
EOS 40um	≥ 8.15	NA
SLM 60um	8.2	≥ 99.5
Uniformity 60um	8.19	≥ 99.9

Contacts:

Walter Tersigni – Vice President Sales
tersigni@uniformitylabs.com

Terry Cambron– Director of Sales
cambron@uniformitylabs.com

John Baliotti – Director of Sales
baliotti@uniformitylabs.com

Brent Sharp – Director of Sales
sharp@uniformitylabs.com

SCAN ME