

QuickCast® Diamond™

3D Build Style for Investment Casting Master Patterns

Investment Casting Patterns - Now Faster, with Higher Yield and Lower Cost

3D Systems QuickCast® solution for Stereolithography (SLA) has now been even further improved with the addition of Accura® Fidelity™ investment casting printing material, the QuickCast® Diamond™ build style, and the Accura® Patch and Bond post-processing solution. Together, these represent a new paradigm in SLA 3D printed master patterns providing higher functional performance and the industry's lightest weight parts. With QuickCast Diamond master patterns, you can now deliver easier to cast, complex master patterns in days -- and save thousands in traditional tooling costs.

HIGH PRECISION, HIGH FUNCTIONALITY

Quickcast Diamond is a new build style available with 3D Systems' SLA printers and 3D Sprint® additive manufacturing software. When used in combination with the antimony-free, ultra-low ash content Accura Fidelity material to produce master patterns, foundries can reliably deliver large, high precision investment casting at a fraction of the time and cost of traditional tooling and with no limitation on geometric complexity.

NEW INTERNAL SMART SUPPORT STRUCTURES

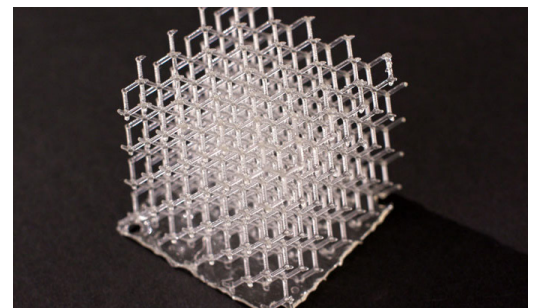
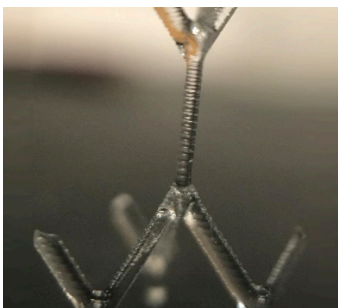
QuickCast Diamond is up to 30% lighter and has even more consistent strength than previous QuickCast build styles. The internal diamond structure pattern provides a number of benefits to the user of the investment casting process including:

- Reduced internal mass resulting in cleaner burnout in the casting process and less material consumption lowering the overall costs;
- Internal structures which adapt to the outer shell geometry and act as supports, resulting in higher yield, greater functional performance and more precise master patterns;
- Less SLA laser exposure when producing the pattern.



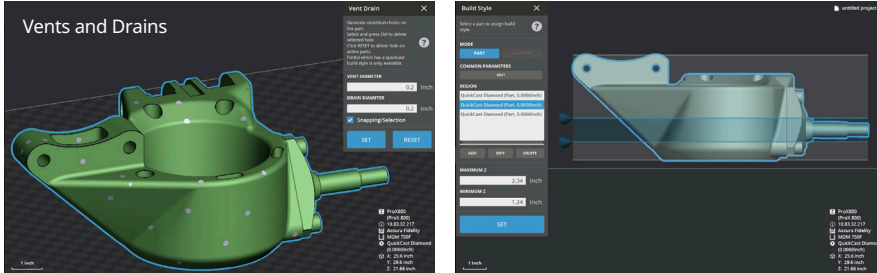
ADVANTAGES & BENEFITS

- Create complex master patterns in hours – instead of days/weeks at a fraction of the cost of traditional tooling
- Deliver large yet lightweight patterns that remain strong and dimensionally stable – both in transit and in the investment casting process
- Consistent part strength across X, Y, Z geometries throughout casting



EASY PROCESSING

Out of the printer, parts are easier to handle. Thanks to improvements in the 3D Sprint software, users can now easily adjust the part's shell thickness and unlimited placement of vents and drains on any surface, making the part stable irrelevant of the build orientation, reducing the need for manual hole drilling, and reducing risk of breakages and minimizing pattern drain times.



COMPATIBLE SLA PRINTERS

The QuickCast Diamond solution requires 3D Sprint QuickCast Diamond Add-On and works natively with all current 3D Systems SLA printers:

- SLA 750
- SLA 750 Dual
- ProJet® 6000 HD
- ProJet® 7000 HD
- ProX® 800
- ProX® 950
- iPro™ 8000
- iPro™ 9000

Antimony-free Accura Fidelity material ideal for Titanium alloys

Ultra-low ash content of below 0.010% minimizes casting defect

Low viscosity for easier draining and venting

Adaptable internal geometry which acts as supports for higher build yield

Accura Patch & Bond enable fast and easy filling of vent and drain holes and join multiple parts together to create single, large, seamless assemblies

High part strength out of the printer with consistent XYZ strength

Best-in-class moisture resistance with no trapped air bubbles

30% lighter internal diamond structure means lower material cost & faster burnout

Easy shell thickness adjustments with 3D Sprint QuickCast Diamond Add-On

Unlimited placement of vents and drains on surfaces – less manual hole drilling & fewer breakages

