

CompositeCast

FOR TOUGH PROTOTYPE
& END-USE PARTS

COMPOSITECAST

CompositeCast is a proprietary process which utilizes our QuantumCast Cast Urethane technology with sheet material reinforcement. During the casting process, the sheet material (fiberglass, graphite, Kevlar, etc.) is positioned in a precision Platinum Silicon mold and filled with Advanced Formula Polymer material. The result is a very tough, stiff cast part with high flex modulus, impact strength, and a cloth-to-resin ratio ranging from 28 - 41%. CompositeCast parts have excellent A and B-side detail. This is the fastest method available for producing multiple composite enclosures with exceptional A and B-side surface detail. Parts can be delivered within two weeks.

APPLICATIONS

- **Medical Device Covers** – Durable covers suitable for real-life medical applications
- **Body Panels** – Low volume production of cosmetic panels without the need for tooling
- **Thin-Walled Cosmetic Covers** – Quickly manufacture covers with accurate A and B-side detail

INDUSTRIES

- Medical Equipment
- Industrial
- Commercial
- Aerospace
- Military
- Automotive
- Heavy Machinery



Solid Concepts' large part expertise allows even oversized parts to be delivered within two weeks.



This thin-walled medical equipment enclosure was created with AFP material and reinforced with fiberglass to increase impact strength.

 **SOLID
CONCEPTS**
Rapid Product Development

COMPOSITECAST MATERIAL COMPARISON CHART

Material	Flexural Modulus	Heat Deflection Temperature @ 66 psi	Izod Impact Strength (method A, notched)	Tensile Modulus	Tensile Strength	Cloth to Resin Ratio
AFP 3100FR	424,275 psi (2,925 MPa)	179°F (82°C)	1.60 ft-lb/in (85 J/m)	381,675 psi (2,632 MPa)	10,650 psi (73 MPa)	—
CompositeCast AFP 3100FR	567,000 psi (3,909 MPa)	442°F (228°C)	4.22 ft-lb/in (224 J/m) 163% Gain	566,000 psi (3,902 MPa)	11,100 psi (76 MPa)	28% Cloth Standard 41% Cloth Max Density
Improvement	34%	147%	163%	48%	4%	—
PT8958	422,913 psi (2,915 MPa)	175°F (79°C)	1.70 ft-lb/in (90 J/m)	389,590 psi (2,686 MPa)	11,380 psi (78 MPa)	—
CompositeCast PT8958	582,000 psi (4,012 MPa)	468°F (242°C) 167% Gain	3.20 ft-lb/in (170 J/m)	601,000 psi (4,143 MPa)	12,200 psi (84 MPa)	28% Cloth Standard 41% Cloth Max Density
Improvement	38%	167%	88%	54%	7%	—

PT8958 vs PT8958 Composite Cast
(Target Thickness = 0.120")

Solid Concepts Inc.
Highspeed Impact
Testing is predicated
on ASTM D3763-08

