



Figure 4™ EGG SHELL-AMB 10

Production Molding

A process-optimized material for the production of sacrificial tooling for casting silicone and other materials

Figure 4®
PSLA

RIGID PLASTIC TO CREATE SACRIFICIAL TOOLING THAT WITHSTANDS SILICONE INJECTION AT HIGH TEMPERATURE AND PRESSURE, BUT BREAKS AWAY EASILY

Figure 4 EGG SHELL-AMB 10 is process-optimized for the production of sacrificial tooling for casting silicone parts in any durometer. It is specifically engineered to withstand liquid silicone injection at high temperature and pressure, with intentional brittleness to shatter easily from silicone once the mold is filled and cooled. Its amber color allows for visualization of the injected silicone, and it also has high heat deflection temperature, high tensile modulus and low elongation at break which are preferred properties for molds to be injectable.

Liquid Material

MEASUREMENT	CONDITION	METRIC	U.S.
Viscosity	@ 25 °C (77 °F)	212 cps	513 lb/ft-hr
Color		Amber	
Liquid Density	@ 25 °C (77 °F)	1.08 g/cm ³	0.039 lb/in ³
Package Volume		1 kg bottle - Figure 4 Standalone 2.5 kg cartridge - Figure 4 Modular 10 kg container - Figure 4 Production	
Layer Thickness (Standard Mode)		0.05 mm	0.002 in
Vertical Build Speed Standard Mode		43 mm/hr	1.7 in/hr

APPLICATIONS

- For casting silicone parts in any durometer
- Customized end-use and low volume production parts of silicone material
- High quality prototypes quickly produced

BENEFITS

- Fine feature detail and digital textures applied to the sacrificial tooling for textured silicone parts
- Digital tooling for complex geometries
- End product can be cast with many silicones
- Material translucency allows for visualization during injection

FEATURES

- High HDT, high tensile modulus and low elongation at break
- Translucent amber color
- Withstands silicone injection at high temperature and pressure, but intentionally brittle to break away easily



Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Solid Density (g/cm ³ lb/in ³)	ASTM D792	1.16	0.042
Tensile Strength, Ultimate (MPa PSI)	ASTM D638	72	10440
Tensile Modulus (MPa KSI)	ASTM D638	2765	401
Elongation at Break	ASTM D638	5%	
Flexural Strength (MPa PSI)	ASTM D790	114	16530
Flexural Modulus (MPa KSI)	ASTM D790	2890	419
Notched Izod Impact Strength (J/m Ft-lbs/in)	ASTM D256	15	0.3
Unnotched Izod Impact Strength (J/m Ft-lbs/in)	ASTM D4812	138	2.6
Heat Deflection Temperature @ 0.45 MPa (66 PSI) @ 1.82 MPa (264 PSI)	ASTM D648	89 °C 72 °C	192 °F 162 °F
Glass Transition (Tg), DMA, E''	ASTM E1640	83 °C	181 °F
Hardness, Shore	ASTM D2240	85D	
Water Absorption (24 hour)	ASTM D570	0.27%	



More details can be found in the User Guide and Best Practices Documentation available at <https://support.3dsystems.com/>



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