

Ultracur3D® RG 3280

Ceramic-filled resin with exceptionally high stiffness and temperature resistance.

A ceramic-filled resin specifically designed to offer outstanding stiffness, superior heat resistance, and excellent electrical insulation characteristics.



Benefits

- Superior stiffness
- Superior temperature performance
- Very fast and easy to print
- High suspension stability
- Steam Sterilizable
- Bio Compatibility



Applications

- Tooling
- Moulding
- Wind tunnel testing

Physical Properties

Colour	Pinkish if not cured/Off-White if cured
Type	PR
Ceramic Content	~65 wt% silica

Mechanical Properties

			TEST/ISO
Solid Density	1.73 g/cm ³		ASTM D792
Tensile Properties	UV	UV + Thermal	
Tensile Strength (MPa)	87 MPa	85 MPa	ASTM D638
Tensile Modulus (MPa)	10600 MPa	10500 MPa	ASTM D638
Elongation at Break (%)	1.3	1	ASTM D638
Flexural Strength (MPa)	73	N/A	ASTM D790
Flexural Modulus (MPa)	8780	N/A	
Notched Izod (Machined), 23°C (J/m)	24	N/A	ASTM D256
Notched Charpy (Machined), 23°C (J/m ²)	0.98	N/A	ISO 179 - 1
Heat Deflection Temperature (°C)	UV	UV + Thermal	
@ 0.455 MPA	284°C	284°C	ASTM D648
@ 1.82 MPA	132°C	132°C	
Flammability	HB	N/A	UL 94 (1.8 mm)
Glass transition temperature (DMA, tan(d))	168°C	171°C	ASTM D4065
Shore Hardness	96D	N/A	ASTM D2240
24hr Water Absorption (%)	0.29		ASTM D570

Advanced Thermal Properties (UV)

C.T.E. (-45°C to 0°C)	23.2 µm/(m·K)	ASTM E831
C.T.E. (0°C to 50°C)	30.2 µm/(m·K)	ASTM E831
C.T.E. (50°C to 100°C)	61.4 µm/(m·K)	ASTM E831
C.T.E. (100°C to 150°C)	56.8 µm/(m·K)	ASTM E831
Thermal conductivity, 23°C ⁴	0.47 W/(m·K)	MTPS
Thermal conductivity, 200°C ⁴	0.69 W/(m·K)	MTPS
Specific heat capacity, 23°C ⁵	1.01 J/(g·K)	MTPS
Specific heat capacity, 200°C ⁵	1.81 J/(g·K)	MTPS

Electric Properties (UV)

Electrical Strength	29 kV/mm	DIN EN 60243-1 29
Volume resistivity	2.80E+16 Ωcm	DIN EN 62631-3-1
Surface resistivity	3.40E+16 Ω	DIN EN 62631-3-2

Biocompatibility (UV)

Cytotoxicity-Neutral Red	PASS	ISO 10993-5 (2009)
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