DISRUPTIVE ENGINEERED MATERIALS

PRESIDIUM

REVOTHERM® RT2000

HIGH-STRENGTH POLYURETHANE

Technical Data Sheet

RT2000 is a two-component polyurethane with exceptional physical properties intended for structural applications. It is suitable for Closed Mold Injection processes (i.e. RIM, RTM, and Pultrusion). In some cases, the exceptional physical properties of RT2000 are strong enough to produce parts without any glass reinforcement, which can provide up to a 30% weight reduction. RevoTherm® has the stiffness of an epoxy, polyester, or vinyl ester but has the toughness and processability of a urethane.

Key Physical Properties*	Units	Nonreinforced	40% Glass Reinforced[2]	40% Aramid Reinforced[3]	40% Carbon Reinforced[4]	Pultrusion 81% Glass
Specific Gravity ASTM D792		1.22	1.46	1.27	1.42	2.13
Durometer[1] ASTM D2240	Shore D	86	86	88	91	94
Glass Transition, Tg[1] ASTM D3418	°F (°C)	273 (134)	268 (131)			273 (134)
Flexural Modulus ASTM D790	psi (MPa)	460,000 (3,170)	1,385,000 (9,550)	2,571,660 (17,730)	3,891,360 (26,830)	8,194,630 (56,500)
Flexural Strength, Peak ASTM D790	psi (MPa)	20,595 (142)	50,040 (345)	42,350 (292)	80,930 (558)	236,410 (1,630)
Flexural Elongation @ Break ASTM D790	%	12.1	4.3	4.7	2.2	3.0
Tensile Modulus ASTM D638	psi (MPa)	472,000 (3,254)	1,630,000 (11,238)	2,264,900 (15,616)	2,504,800 (17,270)	2,219,070 Perp. (15,300 Perp.)
Tensile Strength, Peak ASTM D638	psi (MPa)	11,400 (77)	26,200 (181)	42,350 (334)	80,930 (364)	9,440 Perp. (65.1 Perp.)
Tensile Elongation @ Break ASTM D638	%	5.5	2.1	3.5	3.4	0.5 (Perp.)

* All samples were post-cured at 275F for 30 minutes to ensure full cure before testing. Post curing is not typically necessary in production. [1] Internal Testing inquire for details. [2] Six layers of glass fabric, 9oz or 305 g/m² 3 mm thick. [3] Six layers of carbon fabric 11oz or 373 g/m² 2.5 mm thick [4] Six layers of aramid fabric, 9oz or 305 g/m² 3 mm thick

APPLICATIONS

- Automotive body panels
- E.V. battery boxes
- Structural foams
- Wind turbine spar caps
- Consumer and Industrial products

BENEFITS

- Excellent strength-to-weight
- Extremely rigid without becoming brittle
- High compression strength and tunable formulations
- Compatible with all reinforcements including carbon fiber
- No VOC's, faster line speeds, and less waste

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