

Prepreg Resin Selector Guide



Delivering High Performance Prepreg Solutions

TCR Composites offers unique **thermosetting** epoxy matrix resin systems featuring a range from **1-year to 1-month shelf life without refrigeration**. These resins are currently used for tow/roving, unitape, fabric and braid and are available for carbon, glass, aramid, and other fibers.

Neat Resin Properties and Applications

Formulation	Density (g/cc)	Tg (DMA) (°F/°C)	Tensile Modulus (ksi/Gpa)	Tensile Strength (ksi/MPa)	Elongation at Break (%)	Tg After 24-hr Water-Boil (°F/°C)	Water Absorption (%)	Typical Use & Carrier
UF3323*	1.21	240 / 116	410 / 2.83	9.5 / 65.5	5.0	199 / 93	2.5	Rocket motor cases, large structures – Tow
UF3325*	1.21	255 / 124	410 / 2.8	11.5 / 79.0	4.5	169 / 76	3.9	Sporting goods, rocket motor cases, high pressure cylinders, commercial applications – All Carriers
UF3330*	1.19	248 / 120	328 / 2.3	8.7 / 60.0	3.4	160 / 70	4.4	Braidable, slippery/very low tack – Tow, Braid
UF3352*	1.229	270 / 132	440 / 3.03	10.7 / 73.77	4.0	169 / 76	3.9	Sporting goods, rocket motor cases, commercial applications – Unitaape/Fabric
UF3357†	1.24	356 / 180	500 / 3.4	6.0 / 41.0	1.4	266 / 130	2.7	High-temp applications – All Carriers
UF3360†	1.20	331 / 166	460 / 3.17	10.0 / 69.0	3.5	237 / 114	3.3	Moderately high-temp commercial applications – All Carriers
UF3362†	1.21	324 / 162	460 / 3.2	7.2 / 50.0	1.7	244 / 118	2.6	Moderately high-temp applications – Unitaape/Fabric
UF3369‡	1.18	243 / 117	445 / 3.1	13.4 / 92.4	3.6	153 / 67	5.0	High pressure cylinders, moderately low-temp cure, industrial, commercial applications – Tow/Unitape/Fabric
UF3376‡	1.18	282 / 139	478 / 3.3	14.1 / 97.2	6.3	181 / 83	4.0	Low-temp cure, high pressure vessel, structural and infrastructure applications – Tow/Fabric
TR1106‡	1.23	375 / 190	380 / 2.62	7.2 / 49.5	1.9	285 / 140	3.6	Thermally conductive, High Tg – Tow/Unitape/Fabric
TR1109‡	1.21	264 / 129	450 / 3.1	10.5 / 73.0	2.4	174 / 79	3.5	Low tack, moderately low-temp applications – Unitaape/Fabric
TR1110†	1.36	297 / 147	664 / 4.6	9.4 / 62.0	1.4	235 / 113	2.2	Flame-retardant, meets UL94 V-1 – Tow/Fabric
TR1111‡	1.17	232 / 111	390 / 2.69	11.3 / 77.9	2.9	160 / 71	4.5	Toughened, low-temp cure applications – Tow/Fabric
TR1112**	1.20	234 / 112	480 / 3.3	13.7 / 94.4	3.3	171 / 77	6.2	High translation, low-temp, reduced exotherm in thick laminates, pressure vessel applications – Tow/Fabric
TR1113‡	1.42	243 / 117	484 / 3.4	11.5 / 79.5	3.3	156 / 69	5.9	Glow-in-the-Dark, low-temp cure – Glass Tow/Roving
TF7035** Adhesive Film	High-strength epoxy film adhesive				Available with or without carrier Weight: .030-.080 lb/ft ² Thickness: .006-.014 in			Composite, honeycomb, metal and other applications requiring enhanced bond and shear strength
TR8600† Hot Melt	Flame Retardant Epoxy Thermoset resin with high-strength mechanical properties				Available as single-side coating on a variety of fabric types			Composite laminate and sandwich applications – Carbon, Glass and Aramid Fabric

*One-year shelf life at room temperature.
**One-month shelf life at room temperature.

†Six-month shelf life at room temperature.
‡Three-month shelf life at room temperature.

Typical Cure Cycles

Formulation	Option 1 (°F/°C)	Option 2 (°F/°C)	Option 3 (°F/°C)
UF3323	24 hr at 280/138	12 hr at 300/149	---
UF3325	1 hr at 310/154	2 hr at 290/143	4 hr at 270/132
UF3330	1 hr at 310/154	2 hr at 290/143	4 hr at 270/132
UF3352	1 hr at 310/154	2 hr at 290/143	4 hr at 270/132
UF3357	2 hr at 350/177	4 hr at 330/166	8 hr at 310/154
UF3360	1 hr at 350/177	2 hr at 330/166	3 hr at 310/154
UF3362	1 hr at 350/177	2 hr at 330/166	4 hr at 310/154
UF3369	4 hr at 250/121	6 hr at 230/110	24 hr at 210/99
UF3376	4 hr at 250/121	6 hr at 230/110	24 hr at 210/99
TR1106	4 hr at 350/177	---	---
TR1109	4 hr at 250/121	6 hr at 230/110	24 hr at 210/99
TR1110	1 hr at 350/177	2 hr at 330/166	4 hr at 310/154
TR1111	4 hr at 250/121	6 hr at 230/110	24 hr at 210/99
TR1112	2.5 hr at 230/110	4 hr at 200/93	---
TR1113	4 hr at 250/121	6 hr at 230/110	24 hr at 210/99
TF7035 Film & TR8600 Hot Melt	1 hr at 250/121	---	---

The values here represent expected ranges based on actual test data. Since the values are specimen preparation- and test-method-dependent, TCR Composites cannot guarantee that these properties will be obtained in all cases. The data should be used as an indication only, since part or component properties are highly equipment- and process-dependent. It is recommended that end users determine the suitability of this material for each application through their own testing and evaluation. TCR™ is a trademark of TCR Composites, Inc.