

PREPREG RESIN SELECTOR GUIDE

TCR Composites offers a unique **thermosetting** epoxy matrix resin system featuring either a ***1 year, †6-month, or ‡ 3-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. Ask us about custom resin formulations for unique prepreg applications.

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 / 2.8	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, very low tack – Tow
UF3339*	1.20	226 / 108	400 / 2.8	10.0 / 69.0	4.1	154 / 68	4.3	Cryogenic, commercial applications – All Carriers
UF3350†	1.25	376 / 191	550 / 3.8	6.0 / 41.4	1.2	267 / 131	2.9	High-temp applications – Unitape/Fabric
UF3352*	1.23	270 / 132	440 / 3.0	10.7 / 73.8	4.0	169 / 76	3.9	Sporting goods, rocket motor cases, commercial applications – Unitape/Fabric
UF3357†	1.24	356 / 180	500 / 3.4	6.0 / 41.0	1.4	266 / 130	2.7	High-temp applications – Tow
UF3360†	1.20	331 / 166	460 / 3.2	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 – Unitape/Fabric
UF3369‡	1.18	243 / 117	445 / 3.1	13.4 / 92.4	3.6	153 / 67	5.0	High pressure cylinders, low-temp cure recreational and commercial applications – Tow
UF3376‡	1.18	275 / 135	450 / 3.1	14.0 / 96.5	4.0	172 / 78	4.0	Low-temp cure recreational and large structure applications – Tow/Fabric/Unitape
TR1102†	1.24	375 / 190	490 / 3.4	9.8 / 67.6	2.0	280 / 138	2.9	High-temp, semi-toughened – Tow/Fabric
TR1103*	1.25	250 / 121	374 / 2.6	8.1 / 55.8	2.3	181 / 83	3.9	Electrically Conductive resin - 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 – Unitape/Fabric
TR1110†	1.36	297 / 147	664 / 4.6	9.4 / 62.0	1.4	235 / 113	2.2	Flame-retardant resin – Tow/Fabric
TR1111‡	1.17	232 / 111	390 / 2.7	11.3 / 77.9	2.9	160 / 71	4.5	Toughened, low-temp applications – Tow/Unitape/Fabric
TF7035† Adhesive Film	Meets Federal Specification MMM-A-132 Type 1 Class 2 and exceeds requirements of MIL-A-25463				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.

†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
UF3339	1 hr at 310/154	2 hr at 290/143	4 hr at 270/132
UF3350	2 hr at 350/177	4 hr at 330/166	8 hr at 310/154
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
TR1102	4 hr at 350/177	---	---
TR1103	1 hr at 310/154	2 hr at 290/143	3 hr at 270/132
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
TF7035	1 hr at 250/121	---	---
TR8600	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.