



TCR Composites

TCR™ High-Performance Towpreg

Delivering High-Performance Prepreg Solutions



TCR™ towpregs feature a patented thermoset resin system, storable at room temperature, that can be used with virtually any continuous fiber reinforcement. TCR™ towpregs are designed for high throughput (up to 900 ft or 275 m per minute) for filament winding applications. Tow can be impregnated utilizing 6K to 60K standard modulus to high modulus carbon fibers as well as glass, basalt and aramid with equivalent cross sections.

TCR™ resins and fibers are matched to provide optimal performance. Each fiber has unique properties and therefore may require a specific resin to achieve maximum performance.

From the highest performance rocket-motor cases to the best quality commercial pressure cylinders, TCR™ towpregs are the material of choice for pressure vessels and are used in a variety of markets including aerospace, defense, industrial, infrastructure, recreation and wind energy.

Available Resin Systems

Formulation	Resin Tg (DMA)	Recommended Cure Cycle Hold Time	Typical Applications
UF3323	240F / 116C	24 hr @ 280F / 138C	Rocket motor cases, large structures requiring long production time
UF3325	255F / 124C	1 hr @ 310F / 154C	Sporting goods, rocket motor cases, high-pressure cylinders, commercial applications
UF3330	248F / 120C	1 hr @ 310F / 154C	Over-braiding, large structures requiring long production time - very low tack system
UF3357	356F / 180C	2 hr @ 356F / 180C	High-temperature applications
UF3360	331F / 166C	1 hr @ 350F / 177C	Moderately-high-temperature applications
UF3369	243F / 117C	4 hr @ 250F / 121C	High-pressure vessels, recreational and commercial applications
UF3376	275F / 135C	4 hr @ 250F / 121C	High-pressure vessels, large structures and commercial applications
TR1110	297F / 147C	2 hr @ 350F / 166C	Flame-retardant, Bromine-free and Antimony-free
TR1111	232F / 111C	4 hr @ 250F / 121C	Semi-Toughened system for high-temperature applications
TR1112	234F / 112C	4 hr @ 200F / 93C	High translation pressure vessels, low temp cure

See individual Resin Data Sheets for complete cure cycle information

Towpreg Packaging / Shipping Guidelines

Cardboard Core Size	Towpreg Weight per Spool	Packing
3"x11"	0.5-20 LBS	Sealed in moisture-resistant poly bags
76 x 280 mm	0.27-9.0 KGS	
Box Size	Units per Box	Max Box Weight
21.6"x14.85"x11.5"	2-6	~100 LBS
54.68 x 37.72 x 29.21 cm	2-6	~46 KGS
25.75"x17.15"x11.5"	4-8	~100 LBS
54.86 x 37.72 x 29.21 cm	4-8	~46 KGS
8.75"x8.75"x11.5"	1	~12 LBS
22.25 x 22.25 x 29.21 cm	1	~5.5 KGS

Dry Ice and Temperature Recorders are Not Required

Typical Fiber Performance in a Pressure Vessel

Manufacturer	Fiber	Filament Count	Mfg. Certified Fiber Strength (ksi)	TCR Delivered Fiber Strength (ksi)	Translation (%)
DowAksa	A49	12K	717	571	80
Hexcel	PV42-850	12K	821	787	96
Hyosung	H2250	12K	791	711	90
Mitsubishi	34-700	12K	646	534	85
Mitsubishi	TRH50	18K	735	654	89
SGL	C50-T024-EPY	24K	712	579	86
Toho	UTS50-F24	24K	747	628	84
Toray	T700SC-50C	12K	720	685	95
Toray	T800SC-10E	24K	866	855	99

TCR Composites is certified to ISO9001-2015. TCR is a trademark of TCR Composites, Inc.

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