

---

## **350°F cure High Tg Hot Melt Towpreg HMT6600**

### **Description:**

Newport-FTP™ HMT6600 is a 350°F (177°C) cure, hot melt towpreg with toughened, high-Tg epoxy resin matrix. Versatile processing, excellent mechanical properties and flame retardancy, and long out time make it suitable for a variety of applications including large scale structures where layup requirements can take days or weeks.

### **Application:**

With good toughness and impact resistance Newport-FTP™ HMT6600 is well suited for Filament Winding Process and/or Fiber Placement Process in a variety of structural applications such as aerospace, marine, automotive, industrial and sporting goods markets.

Newport-FTP™ HMT6600 can be supplied with most of commercial carbon or other fibers.

### **Benefits/Features:**

- Environmental friendly (Solvent free, No release paper or cover film)
- Long out time, Up to 30 days at 70°F (21°C)
- Moderate tack
- Excellent mechanical properties
- High-Tg, 200°C (392°F)
- Available on a wide range of standard, intermediate, and high modulus carbon fibers and Aramid fibers

### **Recommended Processing Conditions:**

- Newport-FTP™ HMT6600 can be cured at temperatures at 350°F (177°C) depending on part size and complexity.
- Low, medium, and high pressure molding techniques may be used to cure Newport HMT6600 resin.
- Recommended cure cycle is 50 – 100 psi (345 – 690 kPa), 3°F/min (1.7°C/min) ramp to 350°F (177°C), hold for 90-120 minutes, cool to <140°F (60°C).

**Physical Properties:**

Gel Time 350°F (177°C)	16-20minutes
Cured Resin Density	1.30 g/cc
Cast resin Dry -Tg (DMA, E') <sup>*1</sup>	399°F (204°C)
Composite Dry -Tg (DMA, E') <sup>*1</sup>	392°F (200°C)
	<sup>*1</sup> With MR60H 24K 32%RC

**Mechanical Properties:**

The mechanical properties listed in the following tables are average values obtained from HMT6600 resin with Grafil 37-800 30K carbon fiber. All values are based on using an autoclave cure at 350°F (177°C) for 120 minutes under 80 psi (551kPa) pressure. Results are normalized to 60% fiber volume, except 0° SBS strength properties.

HMT6600 37-800 30K	Test Method	Results (RT) (Normalized)
0° Tensile strength, ksi	ASTM D-3039	285
0° Tensile modulus, Msi		22.0
0° Compression strength, ksi	ASTM D-695 mod.	250
0° Compression modulus, Msi		23.0
0° Flexural strength, ksi	ASTM D-790	325
0° Flexural modulus, Msi		20.0
0° Short Beam Shear str., ksi**	ASTM D-2344	20.3

\* Values are average and do not constitute a specification

\*\*As tested, not normalized

HMT6600 MR60H 24K	Test Method	Results (RT) (Normalized)
0° Tensile strength, ksi	ASTM D-3039	320
0° Tensile modulus, Msi		25.0
0° Compression strength, ksi	ASTM D-695 mod.	260
0° Compression modulus, Msi		24.0
0° Flexural strength, ksi	ASTM D-790	320
0° Flexural modulus, Msi		22.0
0° Short Beam Shear str., ksi**	ASTM D-2344	20.5

\*Values are average and do not constitute a specification

\*\*As tested, not normalized


**MITSUBISHI RAYON CARBON FIBER AND COMPOSITES, INC.**


---

**Towpreg Storage:**


---

- Material can be stored at 40°F (4°C) for 6 months.
- Material can be stored at 0°F (-18°C) for 12 months.
- Out time is 30 days at room temperature 70°F (21°C).

**Availability:**


---

Newport-FTP™ HMT6600 is available on a wide variety of carbon fibers. Some product characteristics such as resin content, gel time can be tailored within reason to meet specific requirements.

Contact Newport about any specialty fibers or requirements.

*For orders, pricing, availability, technical assistance or other inquiries please contact:*

**CORPORATE OFFICES**

**Mitsubishi Rayon Carbon Fiber and Composites, Inc.**

**Composite Materials Division**

**1822 Reynolds Ave. Irvine CA 92614**

**Tel: (949) 253-5680**

**Fax: (949) 253-5692**

[Sales@mrcfac.com](mailto:Sales@mrcfac.com)

<http://www.mrcfac.com>

Suzanne Potter,	Sales Administrator,	<a href="mailto:suzanne.potter@mrcfac.com">suzanne.potter@mrcfac.com</a>
Mike Pierce,	Senior Sales Manager,	<a href="mailto:mike.pierce@mrcfac.com">mike.pierce@mrcfac.com</a>
Max Thouin,	Sales Engineer	<a href="mailto:max.thouin@mrcfac.com">max.thouin@mrcfac.com</a>
Nick Nohara	R&D Engineer	<a href="mailto:atsushi.nohara@mrcfac.com">atsushi.nohara@mrcfac.com</a>

**Disclaimer:** The information contained herein has been obtained under controlled laboratory conditions and are typical or average values and do not constitute a specification, guarantee, or warrantee. Results may vary under different processing conditions or in combination with other materials. The data is believed to be reliable but all suggestions or recommendations for use are made without guarantee. You should thoroughly and independently evaluate materials for your planned application and determine suitability under your own processing conditions before commercialization. Furthermore, no suggestion for use or material supplied shall be considered a recommendation or inducement to violate any law or infringe any patent.

*Good Chemistry for Tomorrow* Mitsubishi Chemical Holdings Group