HexPly® M74

350°F (177°C) curing epoxy matrix

HEXCEL®

Product Data Sheet

Features

- 350°F (177°C) cure
- Available in a broad range of fibers and forms including tape, fabric, and tow
- Large industry data base
- Laminate and sandwich panel usage
- Material widely used in space, aerospace, and military structural applications
- Autoclave or press-mold processing
- Shelf life*: 6 months at 0°F (-18°C)
  10 days at 72°F (22°C)
  (maximum, from date of manufacture)

Description

M74 is a high flow, 350°F (177°C) curing epoxy resin with extensive space structural heritage*. M74 is formulated for autoclave processing, but it has been successfully processed by press molding. Unidirectional tape and woven fabric impregnated with M74 resin will retain good tack and drape for at least 10 days at 70°F (21°C). Standard cure is for two hours at 350°F (177°C). Hexcel recommended lay-up procedure is HSP-L1 or HSP-L2. Recommended cure procedure is HSP-C1 or HSP-C2.

Typical applications for M74 include structural aircraft components and critical space structures. M74 meets all NASA outgassing requirements.

Typical Neat Resin Properties

Properties		RT	200°F (93°C)	200°F (93°C) Wet
Tensile Strength	**ksi**	12		
	MPa	83		
Tensile Modulus	**Msi**	0.6		
	GPa	4.1		
Flexural Strength	**ksi**	10.0	17	10.0
	MPa	69	117	69
Flexural Modulus	**Msi**	0.6	0.5	034
	GPa	4.1	3.4	2.8
Tg	**Dry**	381°F (194°C)		
	Wet	320°F (160°C)		
Density	**gcc**	1.3		

M74 Laminate Outgassing

	T300/M74	ASTM LIMITS
Total Mass Loss, %	0.4	1.0
Volatile Condensable Mat'l	<0.01	0.1
Water Vapor Recovered	0.13	

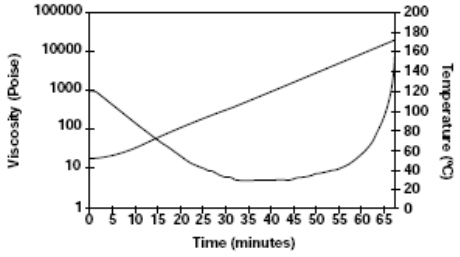
Notes: Tested per ASTM E 595
The data tested has been obtained from carefully controlled samples considered to be representative of the product described. Because the properties of this product can be significantly affected by the fabrication and testing techniques employed and since Hexcel does not control the conditions under which its products are tested and used, Hexcel cannot guarantee that the properties listed will be obtained with other processes and equipment.
**Licensed 934 technology from Cytec.*

Typical Mechanical Properties (Various Fibers)

Property		Fiber (Average Values)			
		M40J	M46J	M55J	L1392U
0° Tensile Strength	ksi	304	288	319	272
	MPa	2096	1985	219	1875
0° Tensile Modulus	Msi	29.7	39.0	52.8	64.6
	GPa	205	269	364	445
90° Tensile Strength	ksi	4.5	7.4	4.4	
	MPa	31	51	30	
90° Tensile Modulus	Msi	1.12	1.04	0.99	
	GPa	7.7	7.2	6.8	
0° Comp. Strength	ksi	171	190	135	60.9
	MPa	1179	1310	931	420
0° Comp. Modulus	Msi	25.7	32.0	46.6	59.9
	GPa	177	221	321	413
0° Flexural Strength	ksi	171	179	146	96.8
	MPa	1179	1234	1007	667
0° Flexural Modulus	Msi	23.5	30.0	41.5	50.3
	GPa	162	207	286	347
0° IL Shear Strength	ksi	12.9	12.3	10.3	9.3
	MPa	89	85	71	64

Notes: 0° tensile, compression, and flex values are normalized to 60% fiber volume. All testing performed at RT

M74 Viscosity Profile [Ramp to 350°F (177°C)]



For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax® multiaxial reinforcements
- HexPly® prepregs
- HexMC®-i molding compounds
- HexFlow® RTM resins
- HexBond™ adhesives
- HexTool® tooling materials
- HexWeb® honeycombs
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles
- HexAM® additive manufacturing

For U.S. quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

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