Product Overview

E-752 Epoxy Prepregs

Park's E-752 is a toughened, 365°F cure epoxy system designed for demanding structural applications up to 265°F/wet. E-752 offers a good balance of toughness, high service temperature and good moisture resistance, as well as excellent tack and drape. Formulated for both oven and autoclave cure, E-752 provides for easy processing with oven cure, without sacrificing mechanical properties.

Key Features & Benefits

- Specifically designed to allow both oven cure and autoclave cure
- Service temperatures up to 265°F/wet
- Controlled flow for ease of processing
- Flexible cure temperature 270°F to 365°F
    - Good mechanical properties can be achieved through oven curing at 270°F, followed by post-cure at 365°F
- Self-adhesive grade for sandwich panel applications

Product Forms

- Available on a wide variety of reinforcements, including fiberglass and graphite
- Fabrics and Unidirectional Tape available up to 24" (61 cm) wide
- Compatible with Autoclave, Vacuum Bag/Oven or Press Molding processes

Applications / Qualifications

- Primary and Secondary Aircraft Structures
- Ducting
- Fairings
- Nacelles

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Processing Guidelines

E-752 Epoxy Prepregs

Nominal Prepreg and Laminate Physical Properties

Reinforcement	3K PW HTS40/HTS45	6K 5HS HTS40/HTS45	12K 2x2 Twill	IM7 Unitape	12K HTS40/HTS45 Unitape
Fabric Area Weight (gsm)	193	380	380	145	145
Prepreg Resin Content (%)	32 – 40	35 – 43	35 – 43	35	35
Resin Flow (275°F, 50psi) (%)	15	6 – 20	--	15	15
Volatiles (275°F, 8 min) (%)	< .5	< .5	< .5	< .5	< .5
Gel Time (min)	5 – 12	5 – 12	5 – 12	5 – 12	5 – 12
Dry Tg / Wet Tg (DMA)	197°C dry / 182°C wet				

**Note: All values are nominal, actual values will vary*

Sandwich Panel Properties

Reinforcement	Property	Test Method	Mean Value
3K PW HTS40/HTS45 39 – 42% RC	Climbing Drum Peel	ASTM-D-1781	4.6 in lb/in
	Flatwise Tensile Strength	ASTM-C-297	350 psi (core failure)

Prepreg Storage Life

Tack Life: 21 days @ 75°F
Out Life: 21 days @ 75°F
Shelf Life: 12 months @ 0°F

Note: The following guidelines are provided to assist Park material users with general recommendations for successful processing. The recommendations are for general review purposes only and process adjustments may be required to achieve optimum results in your specific manufacturing environment.

Vacuum Bag / Oven Cure Cycle

- Apply 1.0 bar vacuum for 1 hour before beginning heat cycle
- Heat at 0.5 – 3°F/min from room temperature to 230 ± 5°F
- Hold at 230 ± 5°F for 60 minutes
- Heat at 0.5 – 3°F/min to 365 +/-5°F and hold for 125± 5 minutes
- Cool to 160°F at no more than 7°F/min

Alternate Cycle: Heat at 0.5 – 3°F /min to 260 ± 5°F and cure for 120 minutes, followed by 120 min free standing post-cure @ 360 +/-5°F.

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Technical Datasheet

E-752 Epoxy Prepregs

Laminate Mechanical Properties

Reinforcement	IM7 UniTape	3K PW HTS	6K 5HS HTS40/HTS45	12K 2X2 TW HTS
Fiber Area Weight	145 gsm	378gsm	378gsm	378gsm
Cure Cycle	365°F Autoclave	365°F Oven	365°F Oven	365°F Oven
Tensile Strength, 0° (Ksi)				
-65°F Dry		132		
75°F Dry	340	142	137.2	129.1
250°F Dry	350	--	147.3	
250°F Wet	356	135	130.9	
ASTM-D-3039				
Tensile Modulus, 0° (Msi)				
-65°F Dry		9.2		
75°F Dry	23.4	9.3	9.8	9.4
250°F Dry	24.2	--	9.4	
250°F Wet	24.6	9.2	9.4	
ASTM-D-3039				
Compressive Strength (Ksi)				
-65°F Dry		124		
75°F Dry	264	112	119	117
250°F Dry	190	91	101	93
250°F Wet	148	54	78	
SACMA 1R-94				
Compressive Modulus (Msi)				
-65°F Dry	--	8.9	--	--
75°F Dry	21.1	8.5	9.4	8.7
250°F Dry	27.2	8.7	9.2	8.5
250°F Wet	22.8	8.6	9.5	
SACMA 1R-94				
In-Plane Shear Strength (Ksi)				
-65°F Dry	--	17.5	--	--
75°F Dry	13.2	13.5	14.3	11.4
250°F Dry	--	--	12.8	12.5
250°F Wet	--	5.1	9.3	
ASTM-D-3518				
In-Plane Shear Modulus (Msi)				
-65°F Dry	--	0.82	--	--
75°F Dry	0.69	0.68	0.7	0.67
250°F Dry	--	--	0.6	0.52
250°F Wet	--	0.27	0.6	0.37
ASTM-D-3518				
Open-Hole Compr. Strength (Ksi)				
75°F Dry	--	45.7	47.6	43.2
250°F Wet		29.7		
ASTM-D-6484				
Comp. Strength After Impact (ksi)				
75°F Dry		33.4		

All test data provided are typical values and not intended to be specification values. For review of critical specification tolerances, please contact a Park representative directly. Park reserves the right to change these typical values as a natural process of refining our testing equipment and techniques.

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