Product Overview

V-303 Polyimide Prepreg

Park's V-303 is non-MDA condensation polyimide prepreg with a service temperature of 316°C.

Key Features & Benefits

- 316°C maximum service temperature
- Good Electrical properties for RF applications

Product Forms

- Available on a wide variety of reinforcements, including fiberglass, quartz and carbon
- Solution coated fabrics up to 152 cm wide
- Compatible with Autoclave or Press Molding processes

Applications / Qualifications

- Radomes
- Bearings
- Insulation

For Information about Park's materials:

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PARK AEROSPACE CORP.

Technical Datasheet

V-303 Polyimide Prepregs

Prepreg Physical Properties

Reinforcement	7781 E-glass
Fabric Area Weight (gsm)	300
Prepreg Resin Content (%)	29 - 35
Volatiles (177°C, 15 min) (%)	10 - 40
Flow (177°C, 344 KPa) (%)	25 - 35
Gel Time (177°C) (sec)	85 - 95

Processing Guidelines

Prepreg Storage Life

Out Life: 30 days @ 24°C
Shelf Life: 3 months @ 4°C
6 months @ -18°C

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.

Autoclave Cure Cycle

- Apply full vacuum, 69 cm minimum
- Heat to 71 ±5 °C at 1°C/min maximum
- Hold 1 hour at 71 ±5 °C
- Heat to 110 ±5 °C at 1°C/min maximum
- Hold 2 hours at 110 ±5 °C
- Heat to 132 ±5 °C at 1°C/min.
- Apply 310 KPa and hold 2 hours at 132 ±5 °C
- Heat 3°F/min to 177 ±5 °C
- Hold 2 hour at 177±5° C
- Cool under pressure and vacuum to less than 66°C and remove part.

Oven post cure (free standing):

- 1 hour at 177±5°C
- 2 hours at 205±5°C
- 2 hours at 233±5°C
- 2 hours at 260±5°C
- 2 hours at 288±5°C
- 2 hours at 316±5°C
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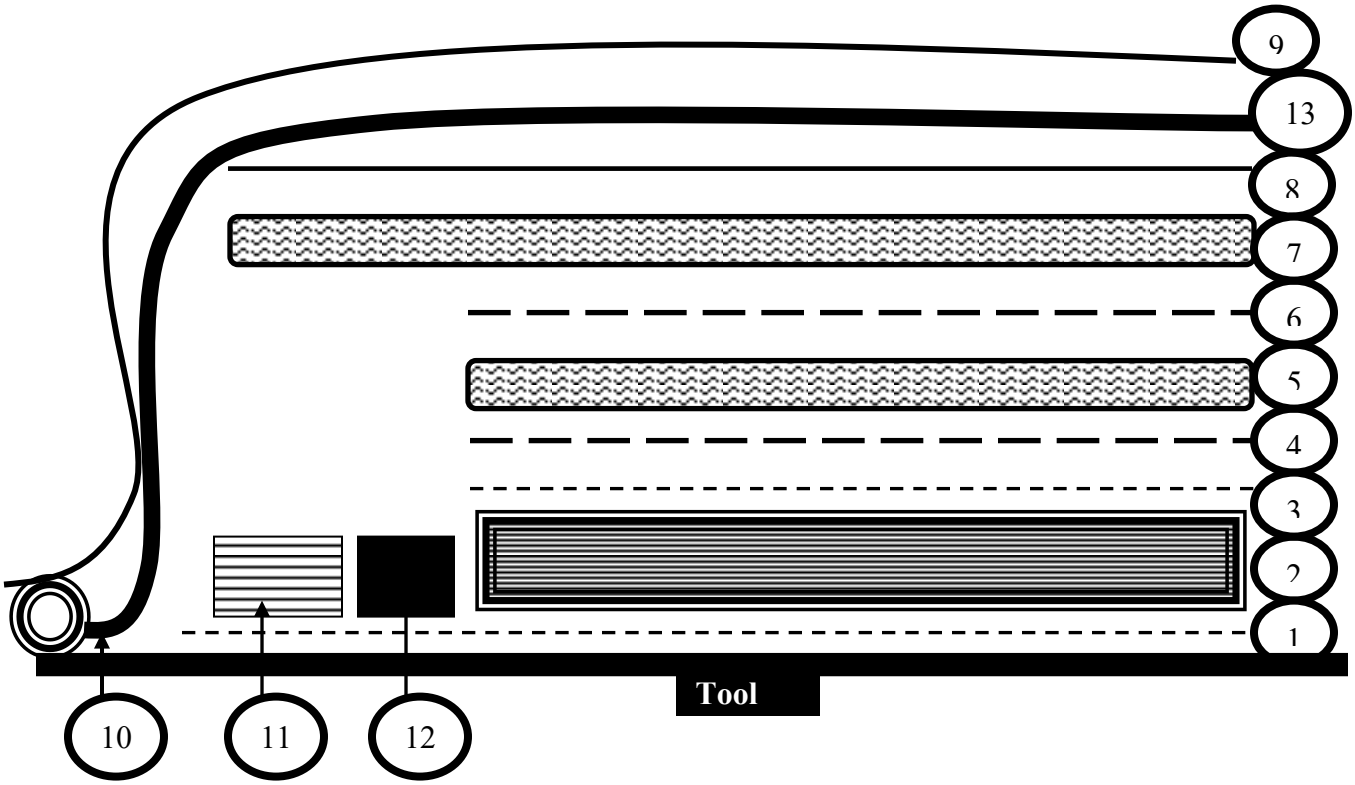
Note: There must be multiple vacuum ports on the lay-up to allow maximum efficiency in removing volatiles. Vacuum hoses should be 9mm diameter minimum. Preferably, there should be a cold trap on the vacuum lines between the part and the vacuum pump to prevent degradation of the pump oil.



1. Peel ply or porous Teflon coated glass, 2.5 cm larger than part
2. V-303 lay-up
3. Peel ply or porous Teflon coated glass, same size as part
4. Perforated release film, holes on 7.6 cm centers
5. Glass bleeder cloth, such as 7500 tooling cloth or 7781
   [one ply bleeder for every 2-3 plies of prepreg]
6. Perforated release film, holes on 7.6 cm centers
7. Glass bleeder cloth, such as 7500 tooling cloth or 7781, 3 plies
8. Non-Porous Teflon
9. Vacuum bag
10. Bag Sealant
11. Edge breather -3plies of tooling cloth
12. Mold released steel dams – optional (not required)
13. Breather N-10

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Laminate Physical / Mechanical Properties

Reinforcement	7781 E-glass
Tensile Strength, 0° (MPa) 24°C Dry ASTM-D-638 Type 1	420.6
Tensile Modulus, 0° (GPa) 24°C Dry ASTM-D-638 Type 1	25.5
Compressive Strength (MPa) 24°C Dry ASTM-D-695	406.8
Compressive Modulus (GPa) 24°C Dry ASTM-D-695	28.3
Flexural Strength (MPa) 24°C Dry ASTM-D-790	496.4
Flexural Modulus (GPa) 24°C Dry ASTM-D-790	23.4
Short Beam Shear (MPa) 24°C Dry ASTM-D-790	28.3
Glass Transition by DMA	422°C
Laminate Density g/cc	1.74

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.