# Epoxy - AER 105P

## Technical Data Sheet

AER 105P is a toughened low temperature cure epoxy resin that has been specially formulated to achieve a moderate glass transition temperature(Tg) of 120°C (248°F), with a curing temperature of 130°C (266°F). AER 105P is highly versatile and can be processed efficiently using various cure methods such as Autoclave, Vacuum bagging and Compression moulding.

**Features:**

- Solvent free, hot melt epoxy prepregs
- Good tack and drape characteristics
- Long out life at room temperature
- Can be processed using various techniques

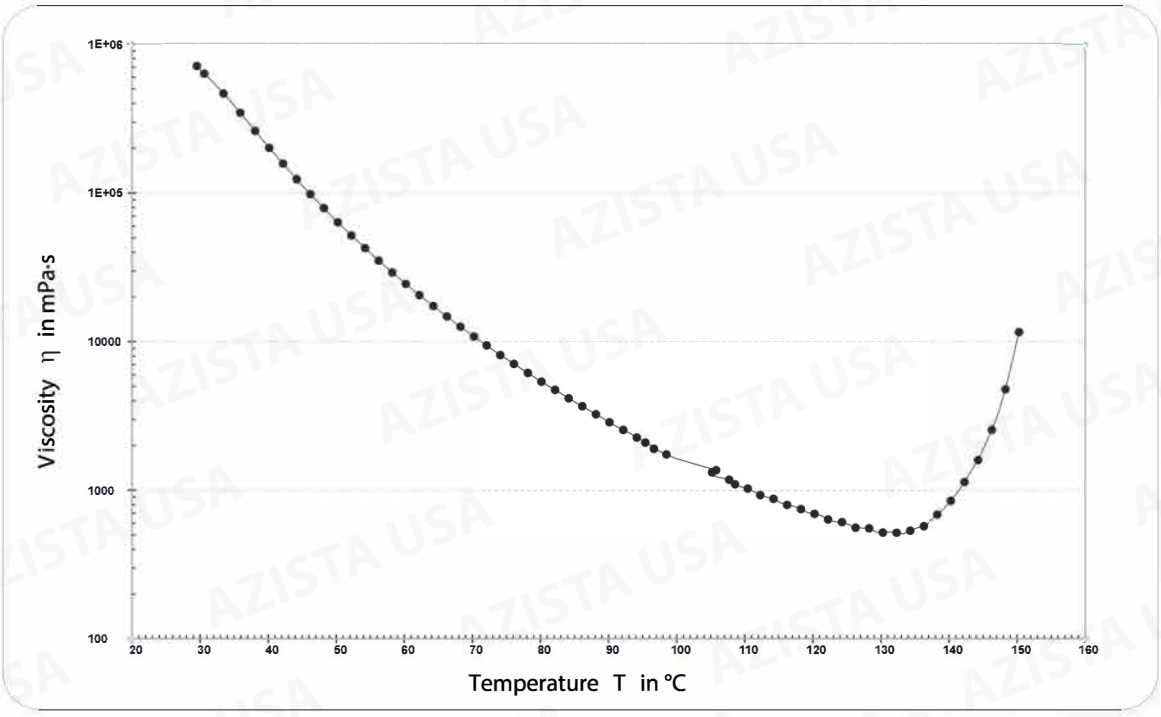
**Applications:**

- Prosthetics
- Automobile structural applications
- Structural components for UAV
- Sports goods

## Neat Resin Properties

| Property | Value | Test Method |
|---|---|---|
| Glass Transition Temperature (Tg °C) | 120 | DMA |
| Cured Resin Density (g/cc) | 1.16 | ASTM D792 |

## Rheology Curve



## Prepreg Properties T300-3K Twill Weave Carbon BD Fabric

| Properties | Units | Values |
|---|---|---|
| FAW | GSM | 200 |
| PAW | GSM | 363 |
| Cure ply thickness | mm | 0.22 |
| Resin Content | % | 45 |
| Fabric density | g/cc | 1.78 |

## Mechanical Properties
### ( Carbon-Epoxy Laminate-T300-3K Twill Weave Carbon BD Fabric)

| Direction | Properties | Units | Value | | Test Method |
|---|---|---|---|---|---|
| | | | Hot Press | Vaccum Bagging | |
| Warp | Tensile strength | MPa | 677 | 626 | ASTM D3039 |
| | Tensile modulus | GPa | 57 | 55 | ASTM D3039 |
| | Flexural strength | MPa | 738 | 768 | ASTM D790 |
| | Compression Strength | MPa | - | 698 | ASTM D3410 |
| | IPSS | MPa | - | 100 | ASTM D3410 |
| | ILSS | MPa | 66 | 67 | ASTM D2344 |
| Weft | Tensile strength | MPa | 788 | 607 | ASTM D3039 |
| | Tensile modulus | GPa | 65 | 54 | ASTM D3039 |
| | Flexural strength | MPa | 870 | 756 | ASTM D790 |
| | Compression Strength | MPa | - | 619 | ASTM D3410 |
| | ILSS | MPa | 70 | 78 | ASTM D2344 |

## Prepreg Properties- T300, 3K, Plain Weave Carbon BD Prepreg

| Properties | Units | Values |
|---|---|---|
| FAW | GSM | 200 |
| PAW | GSM | 308 |
| Cure ply thickness | mm | 0.212 |
| Resin Content | % | 35 |
| Fabric density | g/cc | 1.78 |

## Mechanical Properties
### ( T300, 3K, Plain Weave Carbon BD Prepreg )

| Direction | Properties | Units | Value | | Test Method |
|---|---|---|---|---|---|
| | | | Hot Press | Vaccum Bagging | |
| Warp | Tensile strength | MPa | 735.5 | 608 | ASTM D3039 |
| | Tensile modulus | GPa | 64 | 59 | ASTM D3039 |
| | Flexural strength | MPa | 801 | 831 | ASTM D790 |
| | Compression Strength | MPa | 501 | 583 | ASTM D3410 |
| | IPSS | MPa | 109 | 106 | ASTM D3518 |
| | ILSS | MPa | 60 | 65 | ASTM D2344 |
| Weft | Tensile strength | MPa | 676.5 | 583 | ASTM D3039 |
| | Tensile modulus | GPa | 61 | 61 | ASTM D3039 |
| | Flexural strength | MPa | 888 | 768 | ASTM D790 |
| | Compression Strength | MPa | 500 | 569 | ASTM D3410 |

## Prepreg Properties- 7781, 8H Satin Weave Glass BD Prepreg

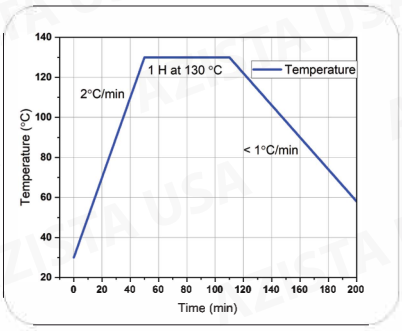
| Properties | Units | Values |
|---|---|---|
| FAW | GSM | 300 |
| PAW | GSM | 476 |
| Cure ply thickness | mm | 0.25 |
| Resin Content | % | 37 |
| Fabric density | g/cc | 2.54 |

## Mechanical Properties
### ( 7781, 8H Satin Weave Glass BD Prepreg )

| Direction | Properties | Units | Value | Test Method |
|---|---|---|---|---|
| Warp | Tensile strength | MPa | 507 | ASTM D3039 |
| | Tensile modulus | GPa | 29 | ASTM D3039 |
| | Flexural strength | MPa | 559 | ASTM D790 |
| | Flexural modulus | GPa | 24 | ASTM D3518 |
| | Compression Strength | MPa | 437 | ASTM D3410 |
| | IPSS | MPa | 94 | ASTM D3518 |
| | ILSS | MPa | 62 | ASTM D2344 |
| Weft | Tensile strength | MPa | 508 | ASTM D3039 |
| | Tensile modulus | GPa | 28 | ASTM D3039 |
| | Flexural strength | MPa | 639 | ASTM D790 |
| | Flexural modulus | GPa | 28 | ASTM D3518 |
| | Compression Strength | MPa | 494 | ASTM D3410 |

## Cure Cycle (2 mm laminate)

| Temperature (°C) | Heating Rate (°C / min) | Dwell time (hr) |
|---|---|---|
| RT - 130 | 2 | - |
| 130 | - | 1 |
| Cooling | < 1 | - |




» Storage condition: Recommended to store at -18°C.
» Out life: up to 30 days at 22°C.
» Shelf life: 12 months at -18°C.


**Azista Composites Private Limited**

**Corporate Office:**
Sy No. 83/1, 19th & 20th floor, Hetero Tower, Commerzone, Silpa Gram Craft Village, Hyderabad, Telangana, India - 500 081
+91 - 97036 55999

**Manufacturing and R&D Unit:**
Sy. No. 855, IDA Medchal Village, Medchal Mandal and Industrial Municipality, Medchal-Malkajgiri, Hyderabad, Telangana, India - 501 401
+91 - 81900 29450

www.azistacomposites.com | info@azistacomposites.com


Document Number: ACPL/AER 105P/Release 02(09/01/25)