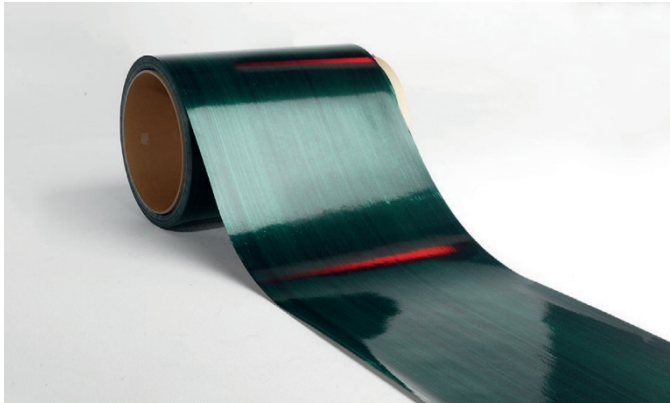


**Tenax™ ThermoSet Prepreg 11N series** is a 130 °C curing epoxy system with good performance characteristics especially for automotive and sport applications. This prepreg system can be used within various molding techniques due to its robust behavior and flexibility.



<b>Brand name</b>	<b>Tenax™</b>
<b>Product name</b>	<b>ThermoSet Prepreg 11N series</b>
<b>Production site</b>	<b>Japan, Vietnam</b>
<b>Resin type</b>	<b>Epoxy</b>
<b>Resin name</b>	<b>11N</b>

**Product benefits**

- General Use  
(Application: Sports, Leisure, Industry)
- Low void content
- Good tack and drape
- Typical prepreg shelf life

**Process benefits**

- Flexible system for various processes
- Cost effective
- Suitable for inner pressure molding
- No post cure necessary

**Chemical properties**

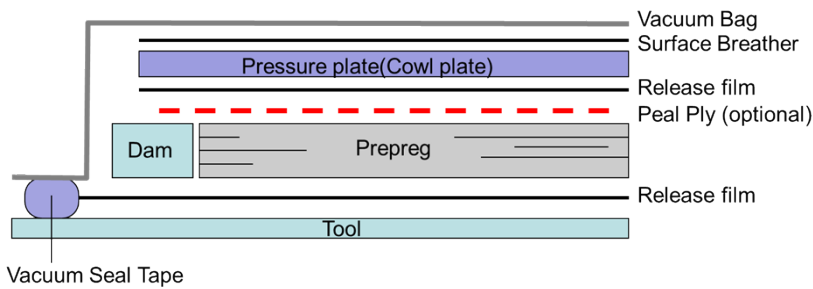
	<b>Test method</b>	<b>Unit</b>	<b>Typical values</b>
Glass Transition Temperature	ASTM D 7028, E2160 (Three-point bending, E')	°C	127

**Mechanical Properties  
Style UD**

Product designation			<b>Q-111N0-150350</b>	<b>Q-U11N0-100360</b>	<b>Q-D11N0-075350</b>
Fiber type			<b>STS40</b>	<b>UTS50</b>	<b>IMS65</b>
Fiber areal weight			<b>150 g/m<sup>2</sup></b>	<b>100 g/m<sup>2</sup></b>	<b>75 g/m<sup>2</sup></b>
Resin content			<b>35 %</b>	<b>36%</b>	<b>35%</b>
Tensile (0°) ASTM D3039	strength	[MPa]	2290	2670	2930
	modulus	[GPa]	130	131	154
	Poisson's ratio	-	0.31	0.32	0.33
	FVC (normalised)	[%]	55	55	55
Tensile (90°) ASTM D3039	strength	[MPa]	84	80	72
	modulus	[GPa]	8.7	8.2	8.0
	Poisson's ratio	-	0.02	0.02	0.01
	FVC (normalised)	[%]	55	54	54
In-plane Shear ASTM D3518	strength	[MPa]	130	134	144
	modulus	[GPa]	3.7	3.7	3.6
	Poisson's ratio	-	0.80	0.81	0.84
	FVC (normalised)	[%]	54	53	54
Compression (0°) ASTM D6641	strength	[MPa]	949	943	931
	modulus	[GPa]	115	117	136
	Poisson's ratio	-	0.32	0.33	0.33
	FVC (normalised)	[%]	55	55	55
Flexural (0°) ASTM D790	strength	[MPa]	1620	1530	1470
	modulus	[GPa]	120	115	138
	FVC (normalised)	[%]	55	54	54

Product designation			<b>Q-J11N0-100350</b>	<b>Q-R11N0-092350</b>	<b>Q-T11N0-075350</b>
Fiber type			<b>UMS40</b>	<b>UMS45</b>	<b>UMS55</b>
Fiber areal weight			<b>100 g/m<sup>2</sup></b>	<b>92 g/m<sup>2</sup></b>	<b>75 g/m<sup>2</sup></b>
Resin content			<b>35 %</b>	<b>35%</b>	<b>35%</b>
Tensile (0°) ASTM D3039	strength	[MPa]	2370	2320	2050
	modulus	[GPa]	207	241	307
	Poisson's ratio	-	0.29	0.29	0.31
	FVC (normalised)	[%]	55	55	55
Tensile (90°) ASTM D3039	strength	[MPa]	76	65	48
	modulus	[GPa]	7.5	7.1	6.2
	Poisson's ratio	-	0.01	0.01	<0.01
	FVC (normalised)	[%]	54	55	52
In-plane Shear ASTM D3518	strength	[MPa]	128	121	104
	modulus	[GPa]	3.8	3.9	3.7
	Poisson's ratio	-	0.86	0.88	0.91
	FVC (normalised)	[%]	53	55	51
Compression (0°) ASTM D6641	strength	[MPa]	988	803	708
	modulus	[GPa]	176	204	261
	Poisson's ratio	-	0.30	0.28	0.29
	FVC (normalised)	[%]	55	55	55
Flexural (0°) ASTM D790	strength	[MPa]	1350	1270	940
	modulus	[GPa]	183	210	231
	FVC (normalised)	[%]	55	55	52

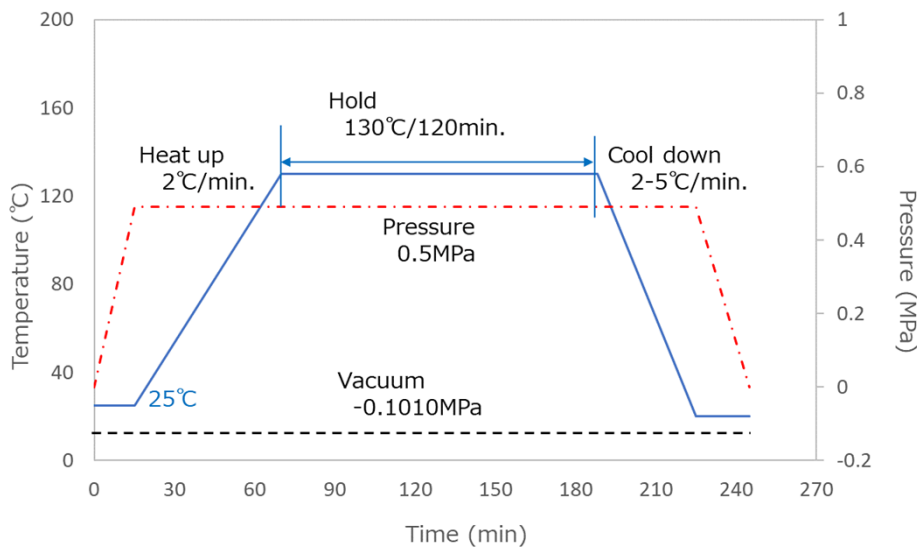
**Bagging procedure**



1. Debulk when laying up material
2. It is recommended that material have a pre-cure vacuum hold depending on size
3. Before starting cure cycle, the vacuum should be checked for leaks

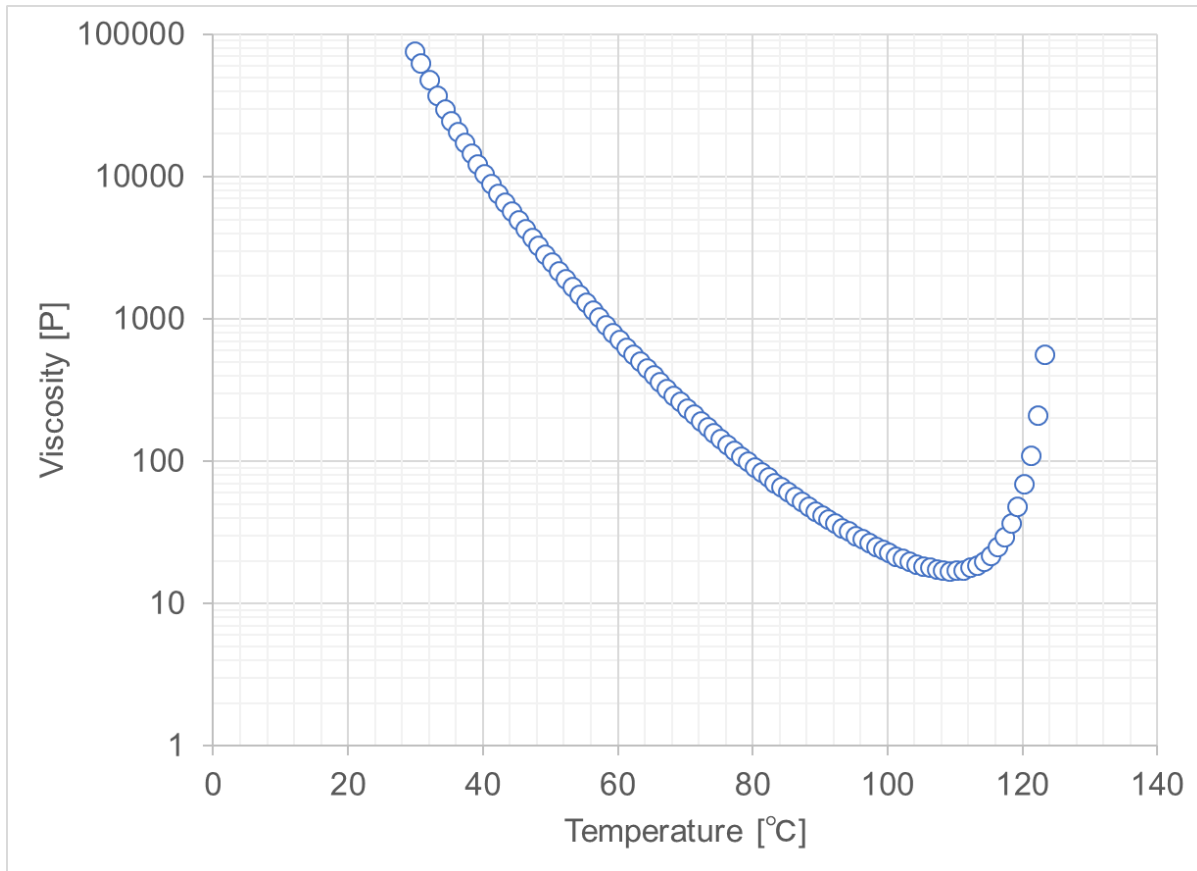
**Recommended Prepreg curing conditions (Autoclave cure)**

These conditions are recommended for reference purpose only.



1. Apply minimum vacuum (80 kPa)
2. Apply typically 0.5 MPa of pressure to the laminate
3. Set heat up to 130 °C with heat-up rate 2 °C/minute
4. Hold at 130 °C for 120 minutes
5. Cool component to 60 °C or below at a cool-down rate of 2-5 °C/minutes

**Dynamic viscosity at 2 °C /minute**



**Storage condition and shelf life**

- Storage at -18 °C: 12 months from date of manufacture
- Storage at 23 °C: 30 days from date of manufacture
- It is recommended that Tenax™ Thermoset Prepregs be stored in a dry cool area. User should allow the prepreg to reach room temperature before opening the sealed bag. The thawing time strongly depends on the amount of material on a single roll. Please contact us for more information.

**General Information**

- All data are typical values representative of the material and cannot be guaranteed. Properties may vary depending on samples preparation and test methods.
- For each shipment an inspection certificate is generated and supplied.
- A detailed customer specification is arranged on request.
- The export or transfer of carbon fiber products can be subject to authorization, depending on end-use and final destination.