

# COMPOSITE TECHNOLOGIES TECHNICAL DATA SHEET

## OM11

Great Fatigue Resistance  
Low Exotherm / Thick Section Manufacturing

### Product

OM11 resin system is low exotherm epoxy products designed specifically for thick section manufacturing like composite leaf springs. Parts built with this system are showing great fatigue resistance and mechanical performance. The hot melt processing provides volatile-free, non-toxic curing and handling.

### Typical Applications

- » Leaf spring applications
- » Great hot de-molding performance
- » Suitable for thick section manufacturing
- » Suitable for structural applications
- » Structural parts requiring low porosity and excellent surface finish
- » Good chemical resistance

### Resin Matrix Properties

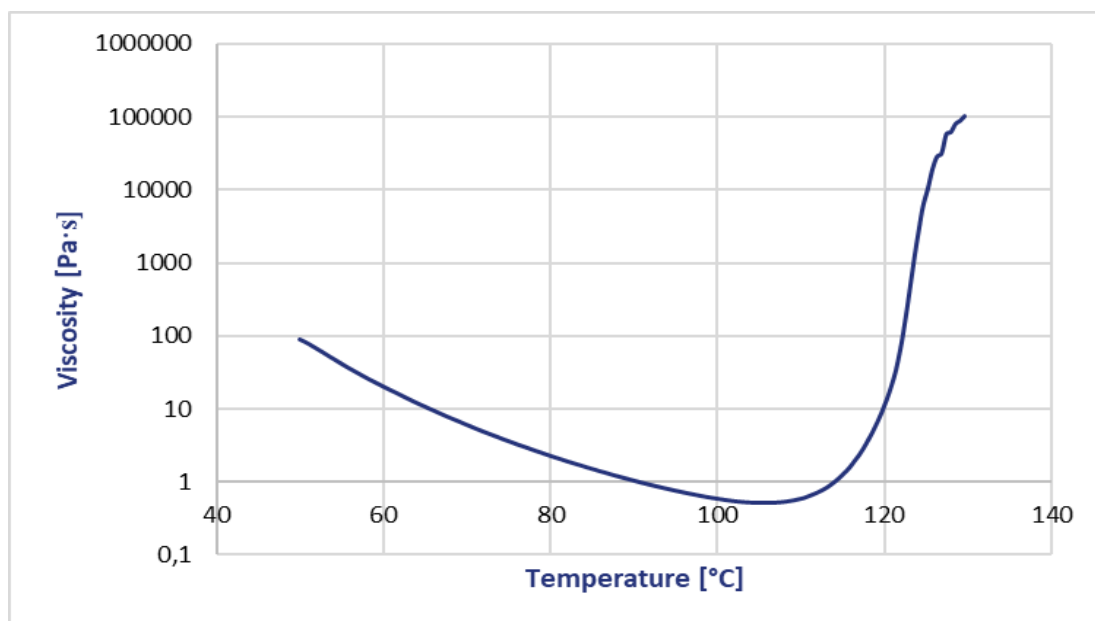


Figure 1 Rheology of OM11

**Our products are flexible by design:  
Additional weights, roll sizes, and reinforcements are available.**

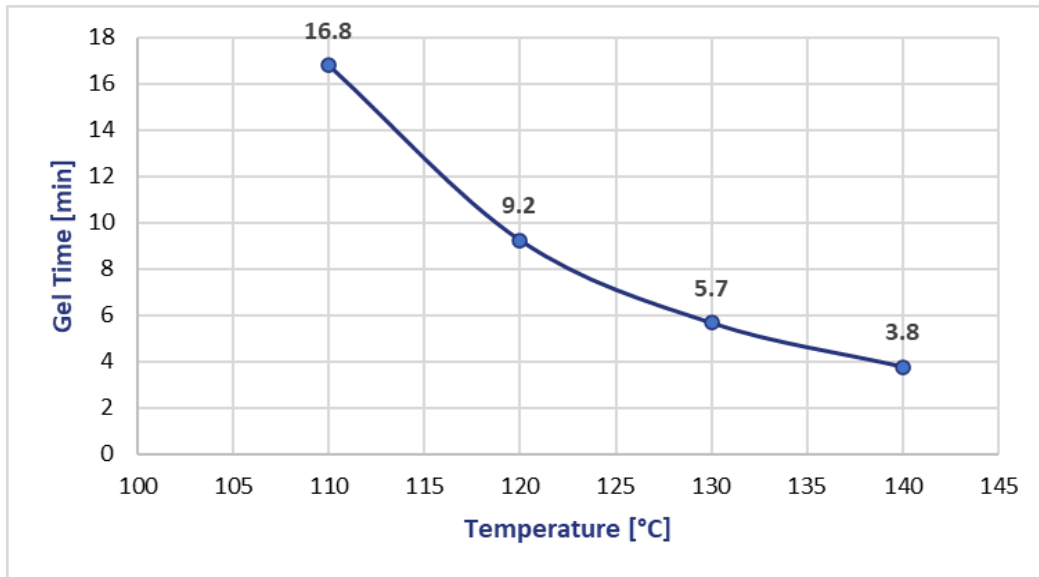


Figure 2 Gel Time of OM11

## Resin Properties

Property	Test Method	Value
Resin Density	ASTM D792	0.87 g/cm <sup>3</sup>
Resin Color	N/A	Naturally White

## Recommended Cure Cycles

Optimum properties are achieved under vacuum and 3.5 bar or higher external pressure, and cured according to one of the following:

Cure Temperature (°C)	Cure Method	Cure Duration (min)
120	Autoclave	60 minutes
130	Press	40 minutes

## Press Molding

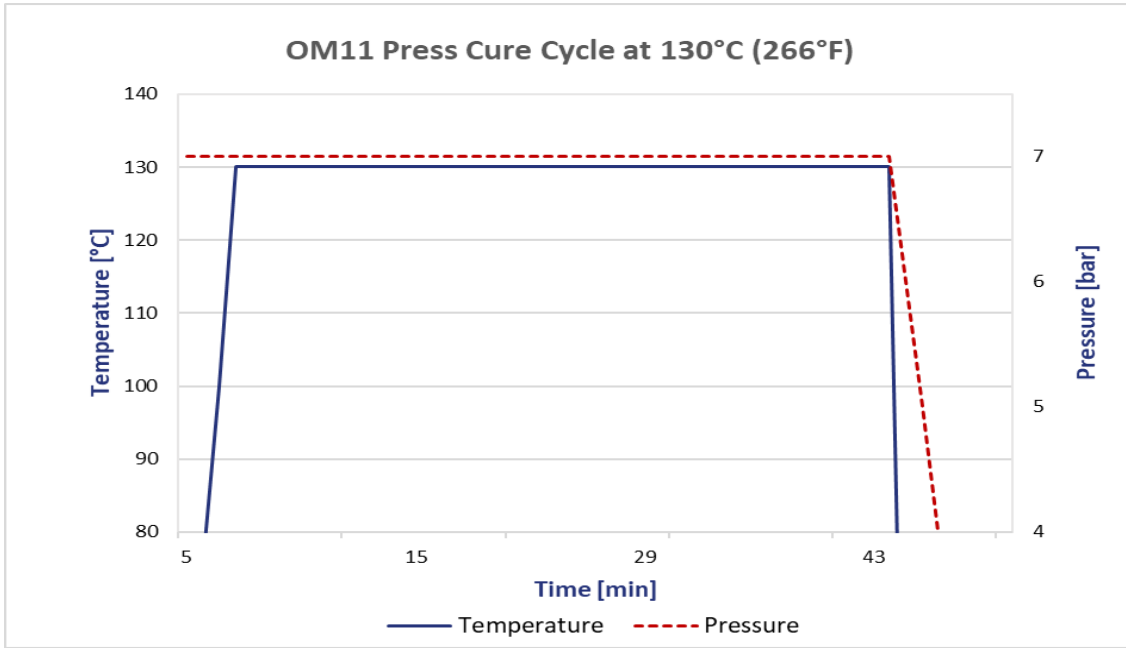
### Recommended Curing Cycle at 130 °C

- 1) Pre-heat the press to 130 °C
- 2) Place the laminate into hot press and hold the laminate at that temperature applying 4 - 7 bars of pressure for 40 minutes

3) De-mold the laminate (if possible cool below 100 °C)

Post-cure in oven at 155 °C for 1 to 2 hours can be applied.

Post-cure in oven at 110 °C for 10 hours can be applied.

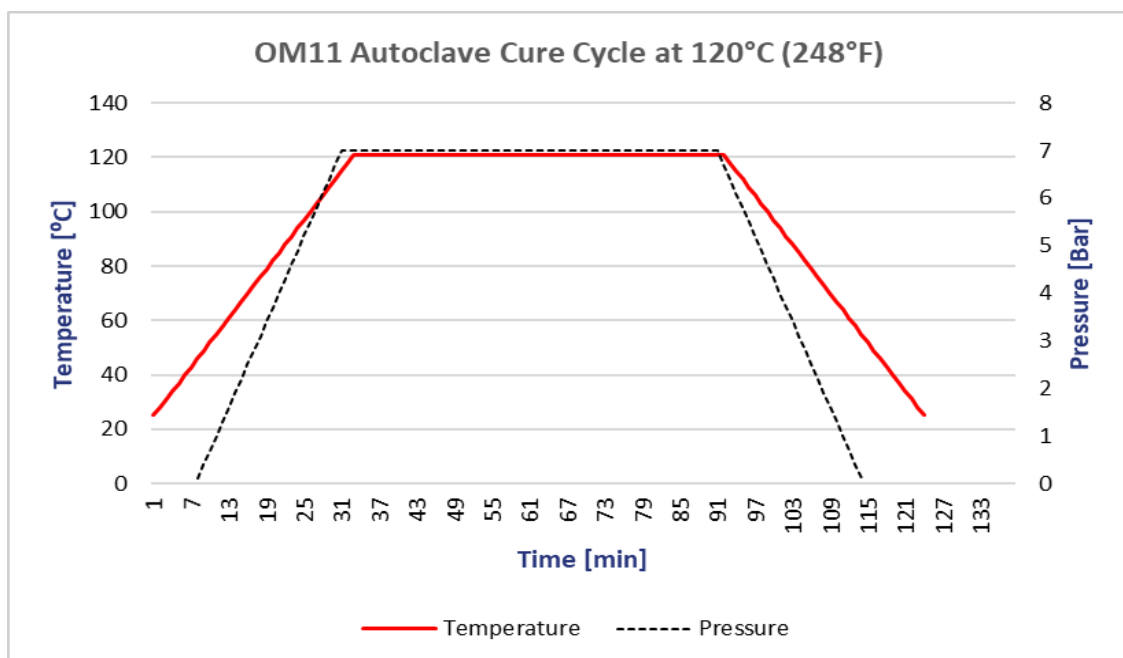


### Autoclave Molding

#### Recommended Curing Cycle at 120 °C

A typical autoclave cure cycle for a thin laminate is 60 minutes at 120°C.

- 1) Apply full vacuum (1 bar).
- 2) Apply 7 bar gauge autoclave pressure.
- 3) Reduce the vacuum to a safety value of 0.2 bar when the autoclave pressure reaches approximately 1 bar gauge.
- 4) Heat-up at 1 – 3 °C/minute to 120°C.
- 5) Hold at 120°C for 60 minutes ± 5 minutes.
- 6) Cool at 2 – 5 °C per minute.
- 7) Vent autoclave pressure when the component reaches 60°C or below.



**Physical and Mechanical Properties** (Examples only. For the wider prepreg range, please contact Kordsa)

**Press Curing Cycle at 130 °C**

Property	Standard	Test Temp.	Property	KG2400 UD300 / 35% RC	KG2400 UD600 / 35% RC
<b>Tensile</b>	ASTM D3039 / ISO 527-5	25 °C	Tensile Stress MPa (ksi)	830 (120.4)	1297 (188.1)
			Poisson's Ratio	0.3	0.3
			Modulus GPa (msi)	42 (6.1)	53 (7.7)
<b>Compression</b>	ASTM D3410 /	25 °C	Compressive Stress MPa (ksi)	637 (92.4)	766 (111.1)
			Chord Modulus GPa (msi)	43 (6.2)	46 (6.7)
<b>3 Point Bending</b>	ASTM D790	25 °C	Flexural Strength MPa (ksi)	1240 (179.8)	-
			Chord Modulus GPa (msi)	43 (6.2)	-
<b>Flexural</b>	ISO 14125	25 °C	Strength MPa (ksi)	-	1590 (230.6)
			Chord Modulus GPa (msi)	-	44.4 (6.4)
<b>ILSS</b>	ASTM D2344 / ISO 14130	25 °C	ILSS MPa (ksi)	71 (10.3)	82 (11.9)
<b>V-notch shear</b>	ASTM D5379	25 °C	Strength MPa (ksi)	71 (10.3)	-
<b>DMA</b>	ASTM D7028-07	Range	E' (°C) (°F)	117 (242.6)	116 (240.8)
			Tan (δ) (°C) (°F)	135 (275)	130 (266)
			E'' (°C) (°F)	129 (264.2)	127 (260.6)

**Autoclave Curing Cycle at 120 °C**

Property	Standard	Test Temp.	Property	KCF3K TW245 / 35% RC
<b>Tensile</b>	ASTM D3039 / ISO 527-5	25 °C	Tensile Stress MPa (ksi)	733 (106.3)
			Modulus GPa (msi)	60 (8.7)
<b>Compression</b>	ASTM D3410 /	25 °C	Compressive Stress MPa (ksi)	577 (83.7)
<b>4 Point Bending</b>	ASTM D7264	25 °C	Flexural Strength MPa (ksi)	809 (117.3)
			Chord Modulus GPa (msi)	75 (10.9)
<b>ILSS</b>	ASTM D2344	25 °C	ILSS MPa (ksi)	70 (10.2)

## Storage Requirements

Shelf life is from date of manufacturing according to storage temperature below. Working life is the cumulation of time outside of storage temperature.

Storage Condition	OM11
Shelf Life at -18°C (0°F)	12 months
Shelf Life at 4°C (40°F)	6 months
Working Life at 24°C (75°F)	14 days

## Handling & Safety Instructions

- » Store prepreg suspended horizontally to avoid flat spots and thinning under the weight of the roll.
- » Allow product sufficient time (at least 24 hours) to reach ambient temperatures after removal from cold storage to prevent condensation on the adhesive surface.
- » Use the appropriate safety equipment for this product.
- » Refer to the OM11 Material Safety Data Sheet for specific safety instructions.

## Technical Assistance

In a bind? Call us anytime. We provide fast and knowledgeable technical support:

### Kordsa Composite Europe, İstanbul

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<https://www.kordsa.com>  
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