COMPOSITE TECHNOLOGIES
TECHNICAL DATA SHEET

OM10

High toughened epoxy matrix / Flexible cure cycle / Structural Applications

Product

OM10 is a highly toughened epoxy matrix available for structural applications. It is formulated to be cured with autoclave process and becomes white opaque when cured. OM10 has relatively long shelf life and out life at room temperature. Tack level of the product can be adjusted from medium to high.

Typical Applications

» Industrial composites
» Automotive

Resin Variants

» OM10: Standart formula
» OM10T: High Tack Version

Resin Matrix Properties

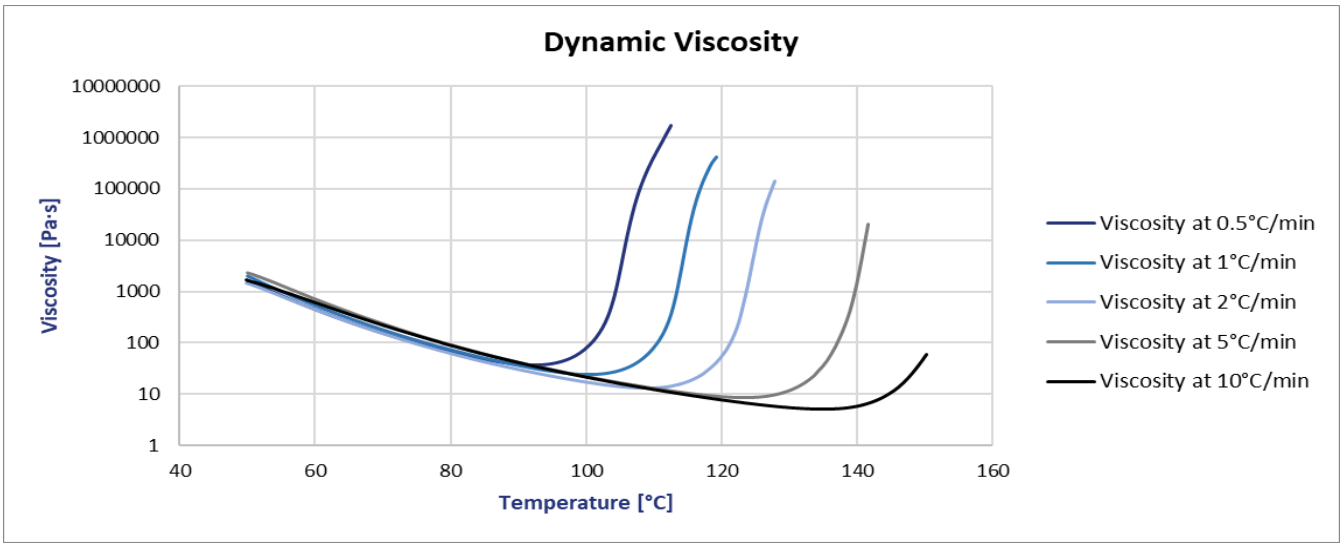


Figure 1 Rheology of OM10

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

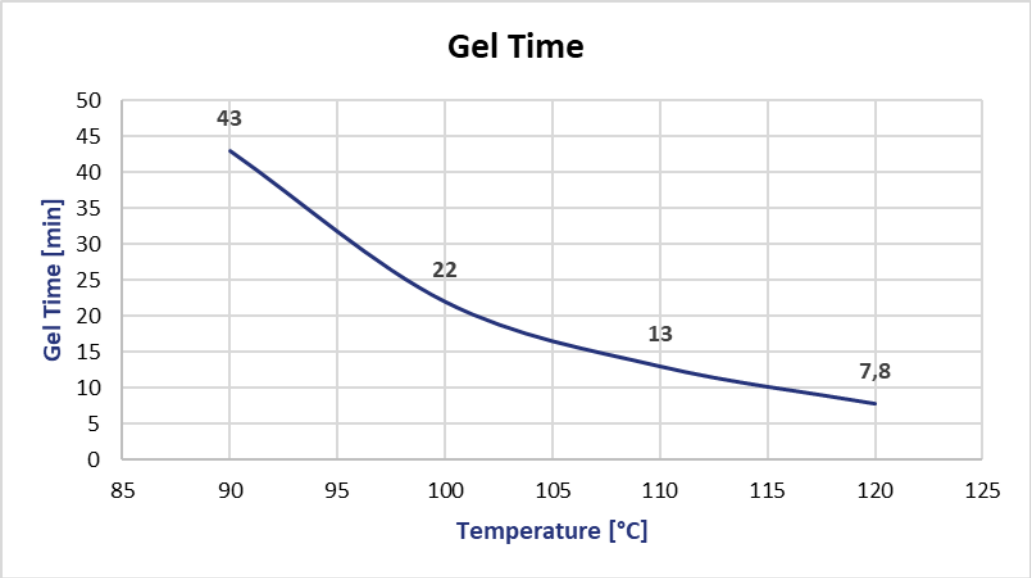


Figure 2 Gel Time of OM10

Resin Properties

Property	Test Method	Value
Resin Density	ASTM D792	0.84 g/cm^3
Resin Color	N/A	Naturally White
Tg (DMA)	ASTM D6032	119

Recommended Cure Cycles

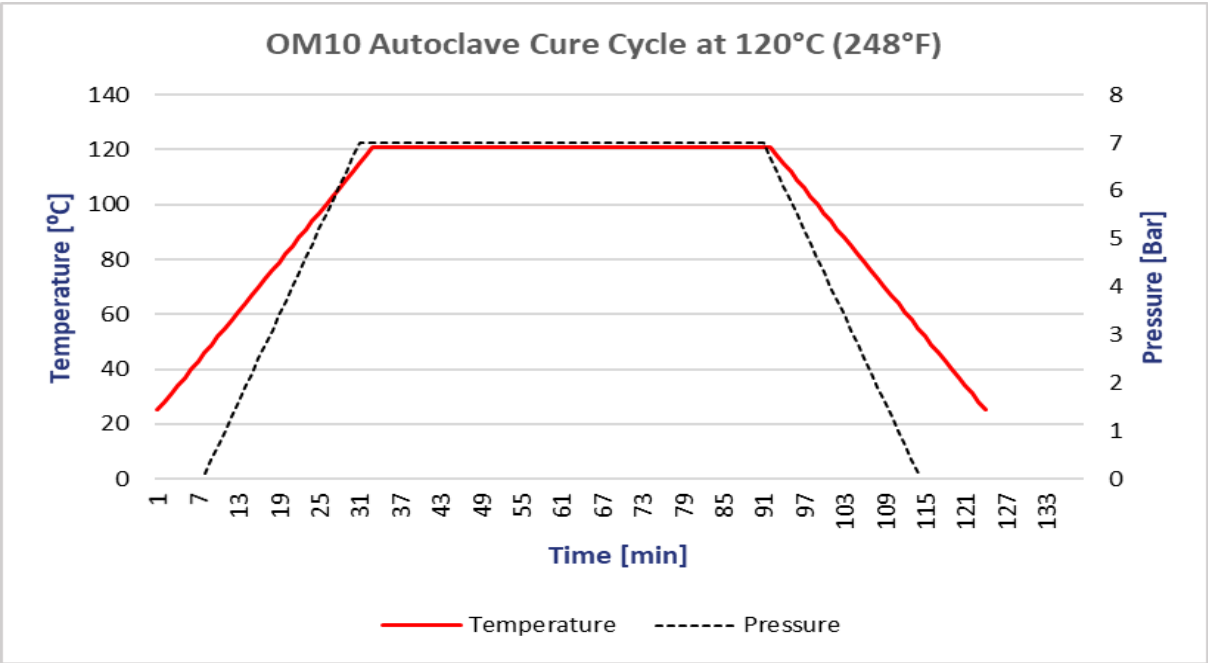
Optimum properties are achieved under vacuum and 3.5 bar or higher external pressure, and cured according to one of the following:

Cure Temperature °C (°F)	Cure Method	Cure Duration (min)
120 (248)	Autoclave	60 minutes
130 (266)	Autoclave	100 minutes
120 (248) and 140 (284)	Autoclave	180 minutes

Recommended Curing Cycle at 120°C (248°F)

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 (248°F).
5) Hold at 120°C (248°F) 60 minutes ± 5 minutes.
6) Cool at 2 – 5 °C per minute.
7) Vent autoclave pressure when the component reaches 60°C (140°F) or below.

* A typical autoclave cure cycle for a thin laminate is 60 minutes at 120°C (248°F), but for a thick laminate the cure time may be extended to 2 hours at 120°C (248°F).



Recommended Curing Cycle at 130°C (266°F)

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 130°C (266°F).
5) Hold at 130°C (266°F) for 100 minutes ± 5 minutes.
6) Cool at 2 – 5°C per minute.
7) Vent autoclave pressure when the component reaches 60°C (140°F) or below.

Recommended Curing Cycle at 140 °C (284°F)

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 (248°F).
5) Hold at 120°C (248°F) 60 minutes ± 5 minutes.
6) Heat-up at 1 – 3 °C/minute to 140°C (284°F).
7) Hold at 140°C (248°F) for 120 minutes.
8) Cool at 2 – 5 °C per minute.
9) Vent autoclave pressure when the component reaches 60°C (140°F) or below.

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

Property	Standard	Test Temp.	Property	KCF3K TW200 (T300)	KCF3K TW245 (A38)	KCF3K TW245 (MRC34700)
Tensile	ASTM D3039	25ºC	Tensile Stress MPa (ksi)	693 (100.5)	824 (119.5)	1348 (195.5)
			Poisson's Ratio	0.05	0.04	0.30
			Modulus GPa (msi)	56 (8.12)	64	124 (18)
Compression	ASTM D3410	25ºC	Compressive Stress MPa (ksi)	598 (86.7)	675 (97.9)	-
			Chord Modulus GPa (msi)	54 (7.8)	62 (9)	-
4 Point Bending	ASTM D7264	25ºC	Flexural Strength MPa (ksi)	731 (106)	883 (128)	-
			Flexural Strength MPa (ksi)	69 (10)	80 (11.6)	-
ILSS	ASTM D2344	25ºC	ILSS MPa (ksi)	71 (10.3)	73 (10.6)	80 (11.6)
V-notch shear	ASTM D5379	25ºC	Strength MPa (ksi)	-	81 (11.7)	81 (11.7)
DMA	ASTM D7028-07	Range	E' (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)
			Tan (δ) (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)
			E" (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)

Property	Standard	Test Temp.	Property	KCF12K UD300 (A49)	KCF12K TW400 (T700)	KCF12K TW400 (A49)
Tensile	ASTM D3039	25ºC	Tensile Stress MPa (ksi)	1878 (272.4)	879 (127.5)	925 (134.2)
			Poisson's Ratio	0.30	0.07	0.26
			Modulus GPa (msi)	129 (18.7)	57 (8.3)	60 (8.7)
Compression	ASTM D3410	25ºC	Compressive Stress MPa (ksi)	652 (94.6)	495 (71.8)	-
			Chord Modulus GPa (msi)	135 (19.6)	53 (7.7)	-
4 Point Bending	ASTM D7264	25ºC	Flexural Strength MPa (ksi)	1140 (165.3)	664 (96.3)	-
			Flexural Strength MPa (ksi)	188 (27.3)	65 (9.4)	-
ILSS	ASTM D2344	25ºC	ILSS MPa (ksi)	73 (10.6)	65 (9.4)	-
V-notch shear	ASTM D5379	25ºC	Strength MPa (ksi)	71 (10.3)	-	83 (12)
DMA	ASTM D7028-07	Range	E' (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)
			Tan (δ) (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)
			E" (°C) (°F)	≥120 (248)	≥120 (248)	≥120 (248)

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	OM10
Shelf Life at -18ºC (0ºF)	12 months
Shelf Life at 4ºC (40ºF)	6 months
Working Life at 24ºC (75ºF)	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 OM10 Material Safety Data Sheet for specific safety instructions.

Technical Assistance

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

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Ver: November.2022

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