

TECHNICAL DATA SHEET

Resin System	CM11
Applications	Visual composites, Automotive
Key Features	Suitable for fast press molding, Cosmetic grade visual carbon look, Class A Surface quality, Good hot de-molding performance Suitable for structural applications Good chemical resistance Suitable for Cataphoresis/ Hot Painting/Hot adhesive bonding Suitable for autoclave short curing cycle
Cure Temperature	150°C - 180°C < 3 minutes
Work Life	2 weeks @ RT
Storage Life	6 months @ -18°C
Fiber	Carbon, E-glass
Weaving Style	Plain, twill, UD
Dry Fabric Areal Weight (gsm)	200 - 600
%Resin Content (by weight)	37 - 48 ± 2
Tackiness Level	Low Tack
Tack Life	5 Days @ RT

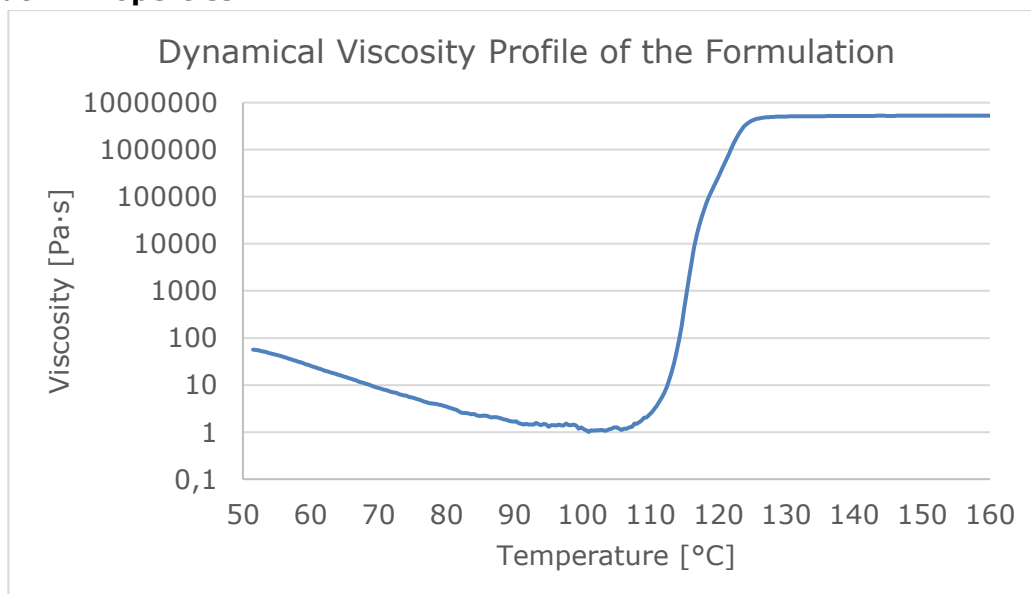
Initial Mix Viscosity	at 65°C [Pas]	35
Gel Time (Hot Plate)	at 140°C [sec]	70
	at 150°C [sec]	40
	at 160°C [sec]	15
	at 120°C [sec]	260
Gel Time (Rheometer)	at 140°C [sec]	69
	at 150°C [sec]	54
	at 160°C [sec]	38
	at 180°C [sec]	17
	at 23 °C	2 weeks

Cured Matrix Properties

Cured Matrix Properties (cured at 80 °C 30 minutes → 100 °C 30 minutes → 140 °C 60 minutes)		
Glass Transition Temp (T_g by DSC) [°C]	Ramped from RT to 150°C (10C/min) @150 °C 5 min Ramped 150 to 210°C (10C/min)	155
	Isothermal press @160 °C , mold@ RT Wait to mold reach 160 °C @160 °C 5 min Ramped 160 to 210°C (10C/min)	160
	Isothermal press @180 °C , mold @ RT Wait to mold reach 180 °C @180 °C 5 min Ramped 180 to 210°C (10C/min)	165

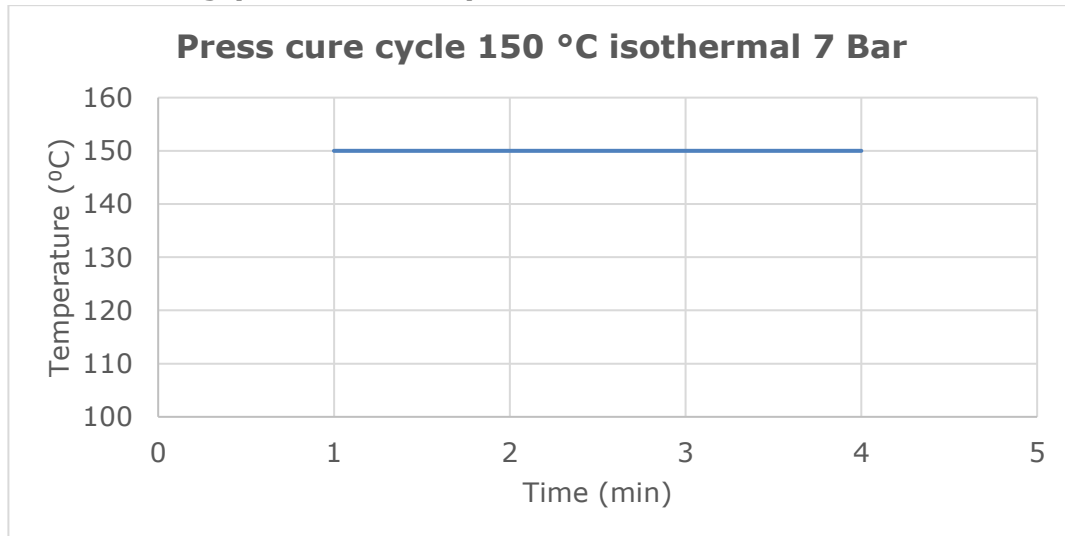
	@210 °C 30 min Postcure	
	ISO 11357 (RT to 210°C, @210°C 5 mins, cool to 100°C)	145
Tg DMA 1Hz, 3°C/min	Onset of E'	156
	Maximum of Tanδ	198
	Maximum of E''	173
Tensile Test (ASTM D3039)	Tensile Strength (MPa)	39
	Tensile Modulus (MPa)	3028
	Elongation at maximum (%)	1,5
Compression Test (ASTM D3410)	Compression Strength (MPa)	107
	Compression Strain at maximum (%)	4.6
Flexural Test (ASTM D790)	Flexural Strength (MPa)	136
	Flexural Modulus (MPa)	3490
	Elongation at maximum (%)	5
Fracture Properties Bend Notch Test *5 min 140°C	Fracture toughness K1C, [MPa√m]	1.05
	Fracture energy G1C, [J/m2]	340
HDT (TMA)	Maximum Displacement (°C)	160

Resin Matrix Properties



Cure Profile

Compression Molding (Recommended)



Pressure: Minimum of 7 bar (7.2 kg/cm²) (*), **30 bar is recommended.**

Ramp Rate: Consolidated prepregs (preforms) can be loaded into a pre-heated tool (compression molding).

Recommended Cure Cycle: 3 minutes at 150 C +/-5C, 30 bar @ Press

Cool Down: Cured parts can be removed from tool without cooling (hot demolding).

Recommended Post-Cure Cycle(if needed): 6 hours at 150 C +/-5C @ Oven

(*) It may be necessary to adjust and optimize the pressure applied and the time when the pressure it is applied in order to achieve the best quality on the part

COMPRESSION MOULDING is the recommended process for the CM11 resin system

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