

TECHNICAL DATA SHEET

Resin System	CM10
Applications	Visual composites, Automotive
Key Features	Suitable for fast press molding Class A Surface quality Hot de-molding performance Suitable for structural applications Good chemical resistance Good environmental resistance with just topcoat applications
Cure Temperature	150°C - 180°C < 5 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)	42 - 48 ± 2
Tackiness Level	Low Tack
Tack Life	5 Days @ RT

Cured Matrix Properties

Cured Matrix Properties (cured at 140 °C 2h)		
Initial Mix Viscosity	at 65°C [Pas]	20-30
Gel Time (Hot Plate)	at 140°C [sec]	90
	at 150°C [sec]	35
	at 160°C [sec]	20
	at 23 °C	2 weeks
Glass Transition Temp (Tg by DSC) [°C]	Ramped from RT to 150°C (10C/min) @150 °C 5 min Ramped 150 to 210°C (10C/min)	120
	Isothermal press @160 °C , mold@ RT Wait to mold reach 160 °C @160 °C 5 min Ramped 160 to 210°C (10C/min)	130
	Isothermal press @180 °C , mold @ RT Wait to mold reach 180 °C @180 °C 5 min Ramped 180 to 210°C (10C/min) @210 °C 30 min Postcure	130
	ISO 11357 (RT to 210°C, @210°C 5 mins, cool to 100°C)	120
Tg DMA *5 min at 140 °C [°C]	Onset of E' 1Hz, 2°C/min	140
Flexural Test (ISO 178)	Flexural Strength (MPa)	80
	Flexural Modulus (MPa)	2300

	Elongation at maximum (%)	5
Fracture Properties Bend Notch Test *5 min 140°C	Fracture toughness K1C , [MPa√m]	1.03
	Fracture energy G1C , [J/m2]	315

Cure Profile

Compression Molding (Recommended)

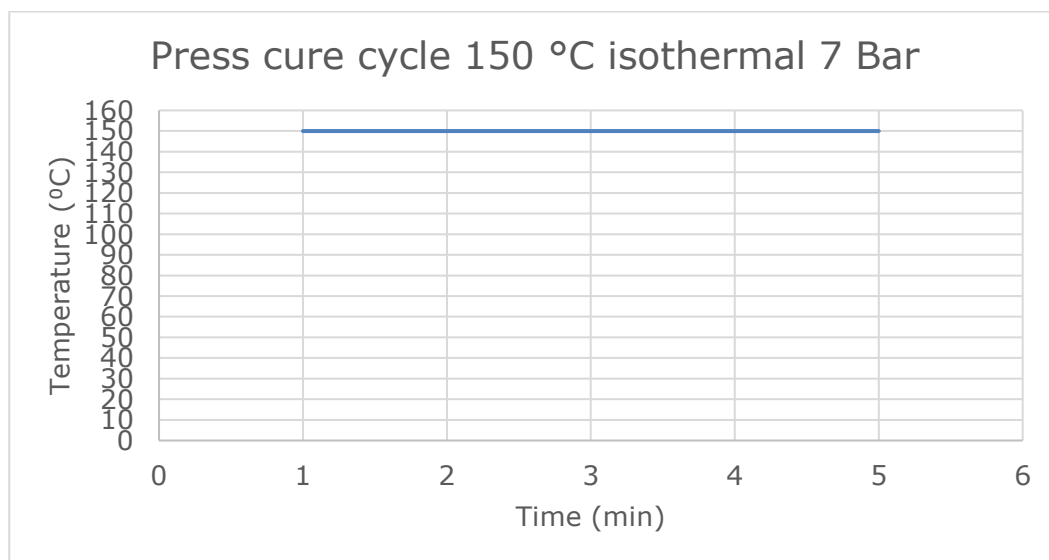
Pressure: Minimum of 7 bar (7.2 kg/cm2) (*), **30 bar is recommended.**

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

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

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

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



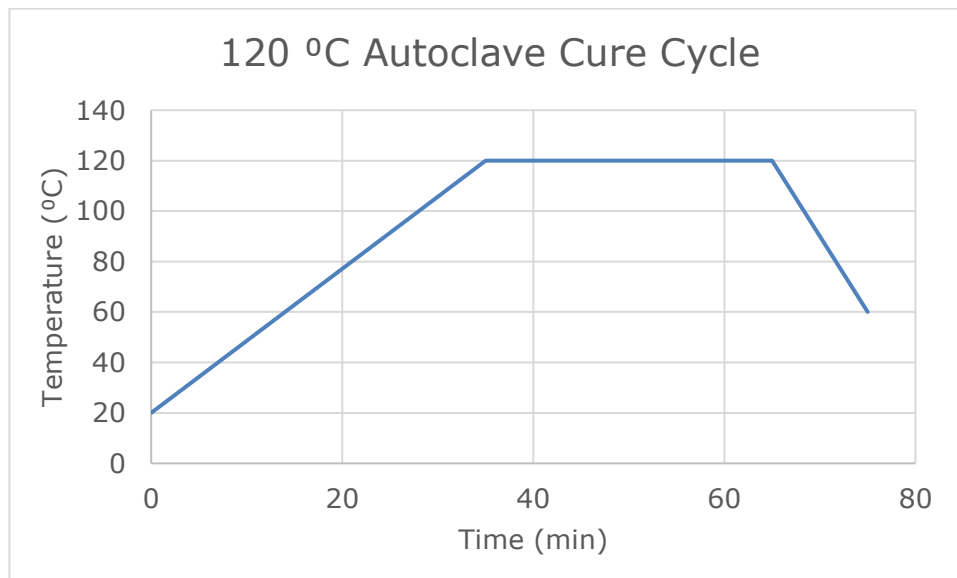
(*) It may be necessary to adjust and optimize the pressure applied and the time when the pressure it is applied in order to achieve the best quality on the part

COMPRESSION MOULDING is the recommended process for the CM10 resin system

Autoclave Molding

A typical autoclave cure cycle for a thin laminate is 30 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 30 minutes \pm 5 minutes.
- 6) Cool at 2 – 5 °C per minute.
- 7) Vent autoclave pressure when the component reaches 60°C.



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