



TECHNICAL DATA SHEET

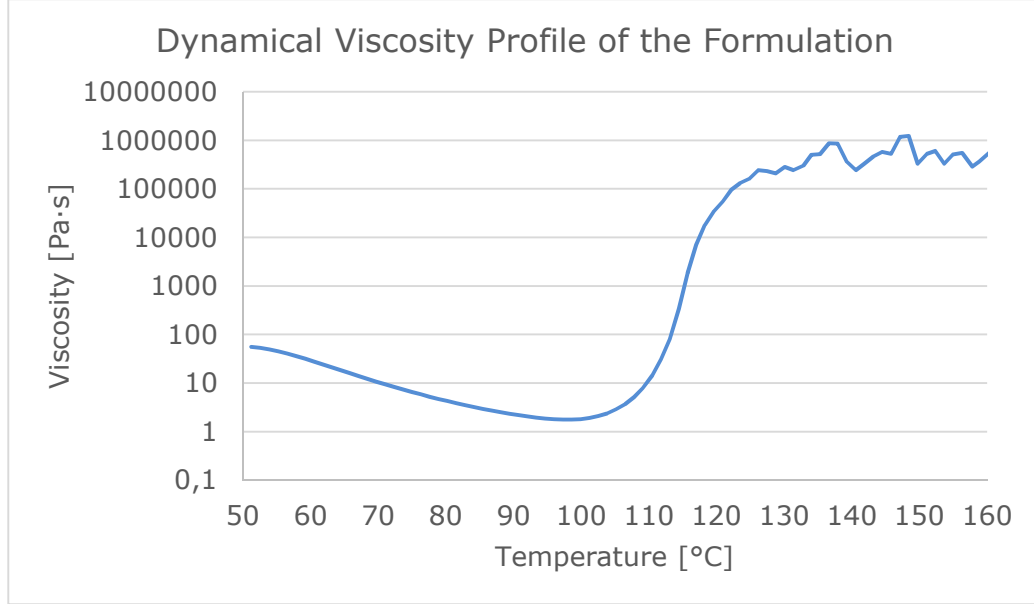
Resin System	CM14
Applications	Visual composites, Automotive
Key Features	Suitable for fast press molding Class A Surface quality Suitable for semi structural applications Good chemical resistance Silica free formulation for improved visual performance (passes) Waterspot/whitespot resistant DICY free formulation
Visual examination with 3M™ SUN GUN™ II Light Kit	Visually perfect with neither milky appearance nor any haze by light diffraction due to silica
80 °C hot distilled water immersion test	No whitespot/waterspots after 80hrs of hot immersion.
Cure Temperature	150°C - 180°C < 5 minutes
Transport	Frigo/cold transport is required
Work Life	5 days (Maximum of 10 days) @ RT (should be handled/transported carefully and be refrigerated whenever not in use)
Storage Life	6 months @ -18°C
Fiber	Carbon
Weaving Style	Plain, twill, UD
Dry Fabric Areal Weight (gsm)	200 - 600
%Resin Content (by weight)	35 - 48 ± 2
Tackiness Level	Low Tack
Tack Life	5 Days @ RT

Initial Mix Viscosity	at 25°C [Pas]	26400
	at 50°C [Pas]	56
	at 65°C [Pas]	15
	at 75°C [Pas]	5,5
Gel Time (Rheometer)	at 120°C [sec]	444
	at 130°C [sec]	252
	at 150°C [sec]	108
Cure Time with HPDSC	at 150°C and 7 Bar [sec]	510
Prepreg Shelf Life	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]	DSC Cure= Ramped from RT to 150°C (10C/min) @150 °C 5 min, Ramped 150 to 210°C (10C/min) DSC T _g measurement= Cool from 210°C to room temp	140
	Press Cure = Isothermal press @160 °C , mold@ RT Wait to mold reach 160 °C @160 °C 5 min DSC T _g measurement= Ramped from RT to 210°C (10C/min), Cool from 210°C to room temp (10C/min)	145
T_g DMA 1Hz, 3°C/min	Onset of E'	112,7
	Maximum of Tanδ	159
	Maximum of E''	136,60
Tensile Test (ASTM D3039)	Tensile Strength (MPa)	23
	Tensile Modulus (MPa)	3310
	Elongation at maximum (%)	0,70
Flexural Test (ASTM D790)	Flexural Strength (MPa)	68,3
	Flexural Modulus (MPa)	3630
	Elongation at maximum (%)	1,9

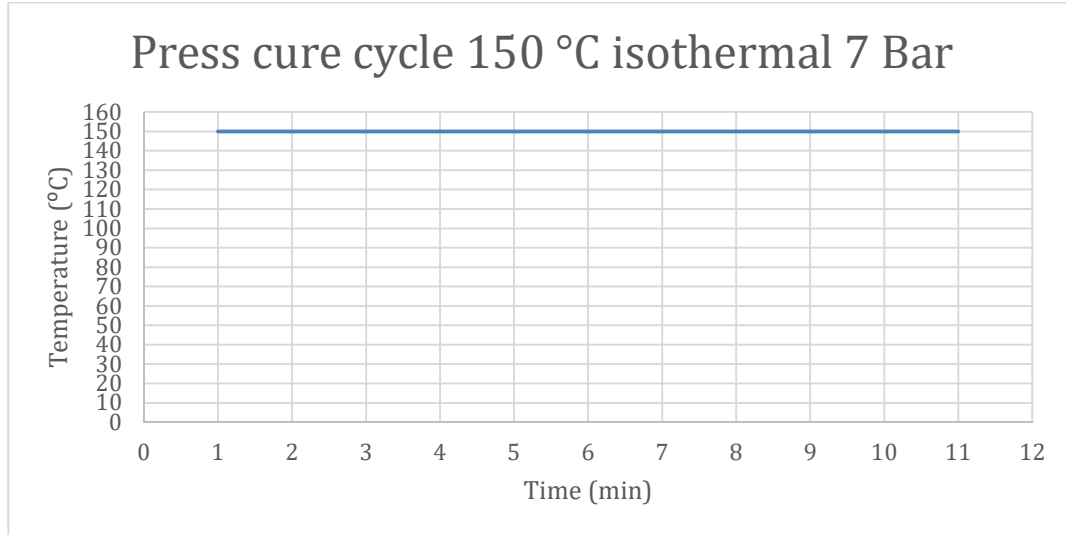
Resin Matrix Properties



Cure Profile

Compression Molding (Recommended)

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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: 10 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).

KORDSA
TEKNIK TEKSTİL A.Ş.

MERKEZ:
ALİKAHYA FATİH MAH.
SANAYİCİ CAD. NO:90
41310 İZMİT, KOCAELİ
T 0282 316 70 00
F 0282 316 70 70
www.kordsa.com
Mersis No: 0577-0053-5640-0013
Ticaret Sicil Müdürlüğü: Kocaeli
Ticaret Sicil No: 26907

TEKNOPARK OFİS:
SANAYİ MAH. TEKNOPARK BULVARI
NO:1/1B 34906 PENDİK, İSTANBUL
T 0216 300 10 00

A.B.D.
BREZİLYA
CIN (İrtibat Bürosu)
ENDONEZYA
MISIR
TAYLAND
TÜRKİYE



(*) 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 CM14 resin system

www.kordsa.com

reinforcer@kordsa.com

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