

# NL10

## Material Data Sheet

Flexibility and excellent conformability make **NL10** possible to be easily integrated into fast production cycles.

This product can be processed by hand layup, vacuum bagging and infusion processes and will withstand manufacturing temperatures up to 150°C.

The unique properties of **NL10** such as: a closed air filled cell structure, low water absorption, rot resistance and high level of noise and vibration attenuation make it an excellent core material for the composites industry - perfectly aligned with the new green classifications.

### MECHANICAL PROPERTIES OF THE CORE MATERIAL

DENSITY (Kg/m <sup>3</sup> )	ASTM C271	120-180
COMPRESSIVE STRENGTH (MPa)	ASTM C365	0,3*
COMPRESSIVE MODULUS (MPa)	ASTM C365	5,1*
TENSILE STRENGTH (MPa)	ASTM C297	0,6*
SHEAR STRENGTH (MPa)	ASTM C273	0,9*
SHEAR MODULUS (MPa)	ASTM C273	5,9*
THERMAL CONDUCTIVITY (W/mK)	ASTM E1530	0,042*
LOSS FACTOR (at 1KHz)	ASTM E756	0,022*

### MECHANICAL PROPERTIES OF THE CORE MATERIAL IN A COMPOSITE <sup>(1)</sup>

FLEXURAL STRENGTH AT YIELD (MPa)	ASTM D790	37*
FLEXURAL MODULUS (GPa)	ASTM D790	3,5*
SHEAR STRENGTH AT YIELD (MPa)	ASTM C392	0,8*
SHEAR MODULUS (MPa)	ASTM C392	44*
COMPRESSIVE STRENGTH AT YIELD (MPa)	ASTM C365	1,2*
COMPRESSIVE MODULUS (MPa)	ASTM C365	19*
WATER ABSORPTION (%)	ASTM C272	<4*
PANEL DENSITY	-	0,600*

<sup>(1)</sup> Samples made by Infusion (0.6 bar) with epoxy resin ref. SR8100/cat ref. SD8824 and two layers of 300g/m<sup>2</sup> glass fibre roving, on each side, sandwich thickness: 6,5 mm; cure at 60°C; samples tested after 5 days of manufacturing.

\* Typical values



**Lightweight**



**Vibration damping**



**Thermal insulation**



**Sustainable and energy efficient**

### KEY FEATURES

- Good drapeability
- Print blocking capability
- Stable material
- Lower resin consumption
- Resin compatibility (Excellent for: Epoxy, Polyester, Phenolic, Vynilester and Polyurethane)

### PROCESS GUIDELINES

RESIN UPTAKE (*) (per m <sup>2</sup> at 1mm)	270g
MAXIMUM PROCESSING TEMPERATURE	180°C
VACUUM BAG PROCESSING	up to 150°C
AUTOCLAVE CURE PROCESSING	possible
COEFFICIENT OF THERMAL EXPANSION (ASTM E831-06)	aprox. 110 X 10 <sup>-6</sup> /°C at RT