

Flexibility and excellent conformability make **NL20** 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 **NL20** 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 material for to the composites industry - perfectly aligned with the new green classifications.

## Mechanical properties of the core material

|                              |           |         |
|------------------------------|-----------|---------|
| Density (Kg/m <sup>3</sup> ) | ISO 7322  | 170-235 |
| Compressive strenght (MPa)   | ASTM C365 | 0,5*    |
| Compressive modulus (MPa)    | ASTM C365 | 6,0*    |
| Tensile strenght (MPa)       | ISO 7322  | >0,4    |
| Shear strenght (MPa)         | ASTM C273 | 0,9*    |
| Shear modulus (MPa)          | ASTM C273 | 5,9*    |
| Thermal conductivity (W/mK)  | ISO 8301  | 0,0507* |
| Loss factor (at 1Hz)         | ASTME756  | 0,043*  |

## Mechanical properties of the core material in a composite <sup>(1)</sup>

|                                     |           |        |
|-------------------------------------|-----------|--------|
| Flexural strenght at yield (MPa)    | ASTM D790 | 56*    |
| Flexural modulus (GPa)              | ASTM D790 | 4*     |
| Shear strenght at yield (MPa)       | ASTM C392 | 0,9*   |
| Shear modulus (MPa)                 | ASTM C392 | 41*    |
| Compressive strenght at yield (MPa) | ASTM C365 | 2,2*   |
| Compressive modulus (MPa)           | ASTM C365 | 23*    |
| Water absorption (%)                | ASTM C272 | <4*    |
| Panel density                       | -         | 0,560* |

<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 (Excelent for: Epoxy, Polyester, Phenolic, Vynilester and Polyurethane)

## Process guidelines

|   |   |
|---|---|
| Resin uptake (*) (per m <sup>2</sup> at 1mm)    | 170g                                    |
| 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 |

The data provided in this Material Data Sheet represents typical values. This information is not intended to be used as a purchasing specification and does not imply suitability for use in a specific application. Failure to select the proper sealing product may result in either product damage or personal injury. Please contact Amorim Cork Composites regarding recommendations for specific applications. Amorim Cork Composites expressly disclaims all warranties, including any implied warranties or merchantability or of fitness for a particular purpose. Amorim Cork Composites is not liable for any indirect, special, incidental, consequential, or punitive damages as a result of using the information listed in this material data sheet, any of its brochures, its products or any future use or re-use of them by any person or entity. For contractual purposes, please request our Product Specifications Sheet (PDA).

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