



Carbiso™ TM is a range of nonwoven mats made from recycled carbon fibre and comingled with thermoplastic fibres. The thermoplastic fibres perform as the matrix in a composite laminate.

Carbiso™ TM products are ideally suited for press moulding and can be produced at any mix ratio of carbon to polymer. Typical polymer contents are between 60% and 80% by weight.

NOMENCLATURE

Example

CARBISO™ TM-MAPP/60-IM56L-200-1500

| BRAND NAME | PRODUCT TYPE | | FIBRE CLASSIFICATION | DIMENSIONS |
|-----------------|-----------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| | TM | MAPP/60 | IM56L | 100-1000 |
| CARBISO™ | Nonwoven mat made from a blend of recycled carbon fibres and thermoplastic fibres | Polymer type: MAPP Content: 60% by weight | Intermediate Modulus fibre with a strength of 5-6 GPa L denotes pyrolised fibres recovered from laminate feedstock | Areal weight: 200 gsm Width: 1500mm |

For additional details please refer to ELG Technical Note 1702: Product Nomenclature

PRODUCT AVAILABILITY

| DESCRIPTION | VALUES |
|----------------------------------|----------------------|
| Areal weight [g/m ²] | 100-500 |
| Tolerance [%] | FAW +/- 10%, CV% <8% |
| Roll length [m] | 50 - 100 * |
| Roll width [mm] | 500 - 2600 |
| Roll diameter [mm] | 200 - 900 |

*depending on areal weight/thickness of the mat

STORAGE AND SHELF LIFE

Storage life 24 months

Packaging Sealed in polythene bag

Stacking Lay flat to avoid telescoping of the roll

Temperature Ambient conditions and Humidity

HEALTH AND SAFETY *Refer to Material Safety Data Sheet*

ELG Carbon Fibre certifies that our recycled carbon fibre products are compliant with the **European Union Regulation (EC) 1907/2006** governing the Registration, Evaluation, Authorization and Restriction of Chemicals (**REACH**) and do not contain substances above 0.1% weight of a Substance of Very High Concern (**SVHC**) listed in Annex XIV. Advised precautions for safe handling are general PPE (gloves, safety goggles, mask and protective clothing).

PROCESSING GUIDELINES

Carbiso TM are designed for use at elevated temperatures and pressures. A hot press is always required but the exact manufacturing route will determine any additional equipment required. An overview of processing parameters is shown below and is for guidance only. Contact the Technical team for detailed advice on processing.

| | CYCLED MOULDING | HOT STAMPING |
|---------------------------------------------|-----------------|--------------|
| Material temperature prior to pressing [°C] | 20 | 200 |
| Pressure [Bar] | 22 | 40 |
| Tool Temperature [°C] | 20 | 30 |
| Temp. ramp rate [°C/min] | 5 | - |
| Hold temperature [°C] | 180 | 40 |
| Hold time | 15 Minutes | 5 seconds |
| Ramp down rate [°C/min] | 15 | - |
| Demould temp [°C] | 100 | 30 |

*depending on areal weight/thickness of the mat

Typical properties – TM-MAPP/60-IM56L

| DESCRIPTION | UNIT | CYCLED MOULDING | |
|----------------------|-------------------|-----------------|--------------|
| | | TRANSVERSE | LONGITUDINAL |
| Tensile Modulus | GPa | 30 | 21.7 |
| Tensile Strength | MPa | 310.0 | 212.0 |
| Compressive Modulus | GPa | 27.7 | 21.5 |
| Compressive Strength | MPa | 195.7 | 175.0 |
| Flexural Strength | MPa | 332 | 290 |
| Density | g/cm ³ | 1.06 | |

TM-MAPP/60-IM56L-200-1500 – Mean Values – Data with other fibre types available

ELG CARBON FIBRE CONTACTS

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