

**We have an ongoing commitment to providing tailor-made solutions by capitalising on our innovative spunlace and needlepunch fabrics for the composites industry.**

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## High Performance Nonwovens for Composites Structures

Nonwovens from the following process technologies

- Spunlaced – hydroentangled
- Needlepunched

Powerful fibre choice

- High performance man made and natural fibres
- Wide range of fibre diameters and lengths





## Our competitive advantage lies in our excellent material characteristics

- light-weight, tear-resistant, durable
- homogeneous, flexible, conformable
- binder free – easily conformable around complex curvatures
- 3 dimensional fibre orientation
- isotropic MD:CD properties
- rapid wet-out, easy-to-impregnate

**plus:** intermediate fibre volume fraction  
natural fibre solutions for ‚green‘ composites



## Applications

### Functional features

- optical appearance and surface finish
- reduced reinforcement print through, surface crazing and microcracking
- improved wear and impact resistance
- surface conductivity (measured according to DIN 54345)
- surface fire resistance / fire blocker

### Structural features

- structural reinforcement

### Process oriented features

- antistatic functionality for moulded components
- dissipation of static charge during de-moulding operation
- improved quality of heatable moulds used for catalytic processes

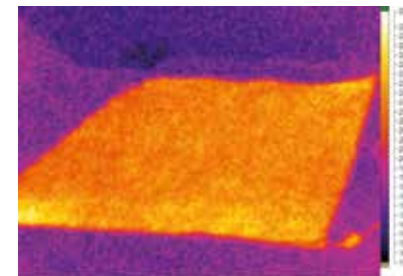


## Heatable features

- homogeneous temperature control during moulding processes
- shorter production time
- reduced mechanical constraints
- improved quality

## Examples of End Applications

### Heating panel in moulding tools



the panel based on heatable nonwovens allows minimal heating-up times and a homogeneous heat distribution

### Green composites



The nonwoven composite based on a natural fiber allows the construction of a sustainable product fulfilling material features such as anti-crack effects, resistance to shock and compression resistance

### Manhole and access covers

Antistatic nonwoven with tailored conductivity using a bespoke blend of conductive and non conductive fibres is used for protection against sparking on composite manhole covers used on fuel station forecourts



Photo courtesy Fibrelite

- public transportation
- structural floor and compartment separations
- composites based on basalt fibres