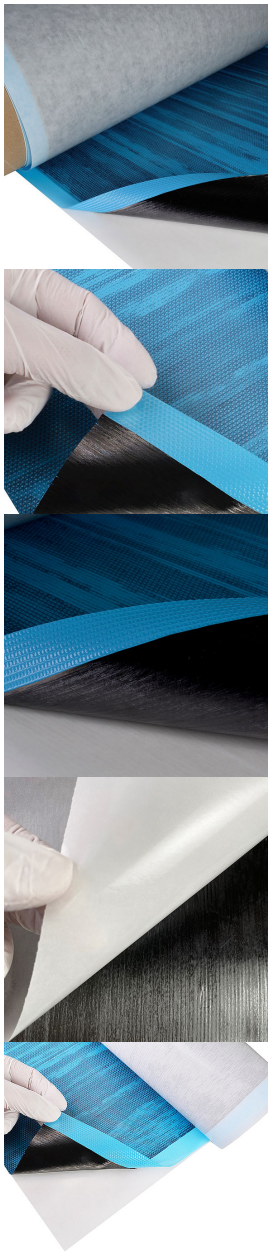
Technical Data



UNIPREG® Carbon non-crimp fabric 150 g/m²

Unidirectional epoxy carbon fibre prepreg that can be used wherever excellent mechanical and physical properties are required.

Description

Unipreg® is a unidirectional carbon fiber prepreg which can be used in all applications where excellent mechanical and physical properties are required.

The main advantages of Unipreg® are:

- Carbon filaments are fully impregnated with epoxy resin system to achieve the best adhesion between the fibers and the matrix.
- All filaments are tensioned and absolutely parallel so the prepreg can fully utilize the properties of every single fiber, thereby the composite has good physical -mechanical properties.
- The thickness of the prepreg along the width is constant.
- All the physical parameters have a very strict tolerance, so the weight, resin/fiber content, thickness and width are very precise.
- Silicone -impregnated paper is used to separate the layers, which makes the handling and layup process easier.

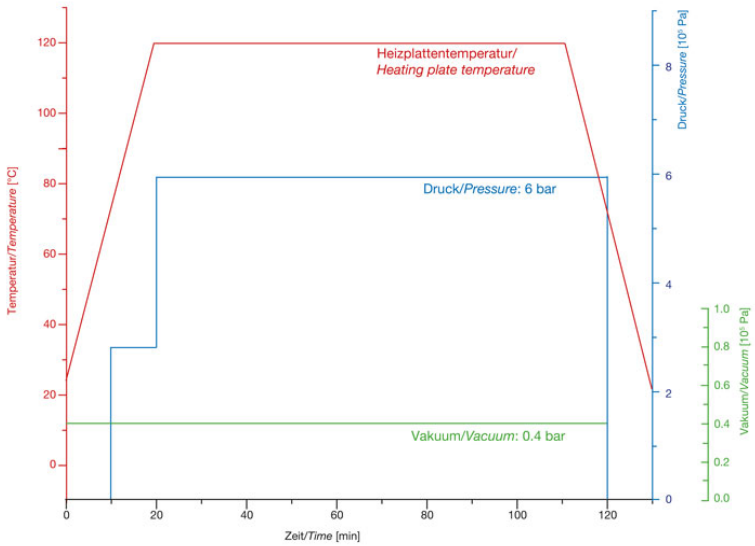
Application

Excellent suitability for structural components.

Processing

The prepreg is slightly sticky when uncured. It is therefore provided with protective covers on both sides to prevent the layers from sticking together unintentionally. The prepreg consists of silicone paper (white in the picture) and an embossed polyester film (blue in the picture).
Cut the prepreg to size for processing. Only then peel off the white silicone paper and place the prepreg into the mould with the sticky side down. As soon as it lies correctly, the embossed blue foil is peeled off the backside. In this way, several prepreg layers can be glued together as a "stack". Curing then takes place under pressure

Empfohlener Härtungszyklus/ *Recommended curing cycle*



Edition 02/2022, subject to change

Technical data of the fibre

Fibre: Panex® 35 50k

Tensile strength: 4130 MPa
Tensile strength: 242 GPa
Elongation at break: 1.5%
Density: 1.81 g/cm³
Filament diameter: 7,2 µm

Technical data of.the non-crimp fabric

Areal weight (dry): 150 g/m²
Curing temperature: 80 - 150 °C
Glass transition temperature (Tg): 70 - 140 °C
Prepreg weight: 234 g/m²
Resin type: Epoxid
Resin content: 36 %
Laminate thickness: 0.15 mm (+/- 2.5 %)

Typical properties of Unipreg® laminate

Tensile strength (EN ISO 527-4): 1800 MPa
Tensile strength (EN ISO 527-4): 139 GPa
Flexural strength (EN ISO 14125): 1670 MPa
Flexural modulus (EN ISO 14125): 115 GPa
ILS strength (EN ISO 14130): 73 MPa
Density (EN ISO 1183): 1.57 g/cm³

In order to always deliver high-quality and "fresh" goods, we not only pay attention to short procurement times but also store the prepregs at -18 °C in a specially designed cold store until delivery.

Storage:
At -18 °C: 18 months
At 20 °C: 4 months

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