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KRAIBON®

Rubber improves composites

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KRAIBON®

Rubber improves composites

With more than 70 years of experience in the productions of high-quality technical rubber and silicone composites, Gummiwerk KRAIBURG also focuses on the dynamically growing composites market. A range of products which introduce the special properties of fibre-reinforced plastic (FRP) and hybrid laminates was developed for this.

The **KRAIBON®** products are designed for use in fibre composite and hybrid components. The focus here is on acoustics, splinter protection, energy absorption and the constructive combination of various material classes.

KRAIBON® is integrated directly into the layer structure in the manufacturing process which is typical of fibre composite. No additional bonding agents are required since this property is introduced directly in the formulas. **KRAIBON®** has inherent adhesiveness (tack) and, after warming, can easily be draped.

The elastomer cures under the same manufacturing conditions as thermosetting resin systems and forms a permanently stable chemical bond with the matrix. No additional processing steps are required. The result is an alternately hard and soft composite material which combines the positive properties of fibre-reinforced plastics and elastomers.

What benefits does KRAIBON® offer?

- Impact energy is absorbed/dissipated
- Splinter protection through binding
- Dimension equalization in the event of thermal shrinkage/expansion
- Allows for multi-material bonds
- Blocks electrochemical corrosion
- Ductile failure pattern when broken
- Short cycle time suitable for mass production
- Long shelf life

Do you have a project or want more information about KRAIBON®?
Let us know how we can help you and get in touch.

KRAIBON® *Hybrid*

for multi-material bonds

KRAIBON® *Hybrid* bonds chemically to thermosetting matrix resins as well as to a wide range of materials such as steel, aluminium or even natural fibres, as well as fibreglass. It offers a permanent bond – comparable with structural adhesives – while at the same time offering improved acoustics, impact and splinter protection, and thermal and electrochemical decoupling of the material partners.

Properties of KRAIBON® *Hybrid*

- High energy absorption
- Long and reliable service life
- Easy to cut to any desired size
- Outstanding stability to weight ratio
- Bonding with and between a wide range of materials
- Equalization of the thermal expansion of various materials

Benefits of KRAIBON® *Hybrid*

Weather and ozone-resistant

High energy absorption

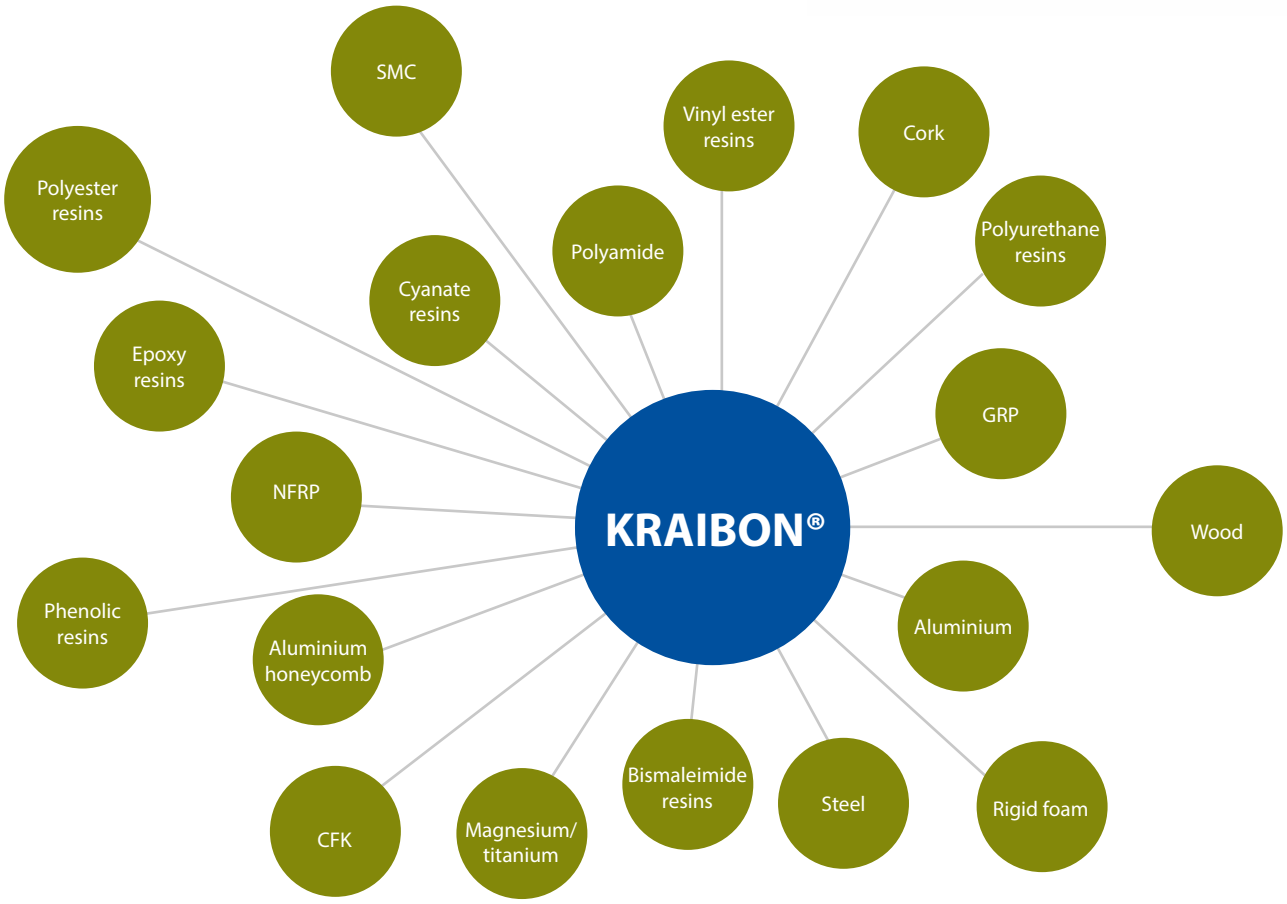
Temperature-resistant to approx. 170°C

Multi-material adhesion

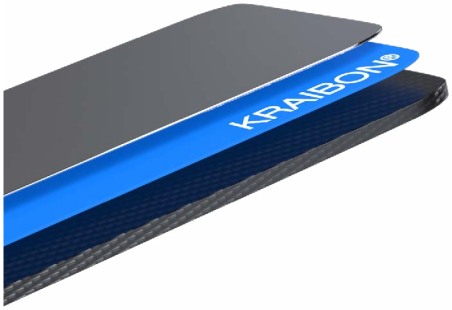
Thickness:	0.5 mm
Width:	500 mm
Weight:	675 g/m²

KRAIBON® *Hybrid* is delivered on rolls

KRAIBON® *Hybrid*
for multi-material bonds



Example of a layer structure with **KRAIBON®**



One layer of KRAIBON®*
between metal and carbon

Two layers of KRAIBON®*
between metal and carbon

Outer layer of KRAIBON®*

* The images shown are for reference purposes only, the actual product may differ.

Do you have a project or want more information about KRAIBON® *Hybrid***?**
Contact us!

KRAIBON® *Damp*

Damping solutions for the composite sector

KRAIBON® *Damp* works according to the principle of "Constrained Layer Damping (CLD)": the viscoelastic elastomer layers absorbs structure-borne noise vibrations and damp them, up to complete noise cancellation. The highly damping material, which has its optimum effect at temperatures of between approx. +15 °C and +40 °C, reliably improves the acoustic behaviour of composite components.

Properties of KRAIBON® *Damp*

- Passive structure-borne noise insulation
- Long and reliable service life
- Easy handling and direct integration
- Outstanding stability to weight ratio
- Very high damping across a wide range of temperatures and frequencies

Benefits of KRAIBON® *Damp*

Weather-resistant | Use in acoustics | Flexible | Damping

Do you have a project or want more information about KRAIBON® *Damp*? Contact us!

Thickness:	0.5 mm
Width:	500 mm
Weight:	551 g/m²

KRAIBON® *Damp* is delivered on rolls

KRAIBON® *Impact*

Impact and splinter protection for the composite sector

KRAIBON® *Impact* binds sharp-edged fibre fragments resulting from impacts and breakages and reduces their dispersion and number. The risk to nearby persons or components is thus mitigated. To this end, the failure pattern of the component is ductile, similar to metal, and there is no sudden failure. Thanks to the "slow yielding", residual function is retained during the beginning of the breakage and even after complete failure of the fibre composite laminates.

Properties of KRAIBON® *Impact*

- Easy to drape
- Low grammage
- Different stiffnesses possible
- High energy absorption
- High friction when used as an outer layer

Benefits of KRAIBON® *Impact*

Weather-resistant

High energy absorption

Impact protection

Flexible

Lightweight construction

Do you have a project or want more information about KRAIBON® *Impact*?
Contact us!

Thickness:	0.5 mm
Width:	500 mm
Weight:	520 g/m²

KRAIBON® *Impact* is delivered on rolls

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KRAIBON® *Temp*

High-temperature applications for the composite sector

KRAIBON® *Temp* is developed and optimised for use in applications with very high temperature loads. In addition to permanent stability up to +280 °C, the material is designed for contact with aggressive media (oils, petrol, acids, bases etc.). It can therefore also be used as an outer protective layer for fibre laminates.

Properties of **KRAIBON®** *Temp*

- Structure-borne noise insulation
- Permanently flexible bond
- Absorption of thermal expansion
- Suitable for high-temperature applications
- Comprehensive media-resistance across a broad range of temperatures

Benefits of KRAIBON® *Temp*

Weather-resistant

Temperature-resistant +280 °C

Flexible

Impact protection

Do you have a project or want more information about KRAIBON® *Temp*?
Contact us!

Thickness:	0.5 mm
Width:	500 mm
Weight:	985 g/m²

KRAIBON® ***Temp*** is delivered on rolls

info@kraibon.com www.kraibon.com

KRAIBON® *Fire*

Fire protection for the composite sector

KRAIBON® *Fire* is optimized for use in applications which need to meet particularly high fire protection requirements. The composite meets the requirements of the highest fire protection class in the rail sector: EN 45545-2 HL3 R1. **KRAIBON®** *Fire* is weather and oil-resistant and can be used both within the layer structure and as an external coating.

Properties of **KRAIBON®** *Fire*

- Improvement of the component acoustics
- High energy absorption in the event of impact
- Can be used as an internal and external layer
- Reliable protection of the underlying layers
- Suitable for fire protection in accordance with EN 45545-2 HL3 R1
- Adhesion to all common thermosetting resin systems

Benefits of KRAIBON® *Fire*

Weather-resistant

Fire-resistant

Impact protection

Do you have a project or want more information about KRAIBON® *Fire*?
Contact us!

Thickness:	0.5 mm
Width:	500 mm
Weight:	870 g/m²

KRAIBON® *Fire* is delivered on rolls

H D I T

KRAIBON® product overview

Product	Weight	Min. pressure (at 120 °C)	Curing 120 °C	Curing 140 °C	Curing 170 °C
KRAIBON® *Hybrid*	675 g/m²	2.7 bar	35 min.	4.5 min.	0.6 min.
KRAIBON® *Damp*	551 g/m²	2 bar	70 min.	8.4 min.	---
KRAIBON® *Impact*	520 g/m²	2 bar	60 min.	7.3 min.	---
KRAIBON® *Temp*	985 g/m²	2 bar	90 min.	18 min.	1.3 min.
KRAIBON® *Fire*	870 g/m²	2 bar	75 min.	8 min.	2 min.

Weather-resistant

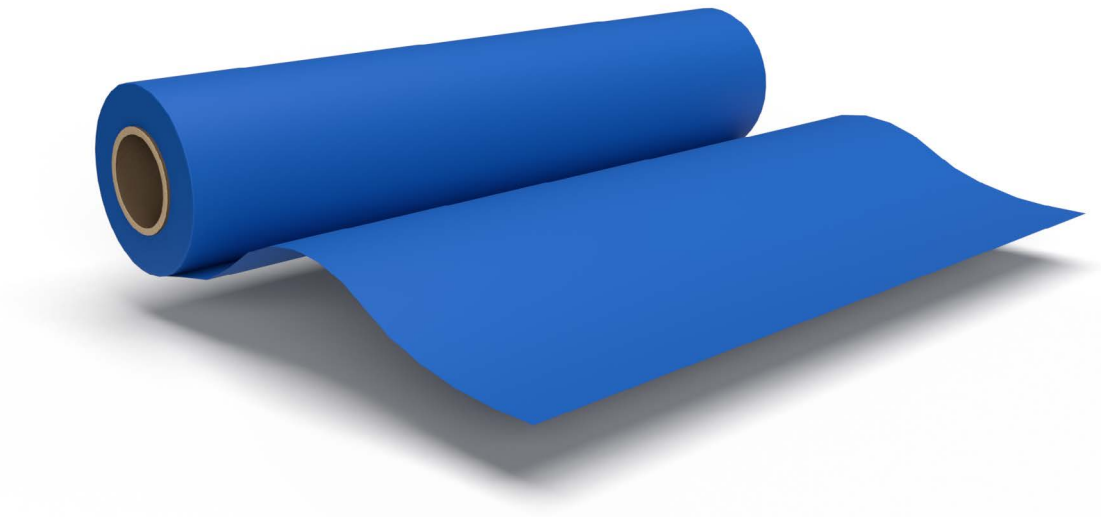
High energy absorption

Water-resistant

Temperature-resistant

Fire-resistant

Example roll with **KRAIBON®**



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Max. sustained temperature	Advantages	Dimensions (Thickness / width)
160 °C		0.5 mm / 500 mm 10 m² per roll
120 °C		
120 °C		
280 °C		
150 °C		

The properties and applications are guiding statements.
We always recommend getting in touch with us.
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KRAIBON®

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