ANTI-SLIP MATS FOR SECURING LOADS
For the transport of goods on road, rail and sea

Perfect protection for driver and freight.
A significant number of all traffic accidents involving freight transport is caused by insufficiently secured loads. According to Section 22 of the German Highway Code, every load must be secured so that it remains securely fastened on the vehicle also in extreme situations, such as full braking, evasive manoeuvres, accidents or poor road surfaces.

Means for securing loads must therefore provide the necessary holding power to keep the load in place in such situations.

According to the applicable regulations for motor vehicle traffic, every load must be secured with 80% of its weight toward the front and 50% toward the sides and back. Sufficient load securing means need to prevent the load from moving due to centrifugal and mass forces, which can occur especially during braking or in curves.

An important factor in securing loads is friction force, which holds the load on the loading surface to a certain extent to counter the shifting of the load. Increasing the friction force is the most effective means of securing loads.

This is where anti-slip mats from KRAIBURG Relastec come into use: With their high kinetic friction coefficient, the anti-slip mats KRAITEC® spezial, spezial plus, protect and secure reduce the sliding properties on smooth loading surfaces. The danger of freight slipping is decreased and the required tensioning force for lashing is significantly reduced, which also reduces the number of lashing straps needed. This means a saving in terms of time and costs (see page 12/13).

Therefore the anti-slip mats KRAITEC® spezial, spezial plus, protect and secure are an ideal supplement to lashing straps, as well as being the most effective way of securing loads, and they can be used under any type of load.
PRINCIPLES OF SECURING A LOAD

COUNTERACTING OF ACCELERATION FORCES.

THESE VALUES MUST BE SATISFIED:

1.0 G = WEIGHT OF LOAD

The load during truck transport, according to applicable regulations, must be secured with 50% of the weight toward the sides and back and with 80% of the weight toward the front. For transport by rail and ship, the values are accordingly higher.

High-quality anti-slip mats can greatly assist in the task of complying with these specifications.

RESPONSIBILITY FOR THE SECURING OF THE LOAD

THE LEGAL SITUATION IS CLEAR

According to public law (Section 22 of the German Highway Code), the driver, the loader and the haulier are responsible for securing the load.
- The vehicle operator is obligated to equip the vehicle in accordance with Section 31 of the German Highway Code.

According to commercial law (Section 412 of the Uniform Commercial Code (UCC)) the dispatcher and carrier are responsible.
- According to Section 412 UCC the dispatcher is responsible for safe loading for transport.
- According to Section 412 UCC the dispatcher is responsible for safe loading for operation.

For quite some time now, VDI 2700 and DIN EN 12195 define the conditions under which a load is considered to be secured properly.
The anti-slip mat KRAITEC® spezial was developed to cover a wide range of safety requirements. The mats were designed with a kinetic friction coefficient $\mu$ of 0.81.

A selection of various material thicknesses offers very good maximum surface load values ranging from 125 to 200 t/m², allowing exact adaptation to your individual load securing requirements.

**Registered, protected colour coding:**

For reliable and fast identification, KRAITEC® spezial features a colour coding system that is protected by German law. The red and white granulate colour particles distinguish KRAITEC® spezial.

As with all KRAITEC® anti-slip mats, KRAITEC® spezial can be re-used many times until they reach the replacement state of wear.

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**Technical data**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard product</td>
<td>For a very wide range of different loads</td>
</tr>
<tr>
<td>Special feature</td>
<td>Protected and registered product design</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>PU-bound recycling rubber granules</td>
</tr>
<tr>
<td><strong>Formats</strong></td>
<td>Panels: on request (± 1.5%)</td>
</tr>
<tr>
<td></td>
<td>Strips: L (on request) x B 1,250 mm (± 1.5%)</td>
</tr>
<tr>
<td><strong>Thicknesses</strong></td>
<td>3, 4, 5, 6, 8, 10, 12, 15, 20 mm (± 0.5 mm)</td>
</tr>
<tr>
<td><strong>Max. permissible surface load</strong></td>
<td>approx. 125 t/m² at 3, 4 mm thickness</td>
</tr>
<tr>
<td>(at max. 30% compression in acc.</td>
<td>approx. 200 t/m² at 8, 10 mm thickness</td>
</tr>
<tr>
<td>with VDI 2700 Sheet 19)</td>
<td></td>
</tr>
<tr>
<td><strong>Friction coefficient $\mu$</strong></td>
<td>0.81* at 3, 4, 5, 6, 8, 10 mm thickness</td>
</tr>
<tr>
<td><strong>Elongation at break</strong></td>
<td>min. 60% (DIN EN ISO 1798)</td>
</tr>
<tr>
<td><strong>Tensile strength</strong></td>
<td>min. 0.6 N/mm² (DIN EN ISO 1798)</td>
</tr>
</tbody>
</table>

* Friction partners:
  - Euro pallet, non-slip floor, dry
KRAITEC® spezial plus
VERSATILE ANTI-SLIP MAT WITH GREATER SURFACE LOAD CAPACITY

KRAITEC® spezial plus is the anti-slip mat for heavier loads. The combination of a high surface load capacity (max. 290 t/m²) and an excellent kinetic friction coefficient (µ = 0.81) makes this product the first choice when it comes to securing loads of medium weight.

KRAITEC® spezial plus can also be re-used many times until they reach the replacement state of wear.

Technical data

<table>
<thead>
<tr>
<th>Standard product for loads of medium weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
</tr>
<tr>
<td>Formats</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Thicknesses</td>
</tr>
<tr>
<td>Max. permissible surface load</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Friction coefficient µ</td>
</tr>
<tr>
<td>Elongation at break</td>
</tr>
<tr>
<td>Tensile strength</td>
</tr>
</tbody>
</table>

* Friction partners:
- Euro pallet, non-slip floor, dry
KRAITEC® protect
ANTI-SLIP MAT WITH EXTREMELY HIGH KINETIC FRICTION COEFFICIENT

Our anti-slip mat **KRAITEC® protect**, with an extremely high kinetic friction coefficient of $\mu = 0.92$, is the ideal solution, because it optimally counters any horizontal movement of the load (sliding).

Due to the especially homogeneous distribution of the granules, **KRAITEC® protect** also provides maximum flexibility, with excellent adaptation to loads that have complex contours. The large range of available thicknesses ensures especially effective and economical securing of loads.

As with all **KRAITEC®** anti-slip mats, **KRAITEC® protect** can be re-used many times until they reach the replacement state of wear.

### Technical data

<table>
<thead>
<tr>
<th>Material</th>
<th>High-specification coloured PU-bound recycling rubber granules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formats</td>
<td>Panels: on request (± 1.5%) Strips: L (on request) x B 1,250 mm (± 1.5%)</td>
</tr>
<tr>
<td>Thicknesses</td>
<td>3, 5, 6, 8, 10 mm (± 0.5 mm)</td>
</tr>
<tr>
<td>Max. permissible surface load</td>
<td>approx. 270 t/m² at 3, 5, 6, 8, 10 mm thickness</td>
</tr>
<tr>
<td>Friction coefficient $\mu$</td>
<td>0.92* at 3, 5, 6, 8, 10 mm thickness</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>min. 120% (DIN EN ISO 1798)</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>min. 0.8 N/mm² (DIN EN ISO 1798)</td>
</tr>
</tbody>
</table>

* Friction partners:
  - Euro pallet, non-slip floor, dry
KRAITEC® secure is the anti-slip mat for heavy loads. The combination of an exceptionally high surface load capacity (max. 500 t/m²) and an excellent kinetic friction coefficient (µ = 0.80) makes this product the first choice when it comes to securing extremely heavy loads.

Registered, protected colour coding:
KRAITEC® secure likewise features a colour coding system protected by German legislation. The blue and white granulate colour particles are the sign of an original KRAITEC® secure anti-slip mat.

KRAITEC® secure anti-slip mats can also be re-used many times until they reach the replacement state of wear.

### Technical data

<table>
<thead>
<tr>
<th>Technical</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard product</td>
<td>for high loads (heavy-duty transport)</td>
</tr>
<tr>
<td>Special feature</td>
<td>Protected and registered colour code [black with blue and white colour particles]</td>
</tr>
<tr>
<td>Material</td>
<td>PU-bound recycling rubber granules</td>
</tr>
</tbody>
</table>
| Formats | Panels: on request (± 1.5%)  
Strips: L [on request] x B 1,250 mm (± 1.5%) |
| Thicknesses | 8, 10 mm (± 0.5 mm) |
| Max. permissible surface load | approx. 500 t/m² at 8, 10 mm thickness |
| Friction coefficient µ | 0.80* at 8, 10 mm thickness |
| Elongation at break | min. 80% (DIN EN ISO 1798) |
| Tensile strength | min. 1.0 N/mm² (DIN EN ISO 1798) |

* Friction partners:  
Euro pallet, non-slip floor, dry
General
VDI 2700 and DIN EN 12195 are recognised as the fundamental guide to the securing of loads, and as repositories of the recognised technical rules involved. They describe the forces that affect a load while driving and the basic methods for securing loads on road vehicles.
These directives are used for supervision measures by the traffic police, but also in court disputes.

VDI 2700, Sheet 15 – Requirements for anti-slip mats
Sheet 15 of VDI 2700 defines the requirements for anti-slip mats. An anti-slip mat is of sufficient quality and strength if a tensile strength of at least 0.6 Newtons per square millimetre (N/mm²) is achieved and the elongation at break is at least 60%. Slip-resistant materials (RHM) or or anti-slip mats must be tested by an independent institute and can then be used until they reach the replacement state of wear.

The term “replacement state of wear”
KRAITEC® anti-slip mats can always be re-used many times. However, there are criteria that rule out their continued use. These criteria are defined in VDI 2700 Sheet 15 and must be checked before every use of the anti-slip mats. If any of the following statements apply to the anti-slip mats, it has reached the “replacement state of wear” and may no longer be used:

- Permanent deformations or compression marks
- Tears
- Surface abrasion
- Holes
- Swollen areas
- Damage due to contact with aggressive substances
- Embrittlement
- Soiling that affects the function of the mats
KRAITEC® anti-slip mats
THE ADVANTAGES AT A GLANCE

QUALITY – COMBINED WITH SAFETY

- Wear-resistant, durable, re-usable up until replacement state of wear
- Durable solution
- Tested safety, high quality
- High kinetic friction coefficient
- Made of recycled material, therefore eco-friendly
- Fast and easy to handle, therefore time-saving
- Cost-saving through reduction of need for lashing straps (see page 12)
**KRAITEC® anti-slip mats**

**TYPICAL APPLICATIONS**

**Pallets and lattice boxes**
The use of KRAITEC® anti-slip mats under pallets or lattice boxes substantially increases the friction between the loading surface and the load. This significantly reduces the number of lashing straps needed.

**Metal rod-coils**
Ideally, metal rod-coils should be transported in coil troughs. To prevent the danger of slipping and subsequent shifting of the centre of gravity, KRAITEC® anti-slip mats should be placed between the coils and the trough.
Paper coils
The flexible, robust and tear-resistant KRAITEC® anti-slip mats secure heavy loads such as transversely loaded paper coils on smooth loading surfaces of transport vehicles and this prevents them from slipping laterally. Placed underneath and between the paper coils, the anti-slip mats support and balance the coils. They also significantly reduce the number of lashing straps needed.

Pipes
If the pipes are loaded lengthwise on the semi-trailer, it is especially important to prevent slipping both lengthwise and laterally. The use of KRAITEC® anti-slip mats under the wedges and under the pipes provides the necessary protection in both directions.
Example 1: Loading surface area (curtainsider L) + load (MDF panels, 8 packages)

- Payload weight, 24,400 kg MDF sheets divided up and bundled into 8 packages
- Vehicle layout: Curtainsider L
- Friction partner smooth fiberboard/MDF sheet on non-slip floor $\mu = 0.2$
- Required lashing straps: 48 units with a preload force of 500 daN
- Lashing angle $\alpha = 80^\circ$
- Positive connection at the front

Cost saving with KRAITEC® anti-slip mats

<table>
<thead>
<tr>
<th>1</th>
<th>3</th>
<th>5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

DO YOU STILL BELT UP, OR DO YOU SIMPLY JUST DRIVE OFF?

COST SAVING WITH ANTI-SLIP MATS

- Costs without anti-slip mat ($\mu=0.2$) (calculation in acc. with DIN EN 12195)
- Costs with anti-slip mat ($\mu=0.6$) (calculation in acc. with DIN EN 12195)

<table>
<thead>
<tr>
<th>Description</th>
<th>Without Anti-slip Mat</th>
<th>With Anti-slip Mat</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 lashing straps per transport operation (6 straps in each pack)</td>
<td>€480: 250 days = €1.92 per transport operation</td>
<td>€1.92</td>
</tr>
<tr>
<td>Procurement: €10 / unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 straps per transport operation (2 straps in each pack to prevent lifting)</td>
<td></td>
<td>€0.64</td>
</tr>
<tr>
<td>Procurement: €10 / unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck downtime = €80/hr.</td>
<td>€218.40 per transport operation (168 mins.)</td>
<td></td>
</tr>
<tr>
<td>Fitting time per strap approx. 2 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 48 straps / transport operation 96 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal time (incl. rolling up) of each strap 1.5 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 48 straps per transport operation 72 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At labour rates of €30 / hr. = €84 per transport operation</td>
<td>€302.40</td>
<td>€110.00</td>
</tr>
<tr>
<td>Edge protection brackets per transport operation, 96 units</td>
<td>€0.19</td>
<td>€0.06</td>
</tr>
<tr>
<td>= 96 brackets x €0.50 = €48 per annum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= €48: 250 days = €0.19 per transport operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck downtime = €80/hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitting time per strap approx. 2 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= at 16 straps per transport operation approx. 38 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal time (incl. rolling up) of each strap 1.5 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 16 straps per transport operation 24 mins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At labour rates of €30 / hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= €30 per transport operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edge protection brackets per transport operation, 32 units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= 32 brackets x €0.50 = €16 per annum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>= €16: 250 days = €0.06 per transport operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costs per transport operation</td>
<td>€304.51</td>
<td>€120.70</td>
</tr>
<tr>
<td>Costs per annum (250 working days)</td>
<td>€76,127.50</td>
<td>€30,175.00</td>
</tr>
</tbody>
</table>

Costs anti-slip mats (15 strips, each 6 mm x 200 mm x 2500 mm)
- €75 per truck for an average of 10 transport operations
- €7.50

Laying out the anti-slip mats per transport operation approx. 5 mins.
- At labour rates of €30 / hr. = €2.50

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MADE IN GERMANY

Cost saving with KRAITEC® anti-slip mats

Saving for one truck per annum: approx. €45,953
Example 2: Load surface area (curtainsider L) + 4 coils (aluminium coils on timber)

- Payload weight, 4,100 kg aluminium coils on timber (4 coils)
- Vehicle layout: Curtainsider L
- Friction partner smooth fiberboard/ MDF sheet on non-slip floor $\mu = 0.3$
- Required lashing straps: 16 units with a preload force of 350 daN
- Lashing angle $\alpha = 60^\circ$
- No positive connection

### Costs without anti-slip mat ($\mu=0.2$) (calculation in acc. with DIN EN 12195)

<table>
<thead>
<tr>
<th>Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16 lashing straps per transport operation</td>
<td>€0.64 per transport operation</td>
</tr>
<tr>
<td>(4 straps per coil)</td>
<td></td>
</tr>
<tr>
<td>Procurement: €10/unit</td>
<td></td>
</tr>
<tr>
<td>= €160</td>
<td>250 days</td>
</tr>
<tr>
<td>Truck downtime = €80/hr.</td>
<td></td>
</tr>
<tr>
<td>= €80 per transport operation</td>
<td></td>
</tr>
<tr>
<td>Fitting time per strap approx. 2 mins.</td>
<td></td>
</tr>
<tr>
<td>= 16 straps per transport operation 32 mins.</td>
<td></td>
</tr>
<tr>
<td>Removal time (incl. rolling up) for each strap 1.5 mins.</td>
<td></td>
</tr>
<tr>
<td>= 16 straps per transport operation 24 mins.</td>
<td></td>
</tr>
<tr>
<td>At labour rates of €30 / hr.</td>
<td></td>
</tr>
<tr>
<td>= €30 per transport operation</td>
<td></td>
</tr>
<tr>
<td>= €110.00 per transport operation</td>
<td></td>
</tr>
</tbody>
</table>

### Costs with anti-slip mat ($\mu=0.6$) (calculation in acc. with DIN EN 12195)

<table>
<thead>
<tr>
<th>Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8 lashing straps per transport operation</td>
<td>€0.32 per transport operation</td>
</tr>
<tr>
<td>(2 straps per coil to prevent lifting)</td>
<td></td>
</tr>
<tr>
<td>Procurement: €10/unit</td>
<td></td>
</tr>
<tr>
<td>= €80</td>
<td>250 days</td>
</tr>
<tr>
<td>Truck downtime = €80/hr.</td>
<td></td>
</tr>
<tr>
<td>= €40 per transport operation</td>
<td></td>
</tr>
<tr>
<td>Fitting time per strap approx. 2 mins.</td>
<td></td>
</tr>
<tr>
<td>= 8 straps per transport operation approx. 16 mins.</td>
<td></td>
</tr>
<tr>
<td>Removal time (incl. rolling up) for each strap 1.5 mins.</td>
<td></td>
</tr>
<tr>
<td>= 8 straps per transport operation 12 mins.</td>
<td></td>
</tr>
<tr>
<td>At labour rates of €30 / hr.</td>
<td></td>
</tr>
<tr>
<td>= €15 per transport operation</td>
<td></td>
</tr>
<tr>
<td>= €55.00 per transport operation</td>
<td></td>
</tr>
</tbody>
</table>

### Edge protection brackets

- Edge protection brackets per transport operation, 32 units
- = 32 brackets x €0.50 = €16 per annum
- = €16. 250 days = €0.06 per transport operation

### Saving for one truck per annum: approx. €12,712.50

- Loading without anti-slip mat
- Costs anti-slip mats (6 strips, each 6 mm x 200 mm x 2500 mm) €30 per truck for an average of 10 transport operations
  - €3.00
- Laying out the anti-slip mats per transport operation approx. 3 mins.
  - At labour rates of €30 / hr.
  - = €1.50
- Costs per transport operation
  - €110.70
- Costs per transport operation
  - €59.85
- Costs per annum (250 working days)
  - €27,675.00
- Costs per annum (250 working days)
  - €14,962.50
**KRAITEC® TECHNICAL SERVICE**
WE CAN PROVIDE YOU WITH COMPREHENSIVE ADVICE

KRAITEC® anti-slip mats are subjected to comprehensive production and product monitoring. Also, all incoming raw materials needed in the manufacture of our anti-slip mats are subject to a stringent incoming goods inspection.

Needless to say, Quality Assurance and Product Monitoring are separate departments from Production. After carrying out the relevant quality test, e.g. determining the friction coefficient, the elongation to break and tensile strength values or the applicable surface load capacity, it is possible when required to produce an internal acceptance test certificate.

These quality assurance measures are conducted on all of our products, always with due reference to the currently valid standards and regulatory publications. This end-to-end in-house monitoring guarantees the assurance of product features and also enables us to produce seamless documentation, from raw material to end product.

**Customer service**
Over and above quality assurance and product monitoring, we offer our customers a range of different tests to suit customer requests. These include determining the friction coefficient of customer-specific pairs of materials in conjunction with KRAITEC® anti-slip mats.

We shall be pleased to put together a sample pack for you, for training purposes, further training or for test purposes. Please advise us of the quantity of samples and their intended purpose and we shall send you an appropriate pack of samples.

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**FAQ - KRAITEC® securing of loads**

Scan the QR code to obtain answers to FAQs relating to the securing of loads.
KRAITEC® SECURING OF LOADS - PRODUCT INSPECTIONS
TENSILE STRENGTH, ELONGATION TO BREAK, DISTORTION CHARACTERISTICS

Use our technical service!
Either on location or over the phone, our KRAITEC® Application Technology team will be pleased to advise you, and can skilfully assist with the planning and implementation of your products.

Tel.: +49 (0) 3901 8304-63
Mobile: +49 (0) 151-42 65 60 57
Fax: +49 (0) 3901 8304-463
technik-kraitec@kraiburg-relastec.com

Scan the QR code to save our KRAITEC® Applications Technology details as a direct point of contact.
KRAIBURG Relastec GmbH & Co. KG is one of the best known global companies that specialise in the production of technical rubber materials from the recycling of old tyres. We have a long tradition of environmental responsibility, and on an annual basis, we operate a ‘rubber cycle’ comprising approx. 90,000 tons of rubber in the form of old tyres, cellular rubber, scrap and stampings from new rubber materials, all of which we recycle. From these raw materials, we produce high-quality granules based on our internally developed formulations. These granules make up more than 90% of the material used in our finished products. All our products are 100% recyclable without loss of quality.

At KRAIBURG Relastec, protecting the environment is a strategic priority. We are convinced that sustainable growth is only achievable, if we meet our responsibilities towards the environment. KRAIBURG Relastec has therefore adopted a very simple policy: Protecting the environment is part and parcel of what we do every day!

Our ‘pro environment’ environmental logo stands not only for 40 years of sustainable business practices that protect resources, but emphasises our commitment to product quality and continuous improvement for the protection of the environment beyond the statutory regulations.

We turn waste rubber materials into new raw materials and products, making a valuable contribution to waste reduction and the protection of the environment.

We invest in innovative and environmentally friendly productio methods and technologies ...

Our products are subject to continuous examination of further development with environmental protection as a guiding principle and we are continuously on the search for more environmentally compatible alternatives, to further reduce emissions and to con-serve resources.

All employees of KRAIBURG Relastec undertake to implement sustainable practices in their daily work and to protect the environ-ment wherever they can.

We expect the same from our suppliers and constantly monitor their performance.
Please do not hesitate to contact us for
- Product samples
- Product data sheets
- Test certificates
- Brochures for other KRAITEC® load securing systems

or write directly to:
kraitec@kraiburg-relastec.com
Production/loading address:
KRAIBURG Relastec GmbH & Co. KG
Fuchsberger Strasse 4
D-29410 Salzwedel

Sales & Marketing
KRAIBURG Relastec GmbH & Co. KG
Kehlsteinstrasse 2
D-84529 Tittmoning
**KRAITEC® secure**

**Technical data**
- Standard product for high loads
- **Material:** PU-bound recycling rubber granules
- **Formats**
  - Panels: on request (± 1.5%)
  - Strips: L [on request] x B 1,250 mm (± 1.5%)
- **Thicknesses** 8, 10 mm (± 0.5 mm)
- **Max. permissible surface load** (at max. 30% compression in acc. with VDI 2700 Sheet 15):
  - approx. 500 t/m² at 8, 10 mm thickness
- **Friction coefficient μ** 0.81* at 3, 4, 5, 6, 8, 10 mm thickness
- **Elongation at break** min. 60% (DIN EN ISO 1798)
- **Tensile strength** min. 0.8 N/mm² (DIN EN ISO 1798)

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**KRAITEC® protect**

**Technical data**
- Standard product for medium weight loads
- **Material:** PU-bound recycling rubber granules
- **Formats**
  - Panels: on request (± 1.5%)
  - Strips: L [on request] x B 1,250 mm (± 1.5%)
- **Thicknesses** 3, 4, 5, 6, 8, 10 mm (± 0.5 mm)
- **Max. permissible surface load** (at max. 30% compression in acc. with VDI 2700 Sheet 15):
  - approx. 180 t/m² at 3 mm thickness
  - approx. 290 t/m² at 8 mm thickness
- **Friction coefficient μ** 0.81* at 3, 4, 5, 6, 8, 10 mm thickness
- **Elongation at break** min. 60% (DIN EN ISO 1798)
- **Tensile strength** min. 0.8 N/mm² (DIN EN ISO 1798)

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**KRAITEC® spezial plus**

**Technical data**
- Standard product for high friction coefficients *
- **Material:** High-specification coloured PU-bound recycling rubber granules
- **Formats**
  - Panels: on request (± 1.5%)
  - Strips: L [on request] x B 1,250 mm (± 1.5%)
- **Thicknesses** 3, 5, 6, 8, 10 mm (± 0.5 mm)
- **Max. permissible surface load** (at max. 30% compression in acc. with VDI 2700 Sheet 15):
  - approx. 270 t/m² at 3, 5, 6, 8, 10 mm thickness
- **Friction coefficient μ** 0.92* at 3, 5, 6, 8, 10 mm thickness
- **Elongation at break** min. 120% (DIN EN ISO 1798)
- **Tensile strength** min. 0.8 N/mm² (DIN EN ISO 1798)

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**KRAITEC® spezial**

**Technical data**
- Standard product for high loads
- **Material:** PU-bound recycling rubber granules
- **Formats**
  - Panels: on request (± 1.5%)
  - Strips: L [on request] x B 1,250 mm (± 1.5%)
- **Thicknesses** 8, 10 mm (± 0.5 mm)
- **Max. permissible surface load** (at max. 30% compression in acc. with VDI 2700 Sheet 15):
  - approx. 500 t/m² at 8, 10 mm thickness
- **Friction coefficient μ** 0.80* at 8, 10 mm thickness
- **Elongation at break** min. 80% (DIN EN ISO 1798)
- **Tensile strength** min. 1.0 N/mm² (DIN EN ISO 1798)

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* Friction partners: Euro pallet, non-slip floor, dry (according to VDI 2700 Sheet 14)
ANTI-SLIP MATS FOR THE SECURING OF LOADS
made of recycled rubber granulate

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