

STRUCTURAL PROTECTION

SUSTAINABLE SOLUTIONS FOR FLAT ROOFS AND GREEN ROOFS, (ROOF) TERRACES,
BALCONIES, LOGGIAS AND PERGOLAS



KRAITEC®

KRAITEC® STRUCTURAL PROTECTION

Applications

Structural protection mats for flat roofs
Protection of the water-proofing membrane
page 6-9

(Roof) terraces & balconies
DAMTEC® sonic - impact sound & structural protection combined
page 14-17

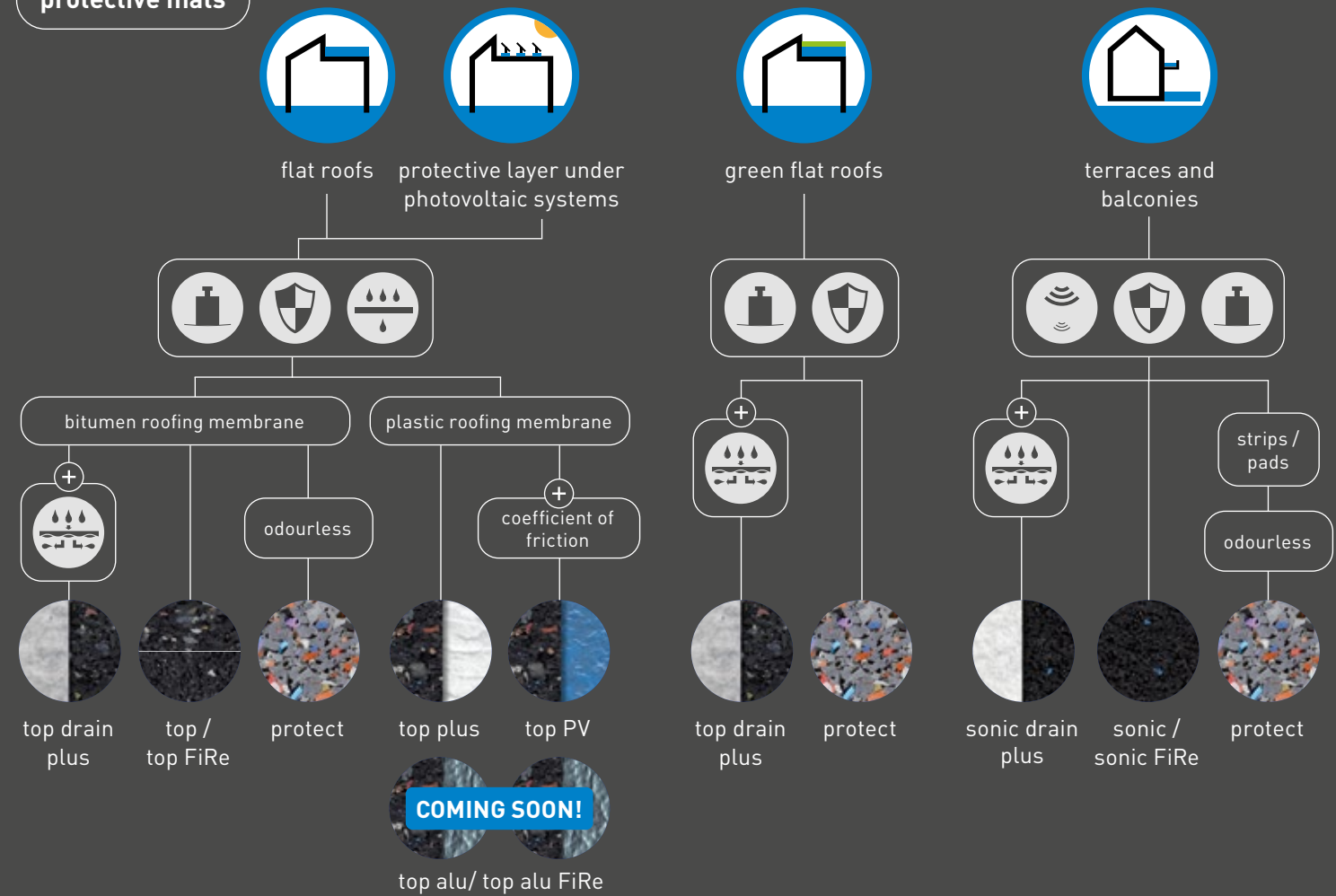
Maintenance routes on flat roofs
KRAITEC® step tiles
page 6-9

(Roof) terraces, balconies, loggias, arcades
KRAITEC® step tiles
page 18-21

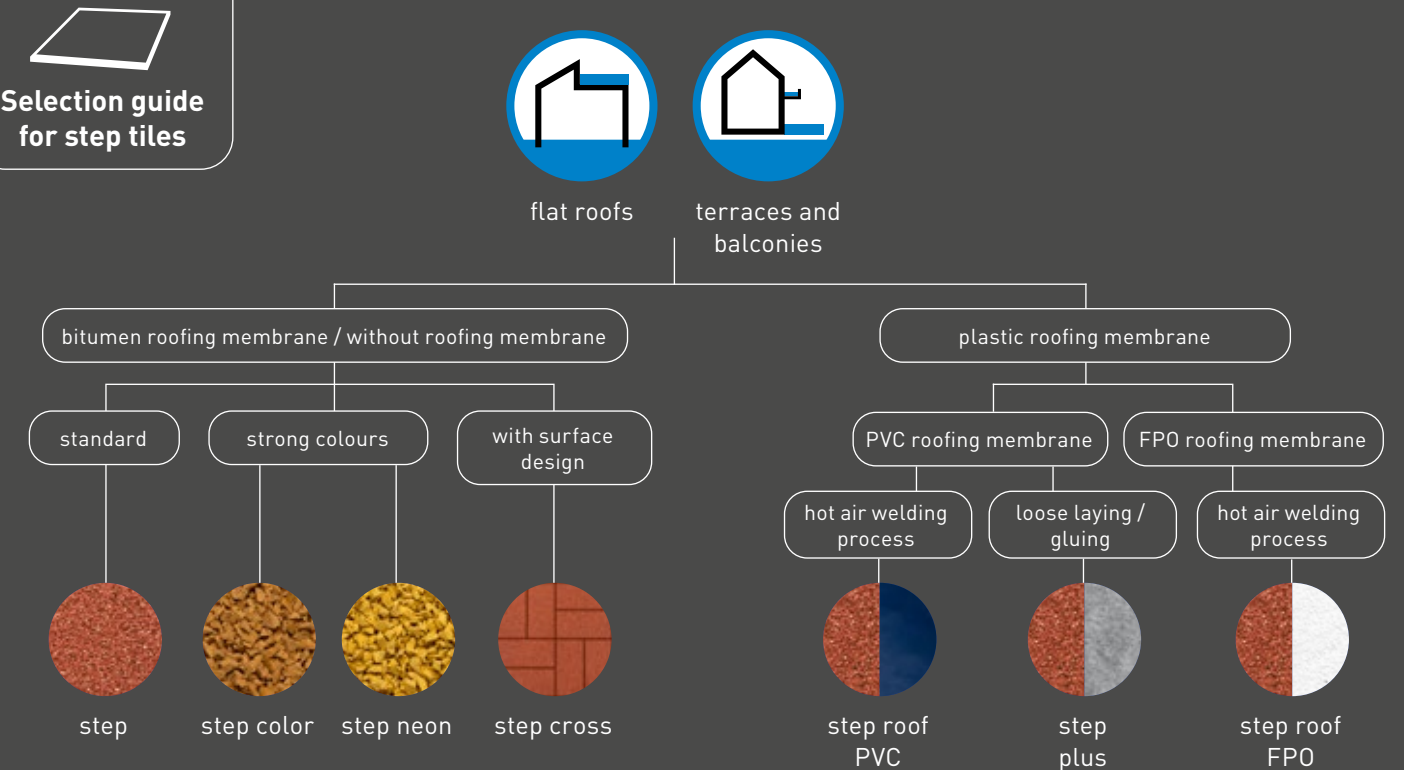
Green roofs

KRAITEC® top drain plus (structural protection and drainage mat) / KRAITEC® protect (heavy-duty structural protection mat)
page 10-13

Selection guide for protective mats



Selection guide for step tiles



Convincing product benefits

**PROTECTION OF THE
WATERPROOFING
PERMANENTLY ELASTIC
TESTED FIRE
BEHAVIOUR
ROT-PROOF
INTEGRATED
LAMINATIONS
SOUND INSULATION
DRAINAGE CAPABILITY
QUICK INSTALLATION**

Sustainability

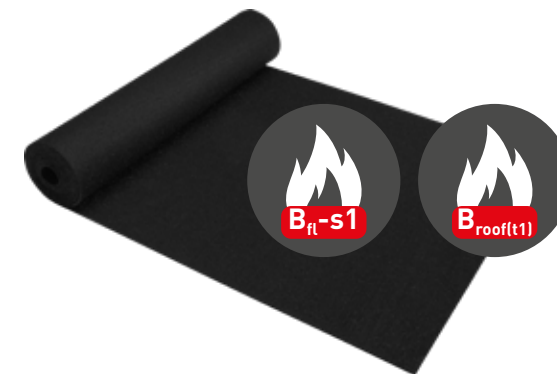
**PRODUCTS MADE FROM
100% RECYCLED RUBBER
RECYCLABLE AGAIN
AFTER END OF LIFE
ECOVADIS
CORPORATE CARBON
FOOTPRINT
PRODUCT CARBON
FOOTPRINT
ENERGY MANAGEMENT
REDUCTION OF CO₂
EMISSIONS**

Details can be found in our sustainability brochure.

FLAT ROOFS & BUILDINGS STRUCTURAL PROTECTION FOR PHOTOVOLTAICS & TECHNICAL INSTALLATIONS

The path to climate neutrality will hardly be possible without a significant contribution from PV systems. In the future, these will cover a considerable part of the electricity demand. Thus, the use of this technology on flat roofs is becoming increasingly interesting. In principle, the integration of solar modules on almost all types of flat roofs (cold/warm roofs or inverted roofs or green roofs) makes sense. Our KRAITEC® structural protection mats protect the sensitive roof sealing membranes. The KRAITEC® step tiles are suitable for safe maintenance paths.

Application 1: Structural protection mats on various types of waterproofing



KRAITEC® top FiRe
with high fire protection class B_{fl}-s1 and B_{roof} (t1)



top plus
with fleece
lamination



top PV
with composite
film lamination



top alu
with
aluminium
lamination

top alu FiRe
with aluminium
lamination;
C_{fl}-s1,
B_{roof} (t1)

Properties



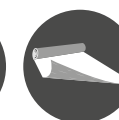
Lasting
elasticity



Structural
protection

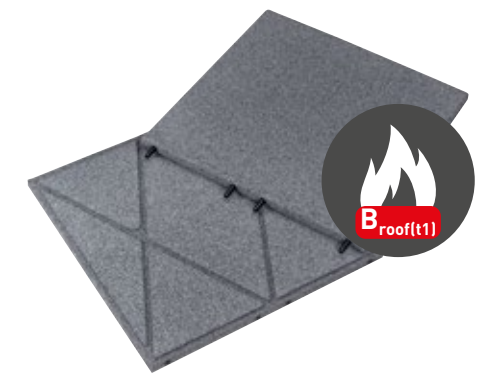


Drainage



Backside
lamination
(top plus/PV/alu (FiRe))

Application 2: Tiles as flooring for inspection and maintenance paths



KRAITEC® step
50x50 cm, with connectors and drainage grooves



KRAITEC® step roof FPO
FPO cladding
on the bottom



KRAITEC® step roof PVC
PVC cladding
on the bottom

Properties



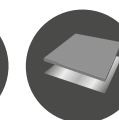
Impact sound
reduction



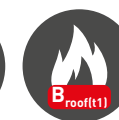
Protection



Slip-resistant



Backside
lamination
(step roof PVC/FPO)



Fire
behaviour



GREEN ROOFS

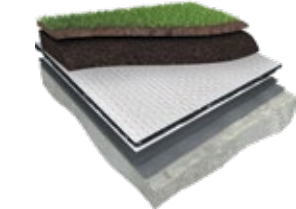
DRAINAGE-CAPABLE, HEAVY-DUTY STRUCTURAL PROTECTION MATS

Urban living space is scarce. Apart from a few parks, most city dwellers have no green spaces for recreation. Sealed surfaces are also making cities hotter and hotter. Therefore, it is only natural to turn the flat roofs of apartment buildings or office buildings into green oases. Green roofs have a proven cooling effect in summer and compensate for heat loss in winter. Extensive green roofs with plants or beds for urban gardening are also possible.

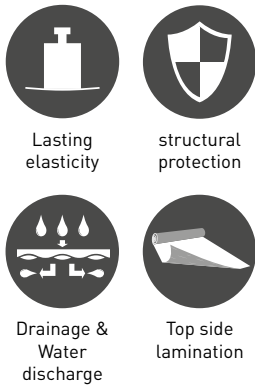
Application 1: Green roof solutions



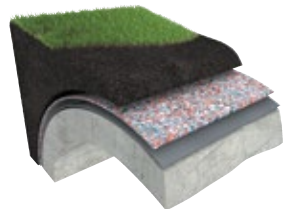
KRAITEC® top drain plus
Drainage mat for overgrown, unused green roofs or gardening and landscaping



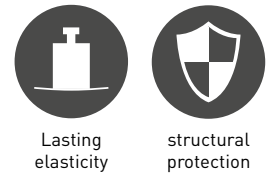
Properties



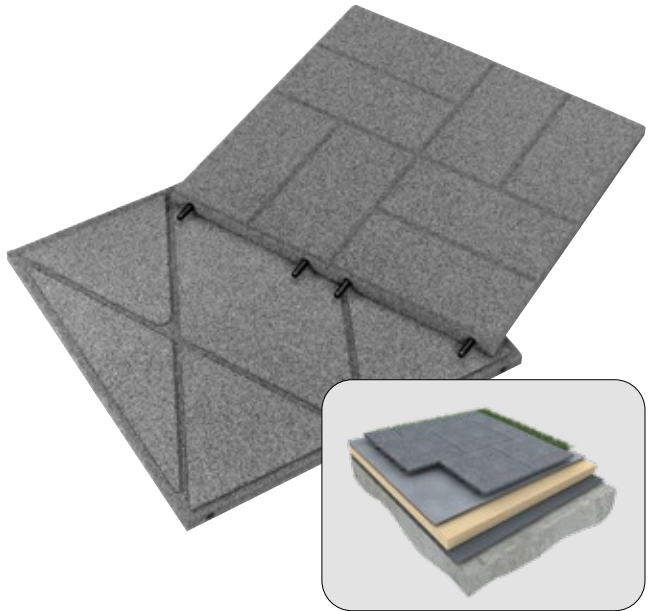
KRAITEC® protect
Highly resilient structural protection mat for used flat roofs with thick soil layer for trees, plants



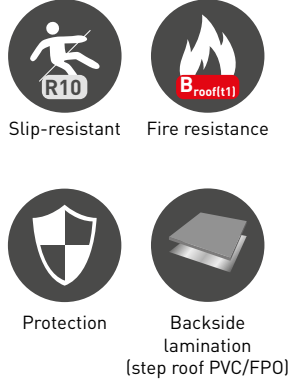
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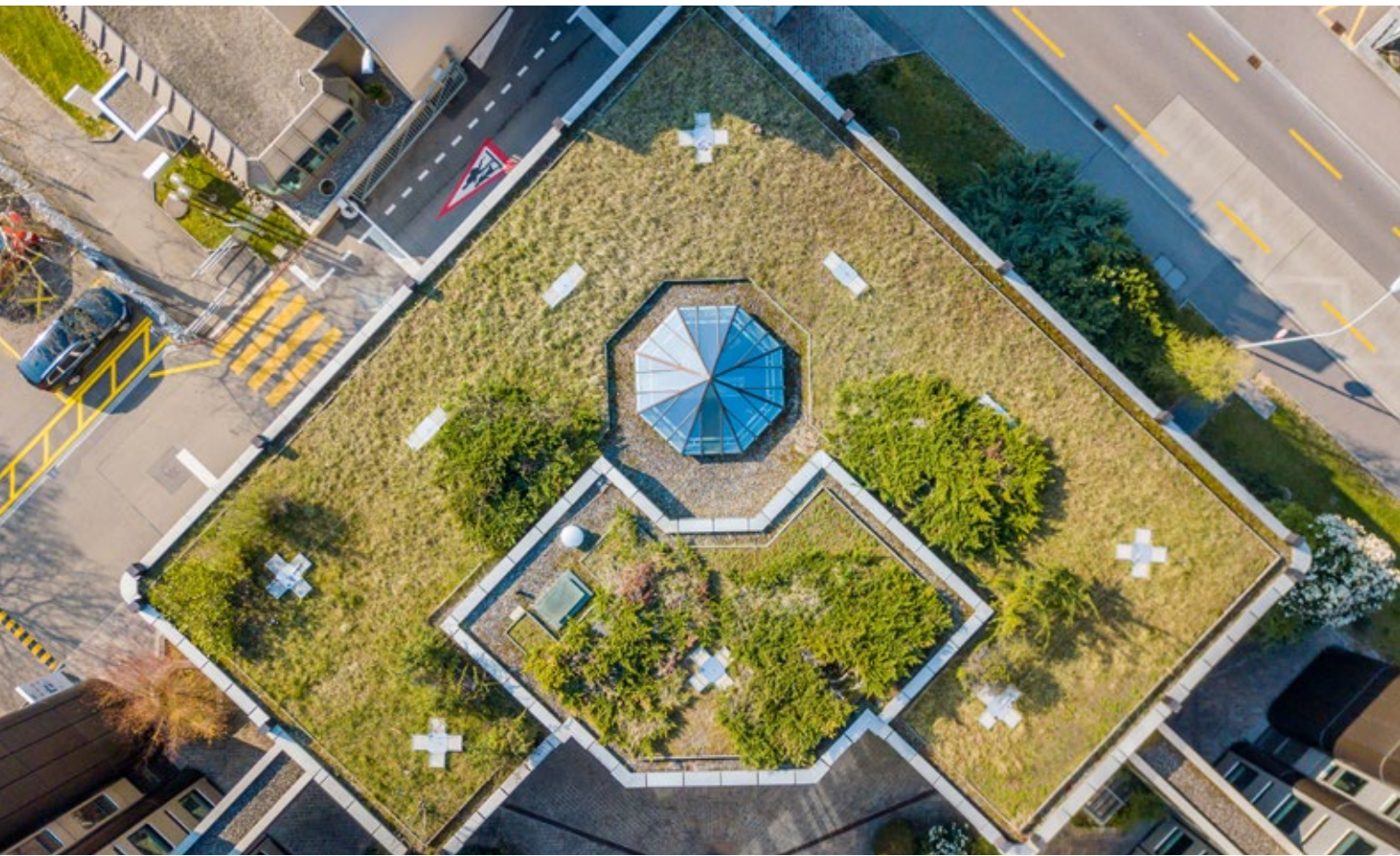


Application 2: Terrace and walkway slab



Properties





(ROOF) TERRACES & BALCONIES STRUCTURAL PROTECTION & IMPACT SOUND INSULATION COMBINED

When installing a roof terrace, it is important to protect the underlying roof waterproofing from mechanical loads. Impact sound insulation is also a decisive factor. When people walk across the roof terrace, the mats absorb some of the resulting noise and thus reduce the noise pollution for the rooms below. This is particularly important in residential buildings where peace and privacy are valued.



DAMTEC® sonic brochure

Technical documentation with impact sound values for numerous superstructures - especially for architects and planners

Application 1: Structural protection mat with properties for impact sound insulation



flat profile

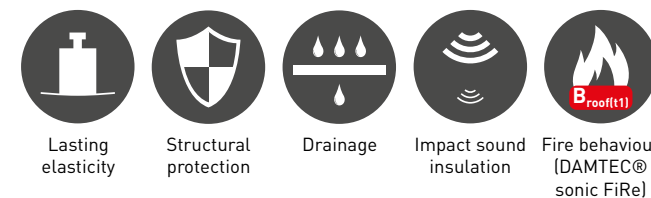
DAMTEC® sonic & DAMTEC® sonic FiRe
FiRe: with $C_{fl}-s1$ and $B_{roof}-t1$



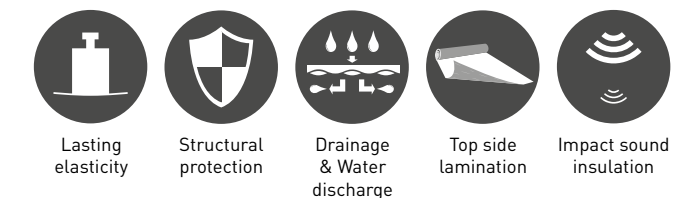
3D profile

DAMTEC® sonic drain plus
3D profiled and with fleece lamination on top

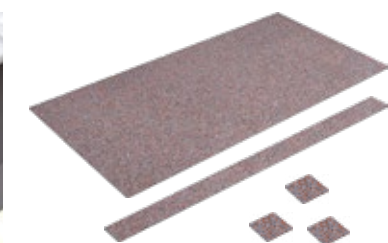
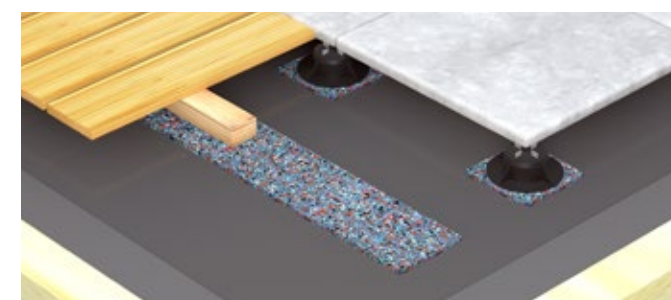
Properties



Properties



Application 2: Structural protection mat for point and line loads



KRAITEC® protect (as strips & pads)
Heavy-duty, odourless structural protection mat

Properties

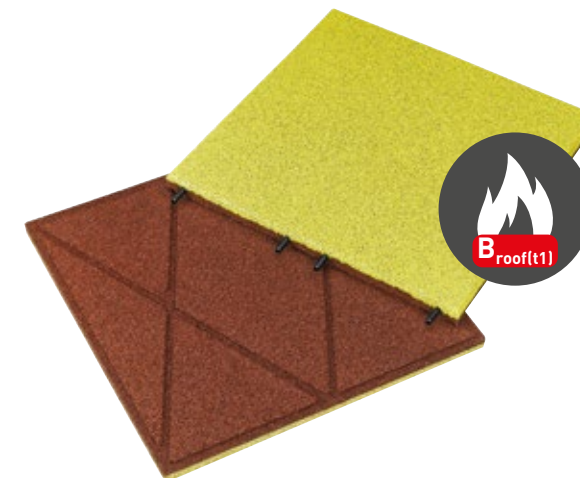




(ROOF) TERRACES, BALCONIES, LOGGIAS, ARCADES SUSTAINABLE, ELASTIC RUBBER TILES

The different variants of KRAITEC® step are ideal as flooring for roof terraces, balconies and loggias. They are non-slip, have high fire protection classes and can be combined in different colours to create unique designs. In particular, the lower weight and the sustainable material recycled rubber granulate make KRAITEC® step pavement and safety tiles an excellent alternative to concrete slabs.

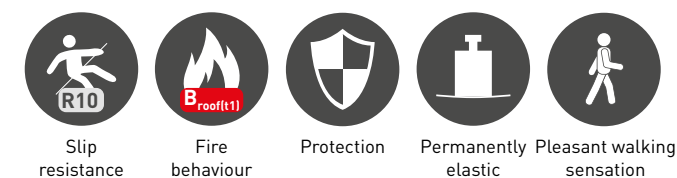
Application 1: Terrace tile



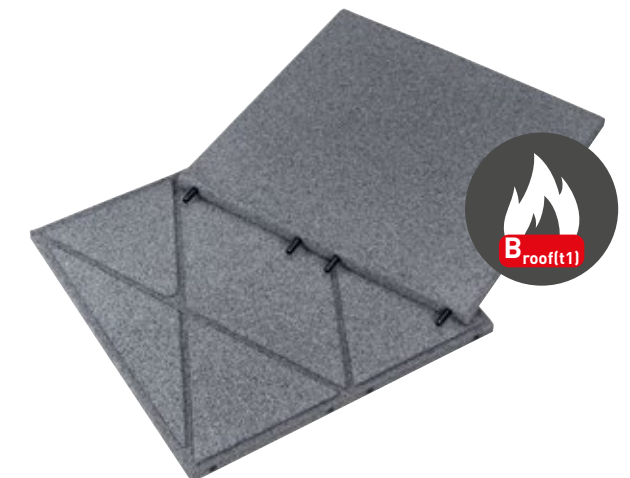
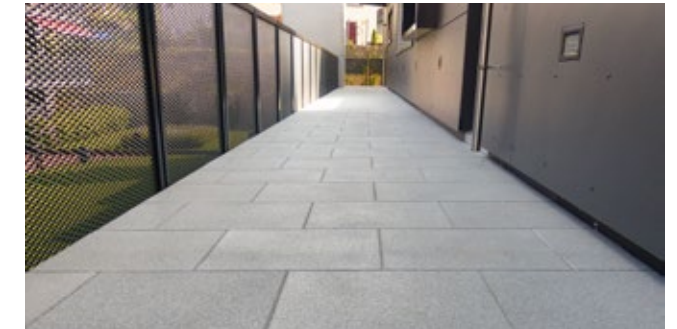
KRAITEC® step color & step neon
with coloured EPDM top layer



Properties



Application 2: Pavement tile



KRAITEC® step & step cross
Optionally also with paving stone look



Properties





Technical data

KRAITEC® top



Material	Polyurethane-bonded recycled rubber granulate
Dimensions	Mats 1,000 x 2,000 mm (± 1.5 %) Rolls width 1,250 mm (± 1.5 %) (length depending on material thickness)
Thickness	6, 8, 10 mm (± 0.6 mm) / 12, 15, 18, 20 mm (± 1.0 mm)
Fire resistance	E _{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

KRAITEC® top FiRe



Material	Polyurethane-bonded recycled rubber granulate and flame-retardant finish
Dimensions	Roll width: 1,250 mm (± 1.5 %) Roll length: 8.0 m (± 1.5 %)
Thickness	8 mm (± 0.6 mm)
Fire resistance	B _{fl} -s1 (DIN EN 13501-1) B _{roof} (t1)



Data sheet PDF

KRAITEC® top alu / KRAITEC® top alu FiRe



Material	Polyurethane-bonded recycled rubber granulate, laminated on one side with aluminium multiplex foil
Dimensions	Rolls width 1,250 mm (± 1.5 %) Roll length on request
Thickness	8 mm (± 0.6 mm)
Fire resistance	E _{fl} (B2) (DIN EN 13501-1) (top alu) C _{fl} -s1 (B1) (DIN EN 13501-1) (top alu FiRe) B _{roof} (t1) (DIN EN 13501-5) (top alu FiRe)



Data sheet PDF
top alu



Data sheet PDF
top alu FiRe

KRAITEC® top drain plus

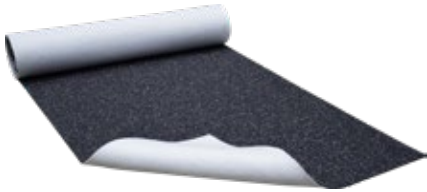


Material	Polyurethane-bonded recycled rubber granulate, fleece lamination on the top, 3D profiling on the back
Dimensions	Rolls width 1,200 mm (± 1.5 %) length: 10.0 m (± 1.5 %)
Thickness	12/8 mm (± 1.0 mm)
Fire resistance	E _{fl} (DIN EN 13501-1)



Data sheet PDF

KRAITEC® top plus

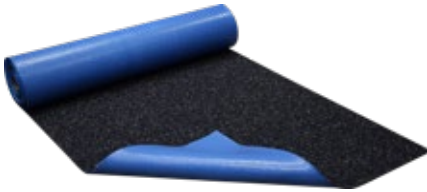


Material	Polyurethane-bonded recycled rubber granulate, laminated on one side with a 300 g fleece
Dimensions	Rolls width 1,250 mm (± 1.5 %) (length depending on material thickness) Other formats on request
Thickness	6, 8, 10 (± 0.6 mm) / 12 mm (± 1.0 mm)
Fire resistance	E _{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

KRAITEC® top PV



Material	Polyurethane-bonded recycled rubber granulate, laminated on one side with a composite film
Dimensions	Rolls width 1,250 mm (± 1.5 %) (length depending on material thickness) Other formats on request
Thickness	6, 8, 10, 12 mm (± 0.6 mm)
Fire resistance	E _{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

KRAITEC® protect



Material	Odourless polyurethane-bonded recycled rubber granulate
Dimensions	Rolls width 1,250 mm (± 1.5 %) (length depending on material thickness)
Thickness	6, 8, 10 mm (± 0.6 mm) / 12 mm (± 1.0 mm) Other thicknesses and formats on request
Fire resistance	E _{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

DAMTEC® sonic



Material	Polyurethane-bonded recycled rubber granulate
Dimensions	Roll width: 1,250 mm (± 1.5 %) Roll length: 8.0 m (± 1.5 %)
Thickness	8 mm (± 0.3 mm)
Fire resistance	E _{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

Technical data

DAMTEC® sonic FiRe



Material Polyurethane-bonded recycled rubber granulate and **flame-retardant finish**

Dimensions **Roll width:** 1,250 mm (± 1.5 %)
Roll length: 8.0 m (± 1.5 %)

Thickness 8 mm (± 1.0 mm)

Fire resistance C_{fl}-s1 (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)



Data sheet PDF

DAMTEC® sonic drain plus



Material Polyurethane-bonded recycled rubber granulate, **3D profiled, with fleece lamination on top**

Dimensions **Roll width:** 1,200 mm (± 1.5 %)
Roll length: 8.0 m (± 1.5 %)

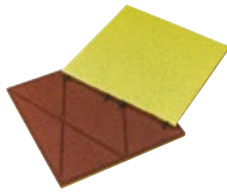
Thickness 15/6 mm (± 1.0 mm)

Fire resistance E_{fl} (B2) (DIN EN 13501-1)



Data sheet PDF

KRAITEC® step color/neon



Material Polyurethane-bonded recycled rubber granulate and EPDM **top layer** (typical rubber odour possible)

Dimensions 500 x 500 mm (± 1.5 %)

Thickness 30 mm (± 2.0 mm)

Fire resistance E_{fl} (B2) (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)



Data sheet PDF

KRAITEC® step roof PVC



Material Tyre recycling granulate bound with PU elastomer (typical rubber odour possible) with **PVC cladding with drainage grooves**

Dimensions 500 x 500 mm (± 1.5 %)

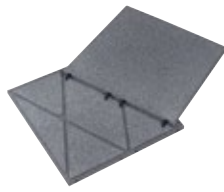
Thickness 30 mm (± 2.0 mm)

Fire resistance E_{fl} (DIN EN 13501-1)
B_{roof(t1)} (DIN EN 13501-5)



Data sheet PDF

KRAITEC® step



Material Polyurethane-bonded recycled rubber granulate (typical rubber odour possible)

Dimensions 500 x 500 mm (± 1.5 %)

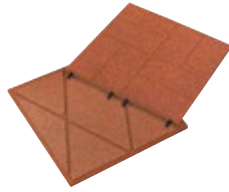
Thickness 30 mm (± 2.0 mm)
other thicknesses on request

Fire resistance E_{fl} (B2) (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)



Data sheet PDF

KRAITEC® step cross



Material Polyurethane-bonded recycled rubber granulate and **paving stone look** (typical rubber odour possible)

Dimensions 500 x 500 mm (± 1.5 %)

Thickness 30 mm (± 2.0 mm)

Fire resistance E_{fl} (B2) (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)



Data sheet PDF

KRAITEC® step roof FPO



Material Polyurethane-bonded recycled rubber granulate (typical rubber odour possible) with **FPO cladding with drainage grooves** (thermally separated)

Dimensions 500 x 500 mm (± 1.5 %)

Thickness 30 mm (± 2.0 mm)
other thicknesses on request

Fire resistance E_{fl} (B2) (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)



Data sheet PDF

KRAITEC® step plus



Material Polyurethane-bonded recycled rubber granulate and **fleece lamination on the underside** (typical rubber odour possible)

Dimensions 500 x 500 mm (± 1.5 %)


Thickness 30 mm (± 2.0 mm)
other thicknesses on request

Fire resistance E_{fl} (B2) (DIN EN 13501-1)
B_{roof}(t1) (DIN EN 13501-5)




Data sheet PDF

Memberships of associations



The „Central Association of the German Roofing Trade“ (ZDBF) was founded with the aim of representing the interests of the roofing trade and informing members about relevant developments.

more information (only German):
www.zdbf.de



In Germany alone, around 584,000 tons of used tires are produced every year – tires are an innovative product with valuable ingredients, but they usually have a service life of between one and six years, depending on the mileage. This results in a huge mountain of scrap tyres every year. In about one third of the cases, used tires are simply incinerated – but this does not correspond to the principle of perfect recycling management, which aims to use and process raw materials in a resource-saving manner.

The NEW LIFE initiative works in politics and society to highlight the benefits of recycled products from end-of-life tyres (ELT) and to motivate people to act sustainably. KRAIBURG Relastec is one of the founding members of this initiative.

more information:
www.initiative-new-life.de/en



Herstellerverband Haus & Garten e.V. is an association of leading manufacturers of DIY, home improvement and garden products in Germany, Austria and Switzerland. In its more than 40-year history, the association has specialised in sales-oriented topics for the DIY store, garden centre and specialist trade sales channels.

more information (only German):
www.herstellerverband.de




The Landesinnungsverband des Dachdeckerhandwerks Land Brandenburg is the association of the 8 Brandenburg roofing guilds with over 130 member companies. It is committed to its members at all levels and supports the guilds in the fulfilment of their tasks.

more information (only German):
www.liv-dachdecker.de.de



The Bundesverband GebäudeGrün e. V. (BuGG) is a merger of the two associations Deutscher Dachgärtner Verband e. V. (DDV) and Fachvereinigung Bauwerksbegrünung e. V. (FBB), which have been established for many decades. The BuGG is both a professional association and an interest group for companies, cities, universities, organisations and all interested parties involved in greening buildings (roof, façade and interior greening). KRAIBURG Relastec has been a member of the association since 2021 and can thus use its experience to contribute to the creation of greener cities.

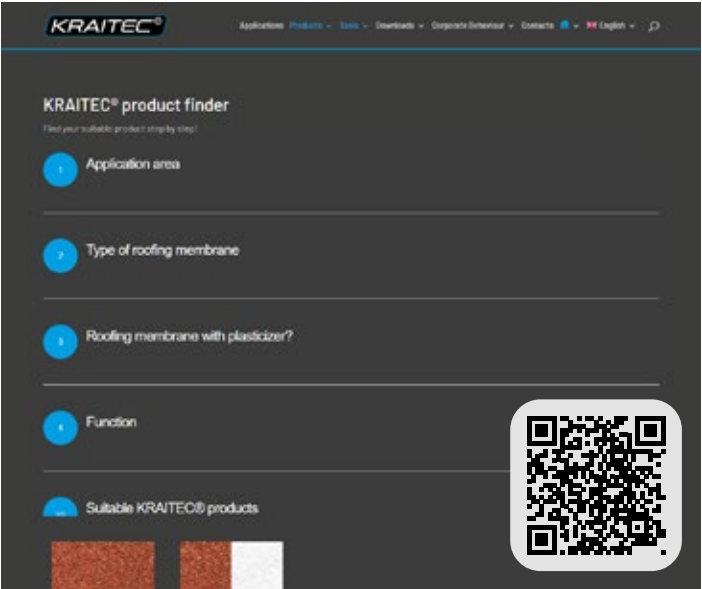
more information:
www.gebaeudegruen.info/english



The purpose of the IQDF is to promote the quality of flat roof constructions and waterproofing through quality management and the creation of the necessary guidelines, the organisation of seminars, further education, training and targeted public relations work, e.g. through internet presence and congresses.

more information (only German):
www.iqdf.de

KRAITEC® product finder



Whether green roof, photovoltaics or terraces, the KRAITEC® product finder will guide you step by step to the right product for your application.

www.kraiburg-relastec.com/kraitec/en/product-finder

Distribution service

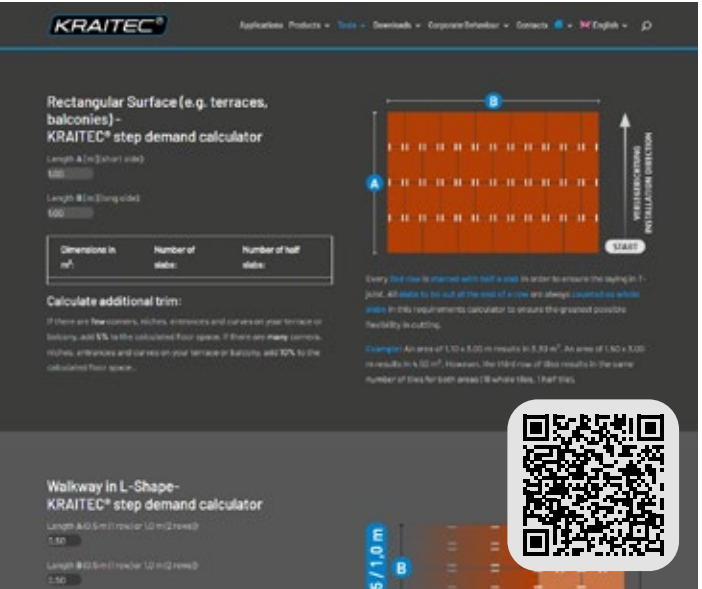
Whether general information, offers, product samples or printed brochures: you can easily contact us:
www.kraiburg-relastec.com/kraitec/en/contact-persons



Production/loading address:
KRAIBURG Relastec GmbH & Co. KG
Fuchsberger Straße 4
D-29410 Salzwedel

Sales Office & Marketing:
KRAIBURG Relastec GmbH & Co. KG
Kehlsteinstraße 2
D-84529 Tittmoning

KRAITEC® step demand calculator



Are you unsure how many KRAITEC® step tiles you need for your area? The KRAITEC® step demand calculator answers this question quickly and easily.

www.kraiburg-relastec.com/kraitec/en/step-demand-calculator

Technical service

No matter whether by phone or on-site, our KRAITEC® technical service will give you professional advice anytime during the whole planning and execution of your projects.

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



Save technical service as a contact

Contact for architects and planners

In order to be able to respond precisely to the requirements of architects and planners and to ensure efficient communication, specialised contact persons are available to support you.

Mobile: +49 (173) 3598 620
beratung-kraitec@kraiburg-relastec.com



Save as a contact

FAQ - Frequently asked questions

What are KRAITEC® structural protection mats made of?

KRAITEC® structural protection mats are made of recycled rubber granules and are bound with polyurethane.



Where can I use KRAITEC® structural protection mats?

This depends on the product you choose. The mats are used on flat roofs, green roofs, under solar and photovoltaic systems or as a permanent or temporary protection and impact sound insulation layer on balconies and terraces.

You can easily find the right product for your application in our product finder.
www.kraiburg-relastec.com/kraitec/en/product-finder

What characterises KRAITEC® structural protection mats?

Protection of the waterproofing membrane: For protection against mechanical damage in accordance with DIN 18531, 18533, 18535 and the flat roof guidelines

Tested fire behaviour: All structural protection mats have at least fire protection class E_{fl} (B2) (DIN EN 13501-1), KRAITEC® top FiRe even B_{fl}-s1 (DIN EN 13501-1:2010)

Frost and weather resistance: The open granulate structure prevents the formation of puddles and protects underlying layers from climatic influences

Integrated separating layer in case of incompatibilities: The different variants of KRAITEC® top, laminated on the back, prevent plasticiser migration between the structural protection mat and the waterproofing membrane.

Quick and easy installation:
Without heavy equipment to save costs

Which KRAITEC® structural protection mat is used on a used on an FPO membrane?

As a rule, no separating layer is required, so KRAITEC® top is sufficient. Nevertheless, precise consultation with the roofing membrane manufacturer is recommended.

Which KRAITEC® structural protection mat can I use for my balcony?

If you are using pedestals or other linear decking substructures, you can use KRAITEC® protect in the form of strips or pads. If impact sound insulation properties are also required, the specially developed products DAMTEC® sonic, DAMTEC® sonic drain plus or DAMTEC® sonic FiRe are ideal for this purpose.

Can't I just use a rubber mat from the DIY store?

Inexpensive rubber mats from the DIY store generally do not fulfil the requirements for waterproofing and insulation as defined in DIN 18531, 18533, 18535 and the flat roof guidelines. They therefore provide neither reliable protection nor drainage. They also often do not last for years.

Do KRAITEC® structural protection mats and KRAITEC® step rubber tiles contain plasticisers?

As a rule, yes. During the manufacturing process, as with tyres for example, plasticisers are added to enable elasticity and vulcanisation.
If a plasticiser-incompatible sealant (e.g. PVC) has been laid, a 300gr. fleece or a PE film (min. 0.4 mm) must be laid as a separating layer between the waterproofing and the structural protection mat.

How do KRAITEC® step tiles differ from impact protection slabs / rubber tiles?

KRAITEC® step serves as a load-distributing protective slab that is used on flat roofs as a maintenance, inspection and installation route, among other things. These are not tested for impact protection properties in accordance with DIN EN 1177-2018. The impact protection slab, on the other hand, is a shock-absorbing floor material with a special dimpled geometry on the underside, which is mainly used on playgrounds under playground equipment.

How can I dispose of residual material?

Our KRAITEC® structural protection mats are made of 100% recycled rubber granulate and can be recycled again at the end of their life. They can also be disposed of at any recycling centre in accordance with the Recycling and Waste Management Act (KrW/AbfG).

How do I install KRAITEC® products?

On our download page you will always find the latest detailed installation instructions for each product:
www.kraiburg-relastec.com/kraitec/en/downloads

How can I attach KRAITEC® step roof PVC/FPO to the roofing membrane?

These laminated products are welded to the roofing membrane using a hot-air welding process to prevent wind suction and prevent slippage. You can find more information in our video:



Where can I buy KRAITEC® structural protection mats?

You can buy our products from specialised dealers or from your local building materials merchant. Furthermore our sales team is always at your disposal.

Are there training opportunities?

We are happy to train groups of our partners on our products. The training sessions usually take place at our production facility in Salzwedel. Please contact our sales team to arrange an appointment.

Where can I get help with technical problems?

Our application technology team will be happy to help you with technical questions of any kind at any time:
Tel. +49 (0) 3901 8304-63
technik-kraitec@kraiburg-relastec.com

Where can I get product samples?

You can request product samples at any time from our Sales & Customer Service Team:
kraitec@kraiburg-relastec.com

Where can I find information material?

All brochures, data sheets and installation instructions can be found in the latest version at
www.kraiburg-relastec.com/kraitec/en/downloads

Notes



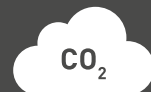
SUSTAINABILITY

Corporate Carbon Footprint, Product Carbon Footprint, Energy Management, Social and economic sustainability at KRAIBURG Relastec



Recycling of up to 60,000 t material

Every year, we process and recycle up to 60,000 tons of old tyres, closed-cell rubber and rubber production scrap.



Reduction of CO₂ emissions

By using recycled rubber granulate, we save more than 130,000 tonnes of CO₂ emissions per year compared to virgin rubber.



Corporate Carbon Footprint

The CCF was developed in accordance with the Greenhouse Gas Protocol audited.



Product Carbon Footprint

The PCF is calculated in accordance with ISO 14067 and ISO 14040/44 audited.



Energy management according to ISO 50001

Our energy management system is identified according to ISO 50001. Energy-relevant topics are taken into account in all processes of the organisation.

ecovadis

Voluntary rating

The ecovadis rating is an evaluation of companies with regard to CSR topics. This includes ethical aspects, sustainable procurement, the environment and ecological sustainability.



Member of NEW LIFE initiative

The declared aim of NEW LIFE is to demonstrate the advantages of recycled products from End-of-Life Tyres (ELT) to the media, politicians and the general public and to motivate them to act sustainably. More information: www.initiative-new-life.de/en



Social sustainability

Acting in accordance with our values such as equal opportunities, social responsibility, respectful treatment and transparency are the foundations for social sustainability in practice.



Economic sustainability

As a family business, KRAIBURG Holding pursues a long-term strategy. Profits generated are used to a significant extent to make our holistic business model ever more efficient and future-proof.



CORPORATE CULTURE

Defined values, social norms and guidelines, for common action and cooperation inside and outside KRAIBURG Relastec.



Equal opportunities

We stand for equal opportunity, diversity, inclusion and religious diversity.



Social responsibility

Fair pay, collective bargaining, further training, career development, work-life integration.



Respect

We are honest, reliable, respectful and trustworthy towards our colleagues and partners.



Strong decision-making powers

We ensure speed in process handling, faster technology optimisations and lean processes.



Responsible for our actions

We take responsibility for all decisions and results. Error acceptance is firmly anchored in our culture.



Transparency

We practice open, transparent cooperation both inside and outside the company.



WHAT SETS US APART



Internationality

With an export quota of over 50%, we have already exported our products to over 100 countries.



Easy complaint management

Transparent and optimised processes ensure rapid processing.



Flexibility with customer requirements

We offer our partners customised options for packaging, labelling and delivery, packaging, labelling and delivery.



Long-term relationships

We maintain long-term relationships with our customers and suppliers based on mutual respect and fairness.



Marketing support

We provide you with the best possible support in the form of images or in the design of your documents.



Personal contact persons

We do not hide behind support hotlines and contact forms. With us, you have personal, competent contact persons.



Product quality

Our products meet the highest quality standards. They are durable, a perfect fit and made from high-quality raw materials.



Innovation and product design

We continuously develop new products according to the requirements of our customers and the market.



STRUCTURAL PROTECTION made from recycled rubber granules

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Herstellerverband
Haus & Garten

