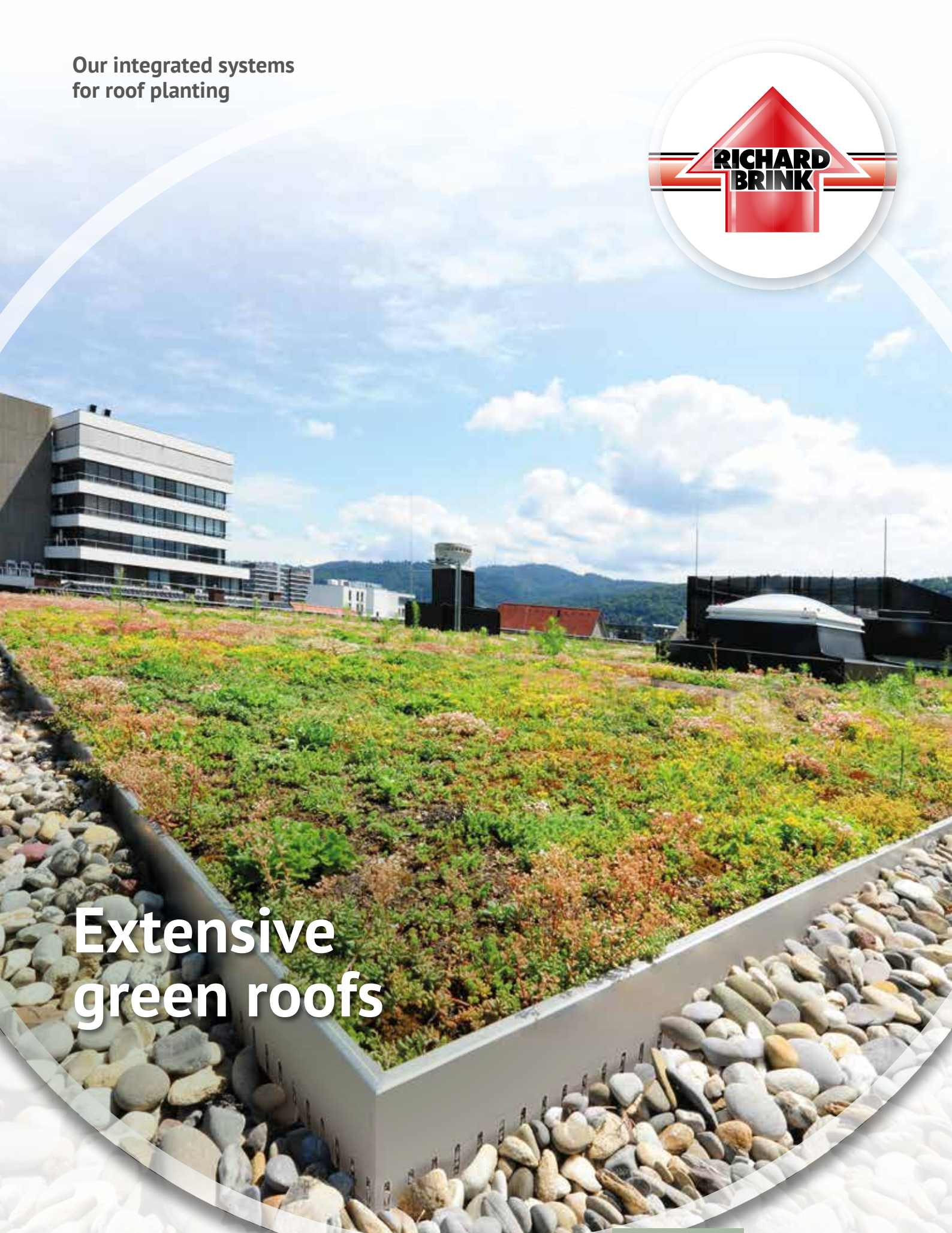
Our integrated systems
for roof planting



Extensive green roofs

From grey to green

Green roofs – far more than a “sponge city” concept

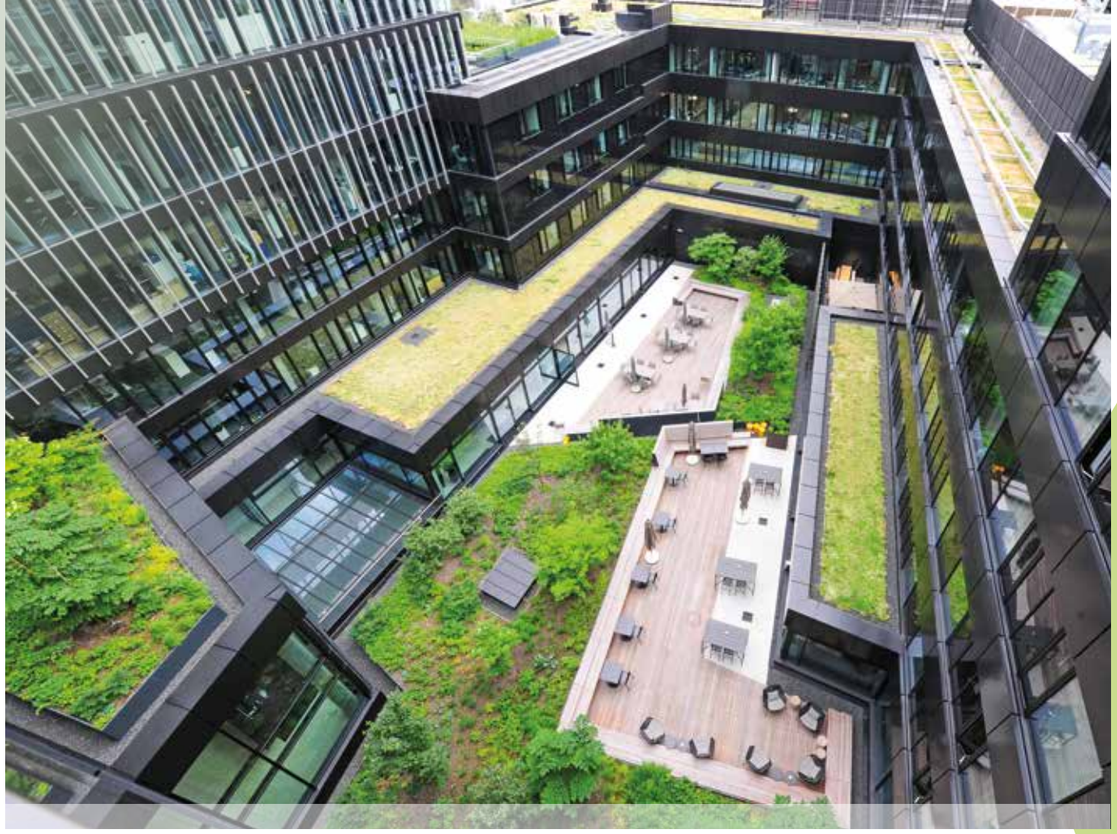
Climate change is and remains omnipresent and calls for CO2-reduction and preventative adaptation plans both in the short and long term. Our local authorities also have a part to play in these adaptation plans as built-up urban areas heat up more than the surrounding open spaces. Part of the adaptation strategy involves adding vegetation to wall and roof surfaces in urban areas, which helps counter so-called urban heat islands thanks to the plants’ evaporation and the creation of shade.

The increased frequency of flooding events in recent years highlights the importance of water management when looking at climate adaptation. Plants and their natural substrate are able to absorb certain amounts of water. Experts refer to the effect that this has as “minimising peak discharge”: it alleviates the sewer system which, in turn, reduces the risk of flooding. Structures known as retention roofs contain extra layers for rainwater storage that are integrated in the design of green roofs.

This also saves space and money: if the amount of rainwater that runs off a property exceeds certain thresholds, financial resources and space must be made available for retention basins or similar measures. Green roofs can therefore contribute significantly towards remaining below these thresholds as they retain water year round. This, in turn, also reduces a property’s rainwater discharge fee, which indirectly subsidises the creation of a green roof.

Additional benefits of green roofs extend far beyond simple rainwater storage. Water absorbed on the roof evaporates from the plants and their substrate. This dampens and cools the ambient air, making potential heat waves less extreme. Electric and light smog as well as the building’s acoustic reflection are also reduced, creating a noise-insulating oasis amidst the hustle and bustle of the city. The planted greenery also binds CO2, dust and various pollutants from the air and improves the local microclimate.

Green roofs have a positive impact not only on humans, but also on nature. An expanded habitat creates new refuges for all kinds of animals such as insects and birds. Extensive cultivation in particular has a noticeable impact on urban biodiversity. This means creating as natural a green space as possible including design elements such as sand lenses, which are also conducive to biodiversity and, among other things, provide a place for wild bees to nest. By contrast, intensive cultivation uses plants that grow taller and includes shrubs, which weigh more and require more maintenance due to their greater need for water and nutrients. This entails higher costs, both for the plants’ upkeep and for the construction of the roof space, which has to be suitably stable.



Green roofs are installed on top of existing roof spaces. These spaces are then protected from UV radiation in the summer and from frost in the winter. The protective layer also acts as additional thermal insulation – heating and cooling the inside of the building depending on the time of year. However, roof planting not only enhances the structural fabric of a building. If a green roof is designed in such a way that people can walk out onto it, the marketing opportunities and value of the building would increase due to the increased appeal of the site and its facilities. This modern element of urban planning increases the value of work and residential environments alike, benefiting not only the estate agent.

Extensive vs. intensive: types of roof planting compared

Extensive roof planting

- drought-adapted plants with elements such as sand lenses
- designed to imitate nature for easy maintenance
- habitat for various animal species

Intensive roof planting

- plants that grow taller, including shrubs
- increased effort due to greater need for water and nutrients => higher costs
- heavier load requires a more stable roof construction

See contact details:

Our green roof experts are happy to advise you in person and assist with your entire planning in advance.

At a glance:
Advantages of green roofs

Temporary water storage for flood prevention
- complete with reduced rainwater discharge fees

Protection and insulation layer for the roof (level)
- building is upgraded thanks to more attractive site conditions

Heat-wave mitigation

Improved microclimate
- binds CO_2, dust and air pollutants

Expanded habitat and new refuges for animals
- greater biodiversity in cities, especially among birds and insects

Reduced acoustic reflection as well as light and electric smog

With the help of our complete packages for extensive green roofs, we provide you with appropriate solutions that enable you, too, to profit from the advantages of roof planting.

"Integrating green spaces into urban planning increases the value of work and residential environments alike."

Our integrated systems for roof planting

All green things come in threes!

When searching for extensive roof planting solutions, you are sure to find multiple options in our product portfolio. With our three integrated systems *Easy, Terra* and *Bio*, we provide you with various green roof models to meet every requirement.

The choice is yours – our green roof solutions at a glance

Easy –
simplified structure
for small spaces

- **all layers are simply rolled out and laid down**
- **water storage mat instead of substrate**
- **substructure with drainage and protective layer**

Terra –
perfect for company
and industrial buildings

- **simple and cost-efficient structure**
- **substrate instead of water storage mat**
- **substructure with drainage and protective layer**

Bio –
for maximum rainwater storage

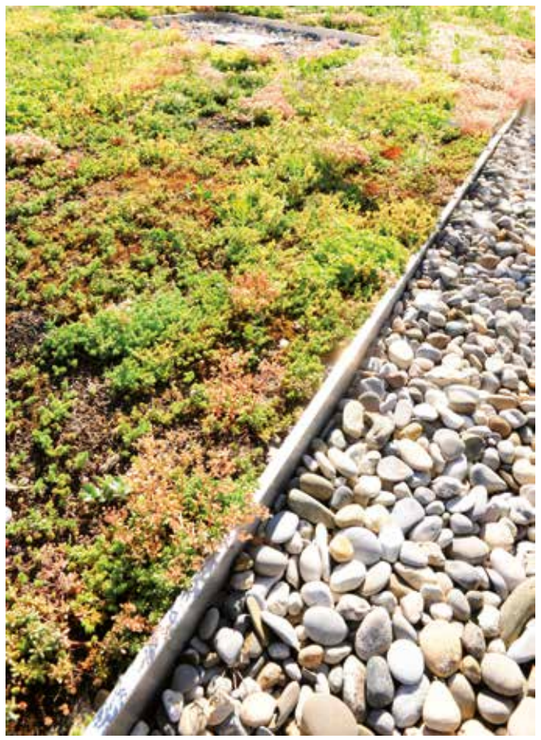
- **use of substrate AND water storage mat**
- **particularly high rainwater storage capacity**
- **substructure with drainage and protective layer**

Easy system
The lightweight among our green roofs

	Roof up to 15° with DM 17, WSM 25	*Roof up to 15° with DM 17, WSM 50*	*0° roof with DM 27, WSM 25*	*0° roof with DM 27, WSM 50*
Installation height	62mm	87mm	72mm	97mm
Unsaturated weight	18.00kg/m²	20.00kg/m²	18.30kg/m²	20.30kg/m²
Saturated weight	42.30kg/m²	59.30kg/m²	44.10kg/m²	61.10kg/m²
Water storage capacity	24.30l/m²	39.30l/m²	25.80l/m²	40.80l/m²

The ***Easy*** system has a streamlined configuration that is well suited for use on carports or smaller garages, for instance, due to its ease of handling and low weight. All layers can be rolled out and laid down on top of the roof surface in next to no time. Rather than using a substrate, the ***Easy*** green roof solution incorpo-rates a water storage mat made from hydrophilic mineral wool, which lies directly under the sedum mats. The substructure comprises a drainage system, which combines a filter layer, drainage and a protective layer in one product. We also offer a root barrier foil to protect the roof cladding.

Depending on the system's composition and the type of roof, installation heights are between 62mm and 97mm with a saturated weight per square metre of between 42.30kg and 61.10kg. Drainage systems with a height of 17mm are available for sloping roofs with a gradient of up to 15°, while 25mm-high variants are available for flat roofs. With regard to the water storage mats, you can choose from a height of 25mm or 50mm. The overall solution therefore has a water storage capacity of between 24.3 and 40.8 litres per square metre depending on the chosen combination.



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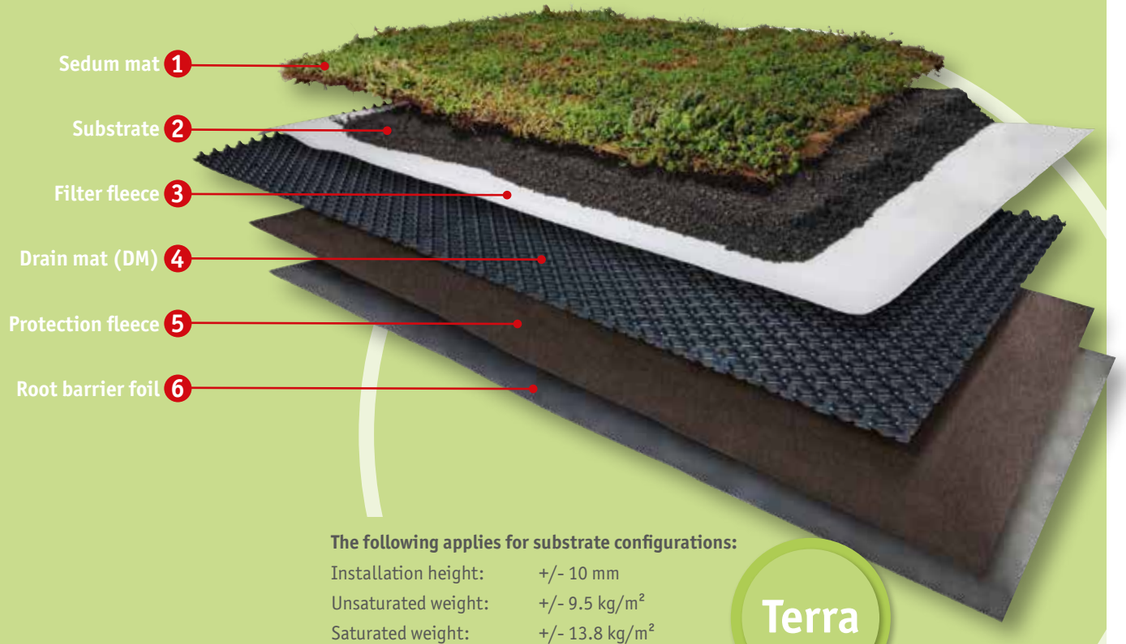
Terra system
Substrate instead of water storage mat

	Roof up to 15° with DM 25, 60mm substrate	*Roof up to 15° with DM 40, 60mm substrate*
Installation height	109mm	124mm
Unsaturated weight	82.32kg/m²	82.70kg/m²
Saturated weight	110.52kg /m²	114.90kg/m²
Water storage capacity	28.20l/m²	32.20l/m²

With its simple and economical composition, the ***Terra*** system is an excellent choice where, for example, entire industrial facilities or company buildings are to be fitted with large-scale roof planting. The ***Terra*** solution takes its name from the use of a 60mm-high substrate layer that lies directly underneath the sedum mats rather than using a water storage mat made from mineral wool. A filter fleece prevents the granulate from falling into the drainage level below, which takes the form of a drain mat installed at a height of 25mm or 40mm. A separation and protection fleece is laid underneath. If the sealing layer is unable to block root penetration, a certified root barrier foil can be inserted between the sealing layer and the separation and protection fleece.

Depending on the configuration and the roof variant, total heights here range from 109mm to 124mm, with a saturated weight of between 110.52kg and 114.9kg per square metre. Drain mats with heights of 25mm and 40mm are available for use on sloping and flat roofs. This makes for a water storage capacity of between 28.2 and 32.2 litres per square metre.



The following applies for substrate configurations:

Installation height:	+/- 10 mm
Unsaturated weight:	+/- 9.5 kg/m²
Saturated weight:	+/- 13.8 kg/m²
Water storage capacity:	+/- 4.28 l/m²

Terra

Bio system
Substrate + water storage mat

	Roof up to 15° with DM 17, WSM 25, 60mm substrate	*Roof up to 15° with DM 17, WSM 50, 60mm substrate*	*0° roof with DM 27, WSM 25, 60mm substrate*	*0° roof with DM 27, WSM 50, 60mm substrate*
Installation height	122mm	147mm	132mm	157mm
Unsaturated weight	84.00kg/m²	86.003kg/m²	84.30kg/m²	86.30kg/m²
Saturated weight	126.30kg/m²	143.30kg/m²	128.10kg/m²	145.10kg/m²
Water storage capacity	42.30l/m²	57.30l/m²	43.80l/m²	58.80l/m²

The ***Bio*** system combines the use of a 60mm-high substrate layer and a water storage mat in one integrated solution, creating a particularly high storage capacity for rainwater. Similar to the other two constellations, drainage layers and a root barrier foil are placed over the roof surface to complete the system.

With this version, depending on the system's composition and the type of roof, the installation height comes in at between 122mm and 157mm with a saturated weight per square metre of between 126.30kg and 145.10kg. Drainage systems with a height of 17mm combined with either 25mm or 50mm high water storage mats are fitted on sloping roofs, while the drainage system used on flat roofs has a height of 27mm. The combination of substrate and hydrophilic mineral wool facilitates a water storage capacity of between 42.3 and 58.8 litres per square metre.

The following applies for substrate configurations:

Installation height:	+/- 10 mm
Unsaturated weight:	+/- 9.5 kg/m²
Saturated weight:	+/- 13.8 kg/m²
Water storage capacity:	+/- 4.28 l/m²

Bio

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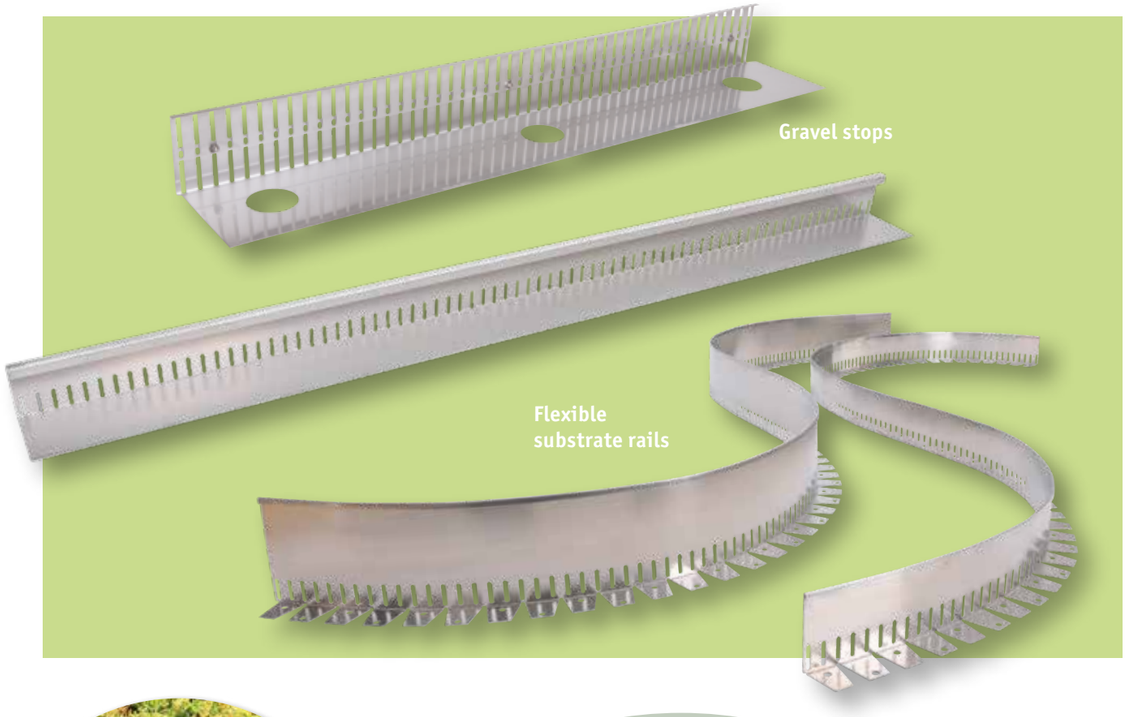
Everything for green roof structures from a single source

Beyond our integrated green roof systems, we have everything you need to structure roof greenery and drain excess rainwater in accordance with the applicable regulations. Discover our precisely-fitting products and solutions over the next few pages, all of which we can adapt to meet your specific needs.

Gravel stops and substrate rails

Complete your green roof with a custom-made frame. We offer height-adjustable or fixed-height gravel stops to contain loose fills and control the drainage of excess water. What's more, you can choose from flexible or rigid substrate rails. We produce both versions, also to custom dimensions, in line with your project specifications.



Coarse gravel

The use of coarse gravel along the edges of green roofs comes with multiple benefits. First, it prevents soil and substrates from being rinsed out down the façade. Second, it supports the effective drainage of the roof surface and creates areas that are free of vegetation. We offer coarse gravel in grain sizes 16-32mm and supply it in the quantity you need.

Drainage and dewatering systems

Create your own, individual dewatering system from our large range of products that encompasses various dewatering and drainage solutions for roof surfaces, terraces and balconies.

We produce everything from channels and gratings, which can also be manufactured in custom dimensions, over to special solutions such as our revisable ***Subterra*** branch channel system, which is securely connected to our drainage channels using an adapter.

The height-adjustable *Hydra* drainage channel can be raised or lowered to the required height on site through the use of a screwed connection.

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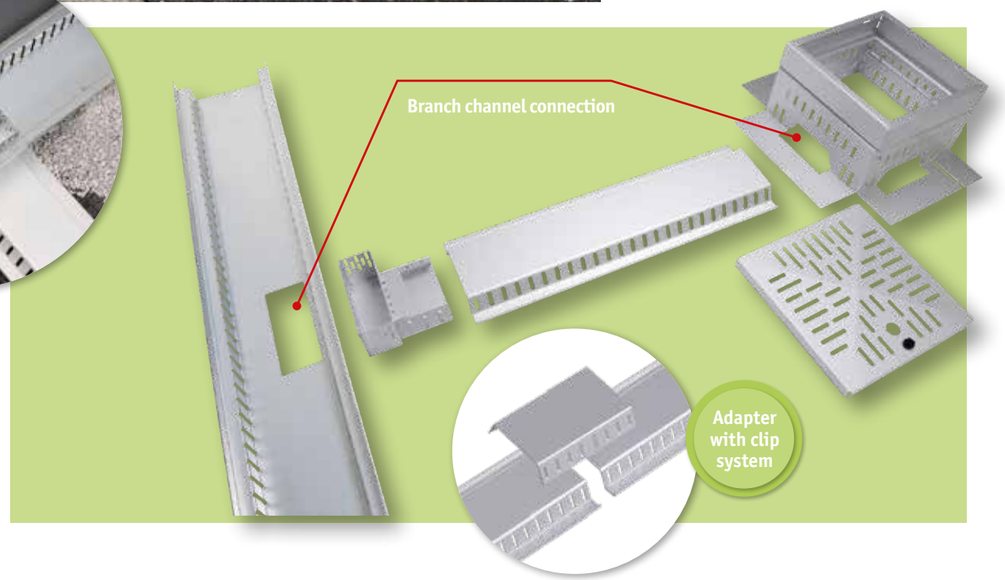
Subterra branch channel

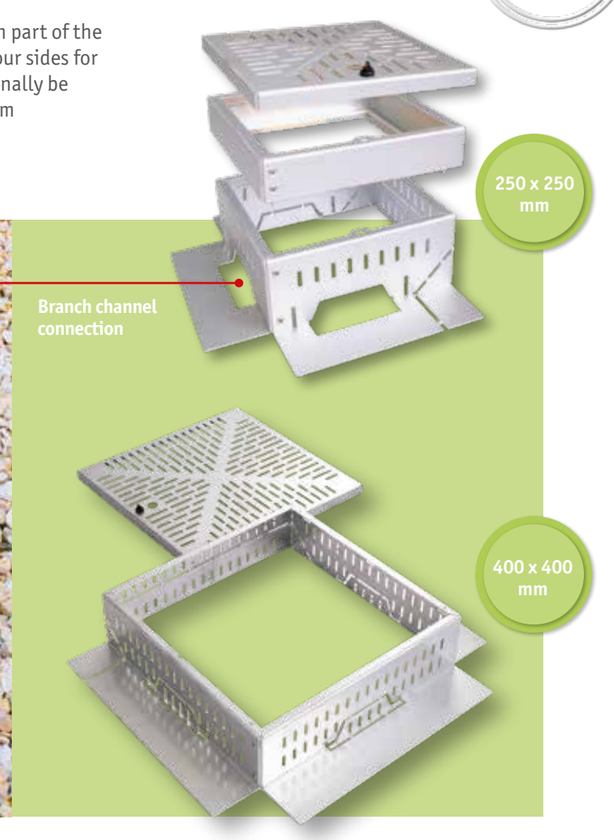
Connection made easy – this can certainly be said of our revisable *Subterra* branch channel system. Pre-perforated cut-out sections along our drainage channels allow a secure connection to the branch channel with the help of an adapter featuring an integrated dirt trap. A clip system enables the quick and easy assembly of the branch channels, which can be expanded as required using connectors.



Change direction flexibly on site: our branch channel corners enable you to create several angles and determine your preferred drainage course. For example, a 90° corner can be divided into two 45° corners and a 30° corner into two 15° corners.

Subterra inspection shaft for green roof applications

Inspection shafts that aid the visual examination of drains form part of the *Subterra* system and feature cut-out sections on three of the four sides for connecting branch channels. The 100mm-high shafts can optionally be raised by 50mm or 100mm using stacking elements, with custom measurements also possible on request.



Drainage gullies

Create your own, individual dewatering system from our large range of products encompassing various dewatering and drainage solutions for roof surfaces, terraces and balconies. Alongside our channel systems, we also offer height-adjustable gullies and a large selection of cover gratings, which we can always make to measure on request. All of the gullies, drainage channels and inspection shafts can be connected to our *Subterra* branch channel to create reliable and revisable roof and balcony dewatering systems.

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Miralux Green solar substructure for green roofs

Symbiosis of roof planting and solar power

The combination of roof planting and photovoltaics presents a perfect symbiosis of a building's ecological and energy aspects. A green roof improves the microclimate, absorbs CO_2, supports biodiversity and acts as a natural form of heat insulation. A photovoltaic system generates clean energy in a way that is environmentally sound and reduces the need for conventional energy production. Clients often find themselves facing the dilemma of having to choose between the two systems. This is where we come in with our Miralux Green solar substructure for green roofs.

The ***Miralux Green*** does away with the challenges that would otherwise prevent the two capabilities from being combined. Our innovative photovoltaic substructure can be used for both east-west and south-facing set-ups and is directly integrated into the extensive roof planting. Here, the sedum mat and the layer of granulate both act as ballast while ensuring the construction is securely anchored down. This enables you to use your roof space in a way that is both sustainable and aesthetically appealing.

Installation takes just a few steps:

A drain mat along with a filter and protection fleece is laid over the root barrier foil 1.

The substructure's support plates 2 are then put into position and covered with a glass fibre mesh 3.

Next, the photovoltaic substructure is assembled on top of the support plate. Once the entire system has been assembled and put in place, the granulate and plant cover can be added 4. The glass fibre mesh, which is completely weighed down by the extensive roof planting and granulate, securely holds down the structure on the substrate like an invisible floor anchor.

To finish, the solar panels can then be fixed to the substructure and wired together.

Green roof mounting system for *Miralux Flex*

Simple combination for existing and new buildings

The additional mounting system for our ***Miralux Flex*** solar substructures enables you to combine the potential of solar energy and extensive green roofs on one roof surface. Not only does this allow new green roofs to be planted in combination with photovoltaic substructures, it also enables existing extensive roof planting to be retroactively equipped with solar installations. The system's fixed elevation of 60cm allows for plenty of room between the sedum and the modules, ensuring the plants' healthy growth. The raised position also makes it easier to care for and maintain the green roof. We offer two different ballast blocks made from polymer concrete (16kg and 34kg) as a form of ballast; the lighter version with its flat base plate is optimally integrated into green roof spaces.

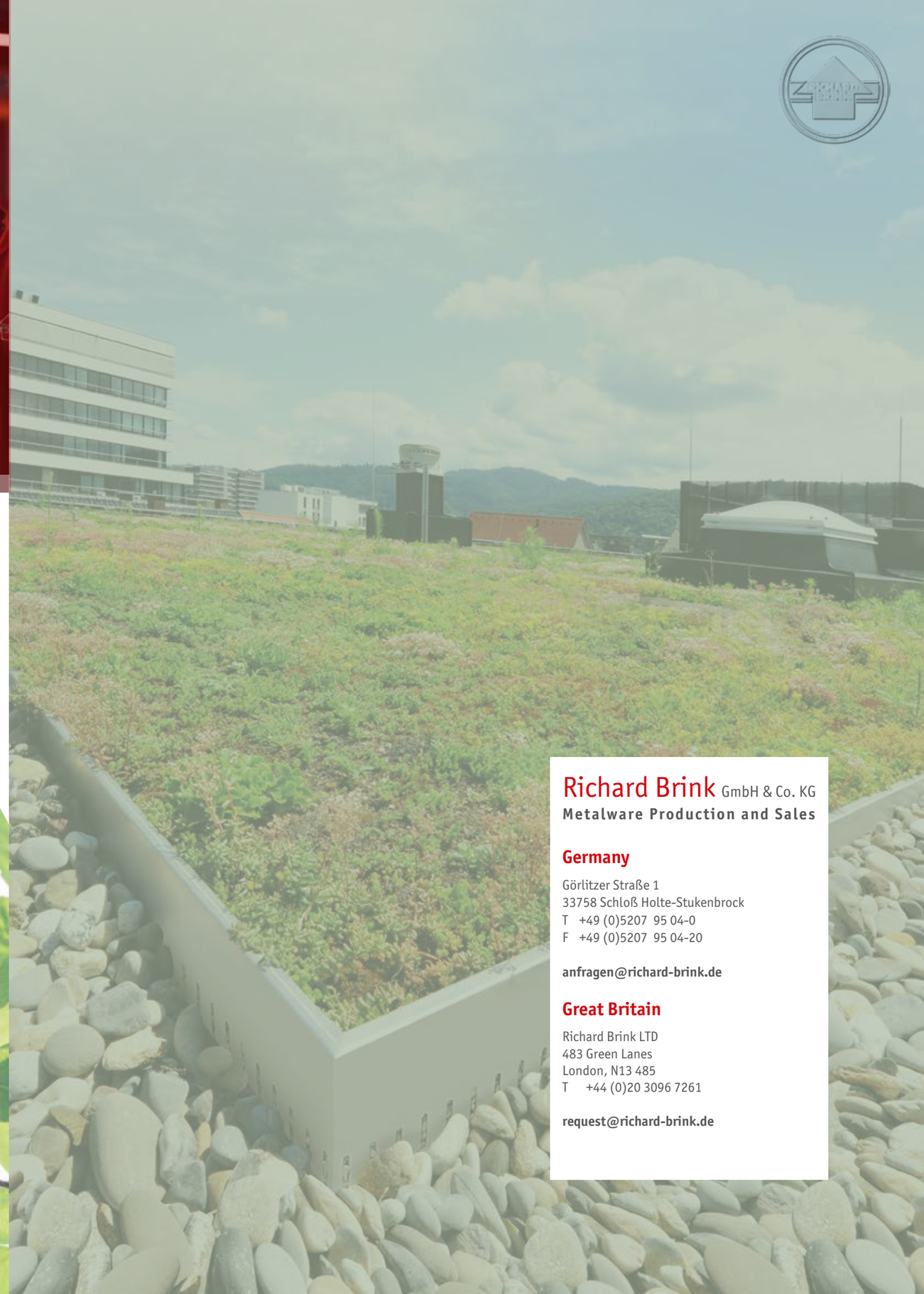
Our aspiration: to simply be better.

More than *45 years* of metalware production

Richard Brink is a medium-sized and growing family-run company from Schloss Holte-Stukenbrock. Founded in 1976, the company is now managed by the second generation. With over 150 employees and our own, also internationally oriented sales team based, for instance, in Austria, France and the Netherlands, we have established ourselves in the market as a specialist for premium metal goods.

We develop, produce and sell innovative drainage and dewatering solutions alongside versatile planting systems and products for roofs and walls, industry, bathrooms and kitchens.

In doing so, we place great importance on a level of workmanship and dimensional accuracy that satisfies our customers' own high standards. Not only are we known for our broad range of standard products, we have also made a name for ourselves as a manufacturer of individual, custom-made products and bespoke solutions.



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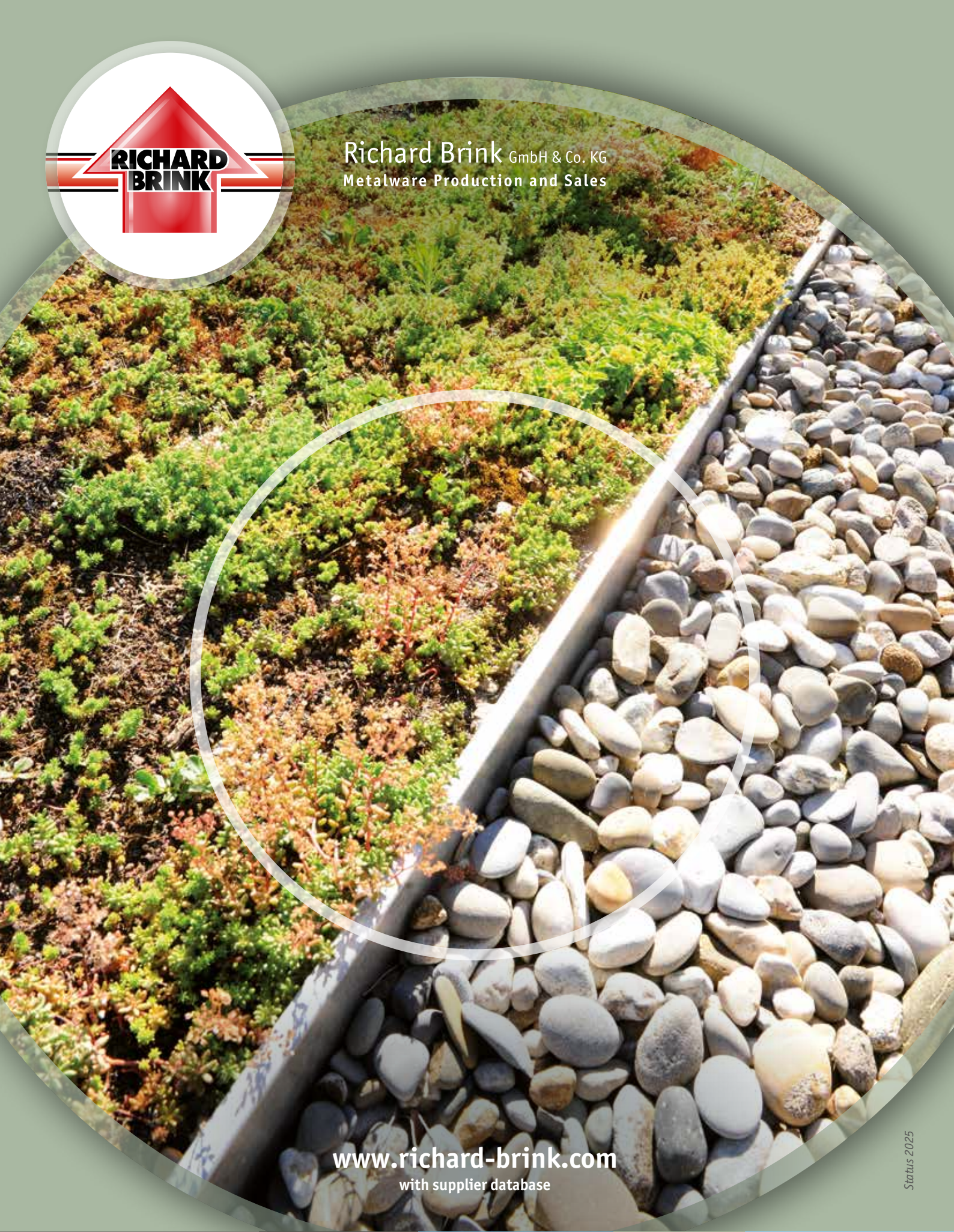

Richard Brink GmbH & Co. KG

Metalware Production and Sales

www.richard-brink.com
with supplier database

Status 2025

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