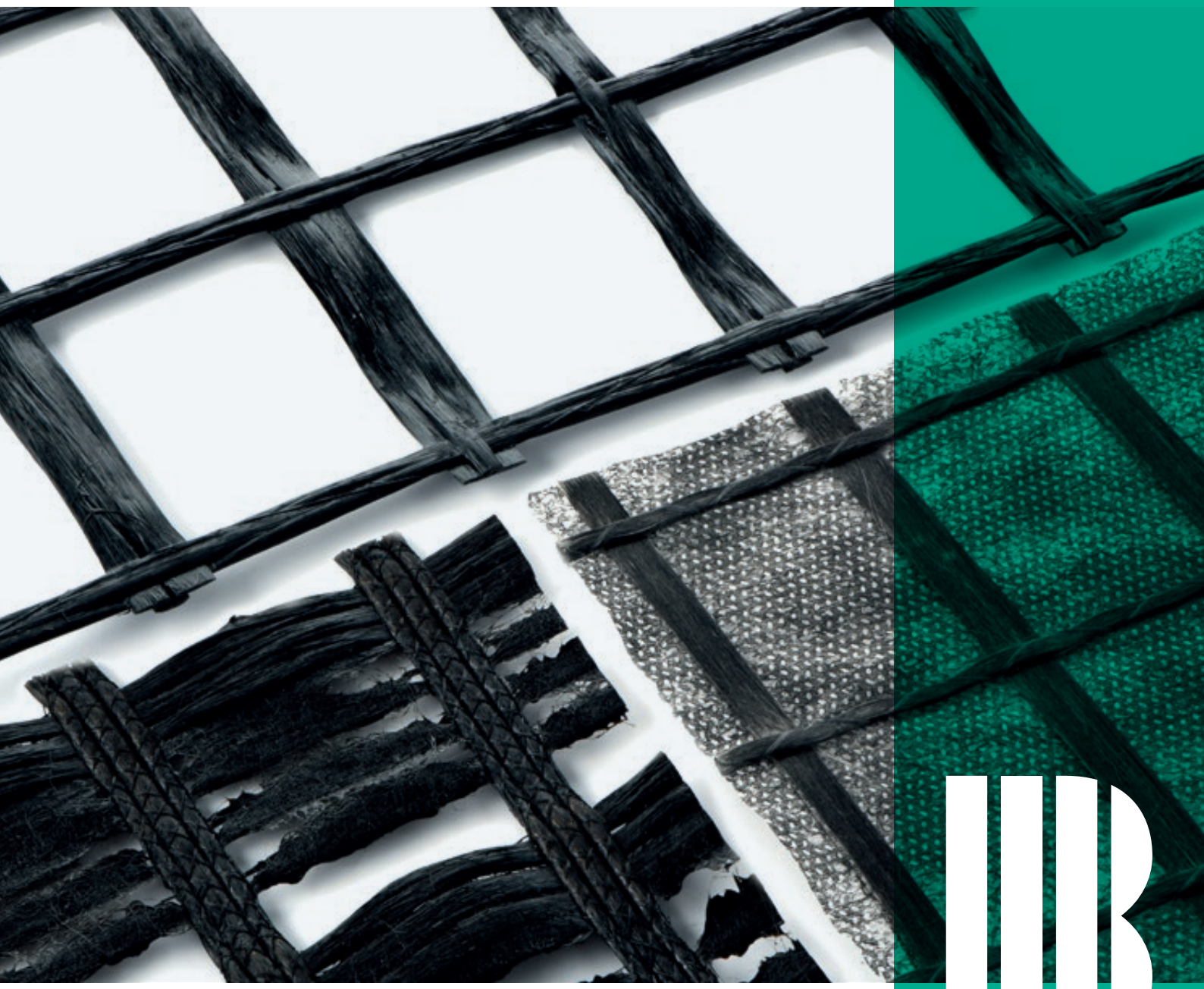
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# BEBIT

## Asphalt Reinforcement Grids

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# KEY ADVANTAGES
## at a glance



→ Reinforcing effect

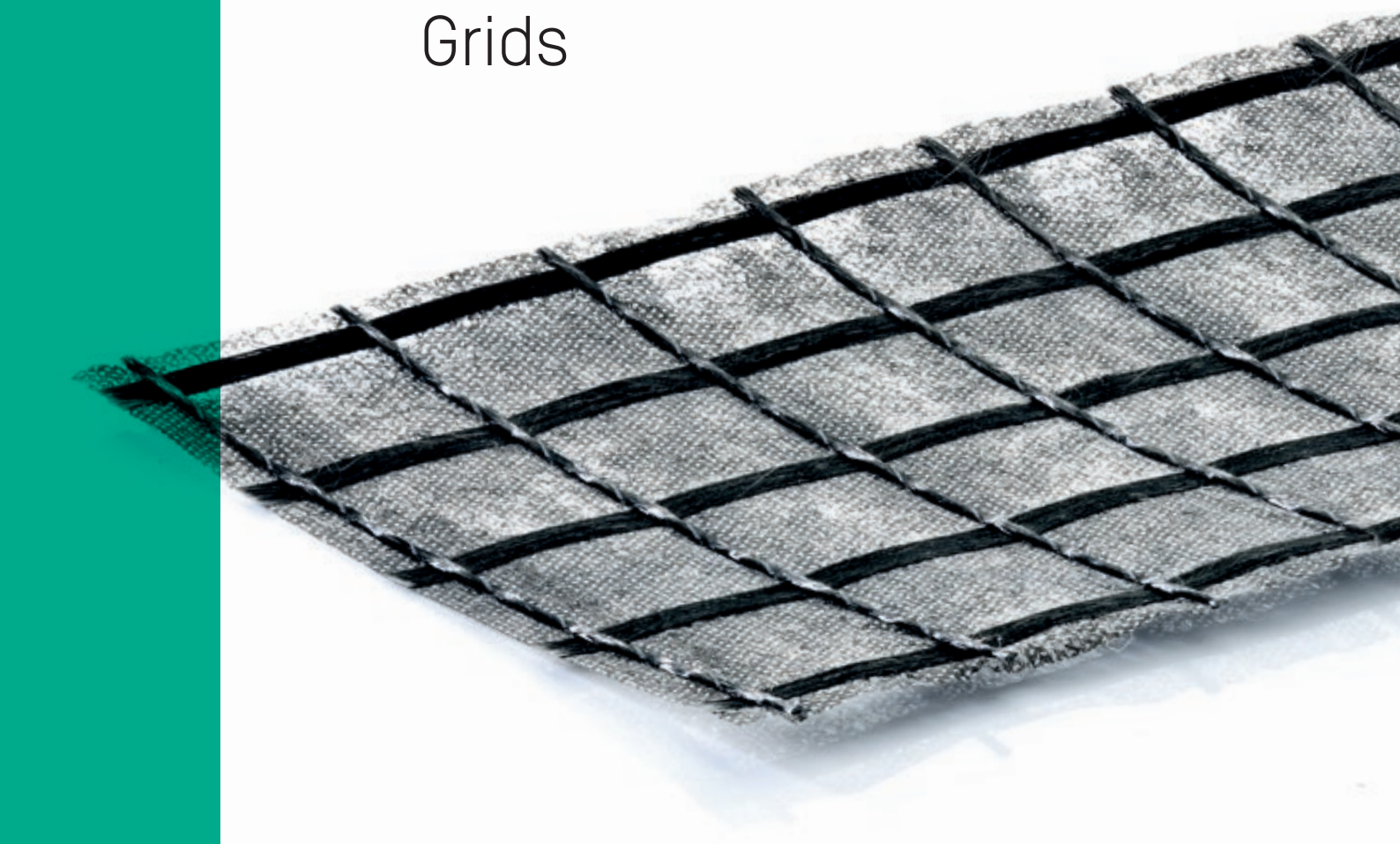


→ Fast and cost-effective to lay



→ Reduces rehabilitation costs in the long term

# BEBIT
## Asphalt Reinforcement Grids



Around 95 % of classified highways are constructed with an asphalt surfacing layer. The construction class and thus the road pavement design are selected according to the traffic loading. This ensures that a solution can be found that is tailored to the loading conditions and is both technically satisfactory and economically viable.

The rapid increase in car and HGV traffic in recent years has led to increasing levels of road damage. The consequences of poor road conditions are ever shorter maintenance intervals, localised cases of overloading, traffic restrictions and accident blackspots.

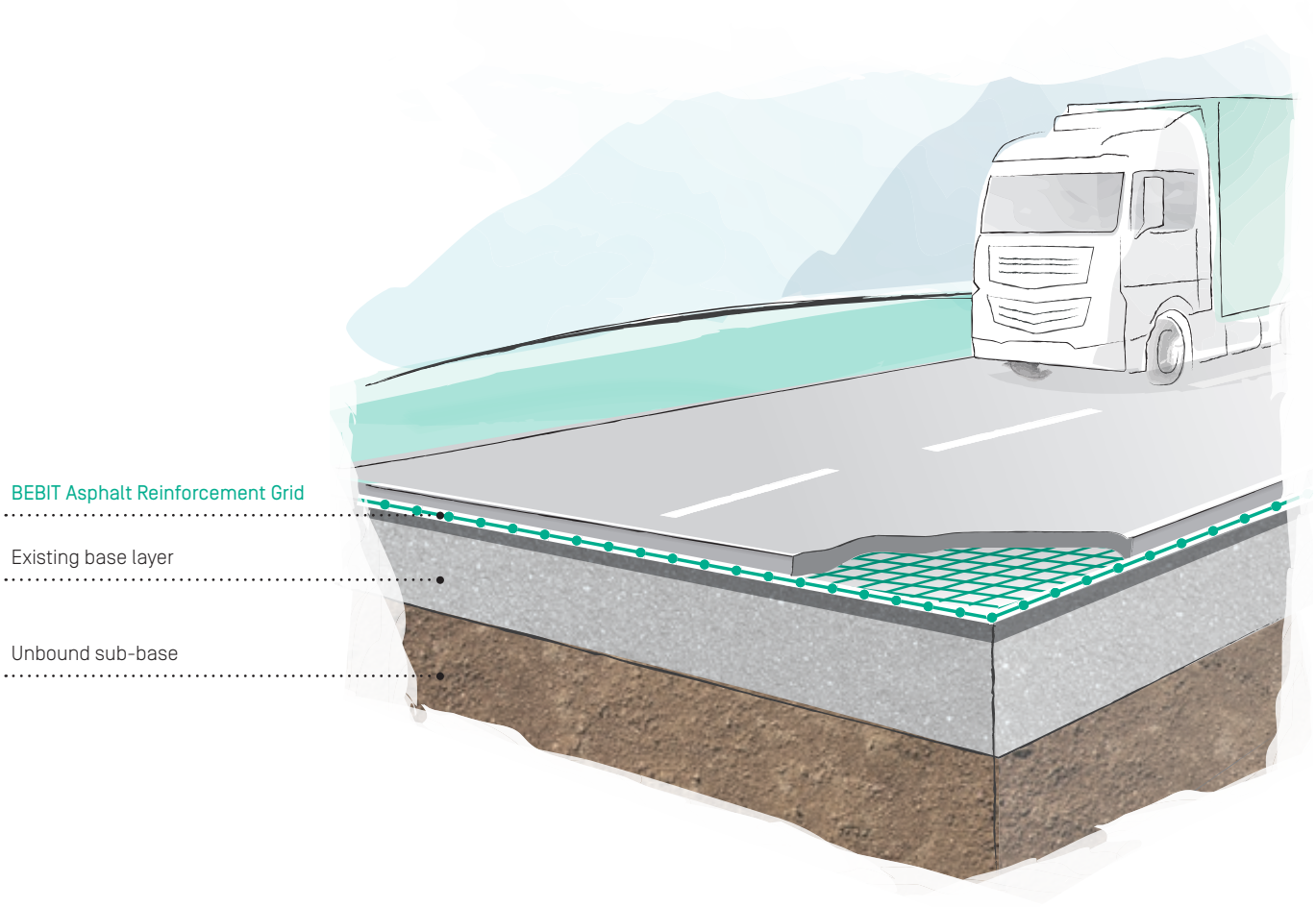
To combat these effects, “technical textiles” such as asphalt reinforcement grids have been successfully employed in road construction since the 1980s. In the meantime, a wealth of experience has been compiled, which has been incorporated, for example, in the FGSV working paper no. 770 (2006/version 2013) on the use of non-woven fabrics, grids and composites in asphalt pavement construction. BEBIT is our product range that has been developed in line with these principles.

# PRODUCT DETAILS
## and properties

BEBIT G is a grid that has high tensile strength and is made of glass fibres with a melting point above 850 °C. The fibre bundles are encased in a bitumen coating.

BEBIT G Asphalt Reinforcement Grids have an extremely high constrained modulus that allows the immediate absorption of high tensile forces with minimum elongation. This results in the stresses being concentrated in the asphalt inlay and its reinforcing function is instantly activated. The open structure of BEBIT G grids ensures optimum bonding between the layers.








**Asphalt reinforcement grid with additional installation aid**

BEBIT G plus and BEBIT G BC are asphalt reinforcement grids from the BEBIT G range with an additional laying aid. In the case of BEBIT G Plus, the laying aid comprises an additional mesh infill made of fine glass roving. BEBIT G BC, on the other hand, has a laying aid made of light-weight, non-woven fabric.

A laying aid ensures maximum possible contact with the bituminous subsurface, keeps the grid firmly in position and makes installation more cost-efficient. No additional bitumen emulsion or otherwise customary spreading of chippings is necessary.


BEBIT G


BEBIT G plus


BEBIT G BC

# FUNCTIONS
## BEBIT Asphalt Reinforcement Grids

**Reinforcement**

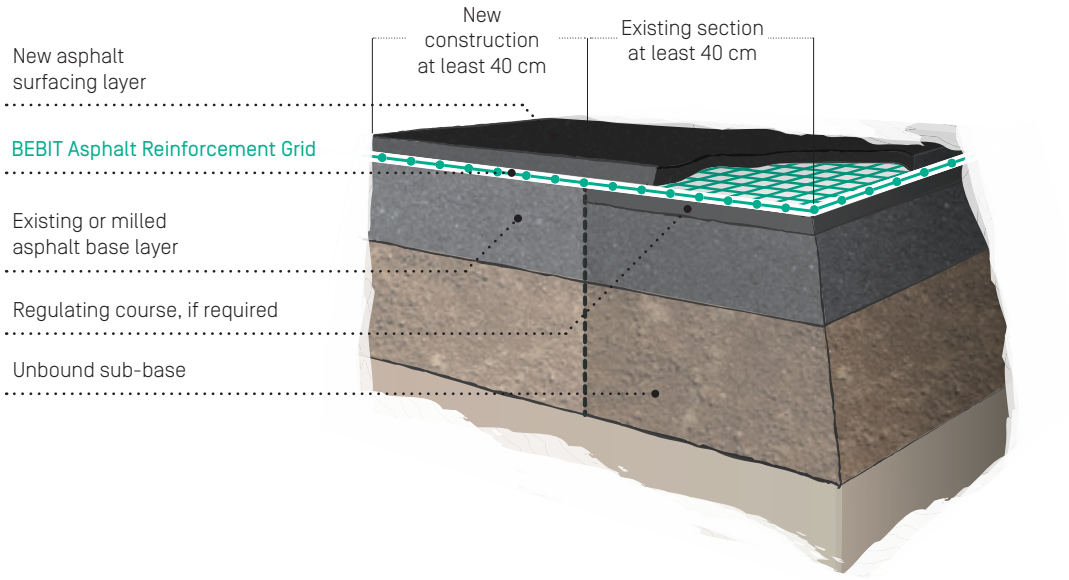
BEBIT Asphalt Reinforcement Grids are reinforcement products. The grid acts as a reinforcing element that absorbs the forces in the area of loading and thus effectively delays crack development. The resulting fatigue resistance is greater than that of a non-reinforced asphalt layer. The reinforcement grid improves the load-bearing capacity of the entire pavement system, slows down the propagation of cracks from the substrate and significantly extends the useful life of the asphalt surface.



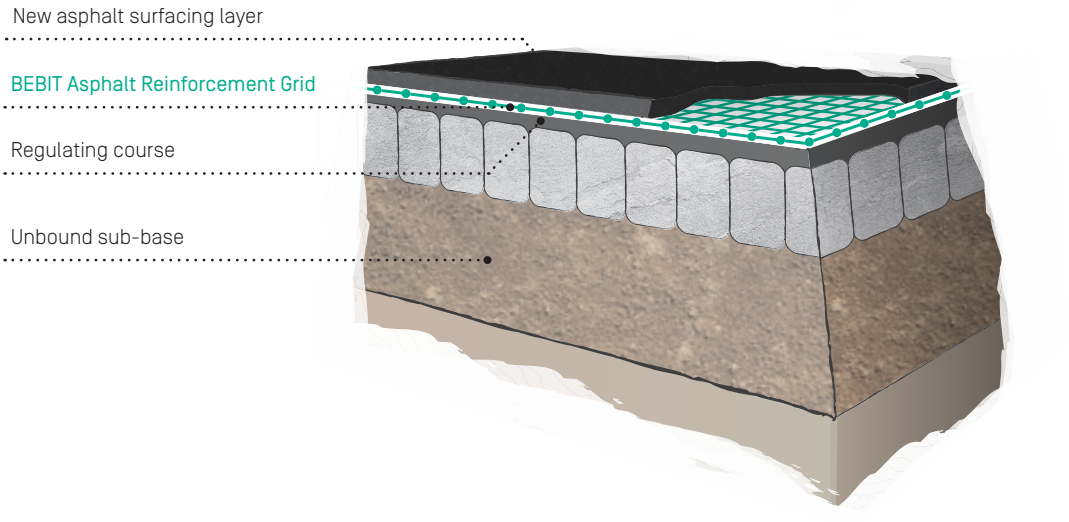
# APPLICATIONS

## BEBIT Asphalt Reinforcement Grids

Asphalt reinforcement products are useful in all situations where asphalt layers are subject to high traffic loads and temperature fluctuation, since these conditions are liable to promote crack formation. Asphalt sealing systems in water engineering, landfill sites and agricultural areas are thus also suitable fields of application for BEBIT Asphalt Reinforcement Grids.




**Road widening**




**Overbuild of paved areas**

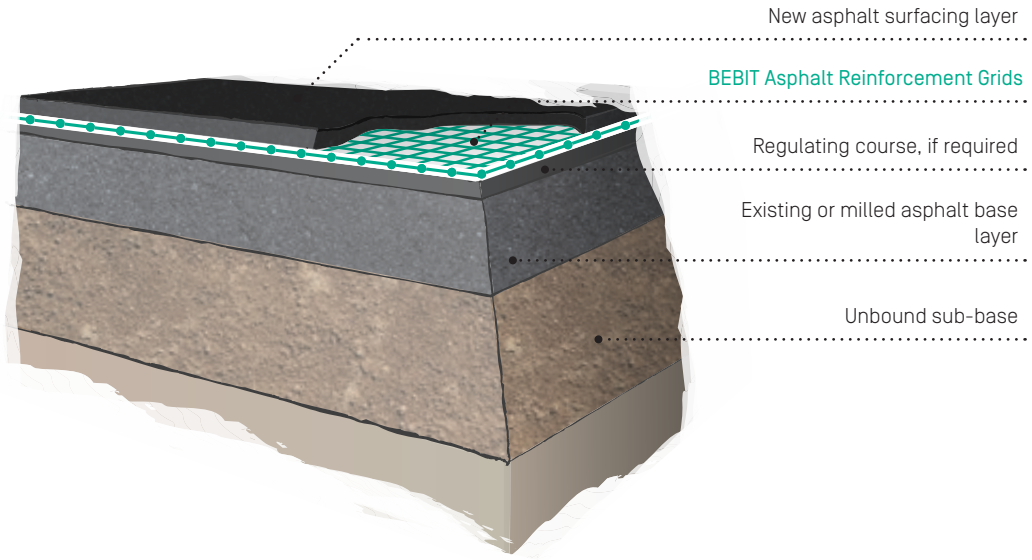
The reinforcement grid should be installed below the binder layer, if possible, so that it can absorb some of the tensile stresses and distribute them over a wider area. If it is installed directly beneath the asphalt surfacing layer, this layer must be at least 4 cm thick.



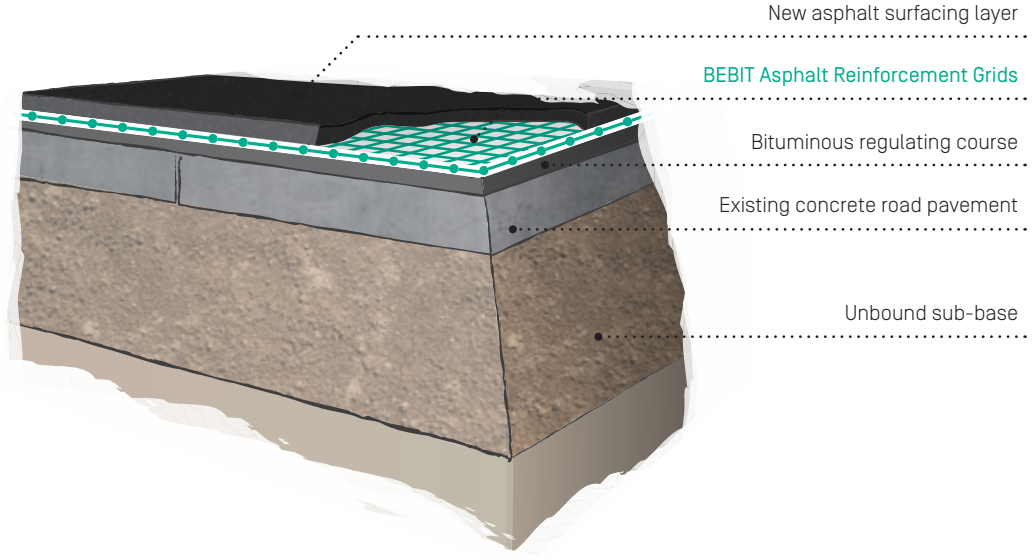
**BEBIT Asphalt Reinforcement Grids are used for:**

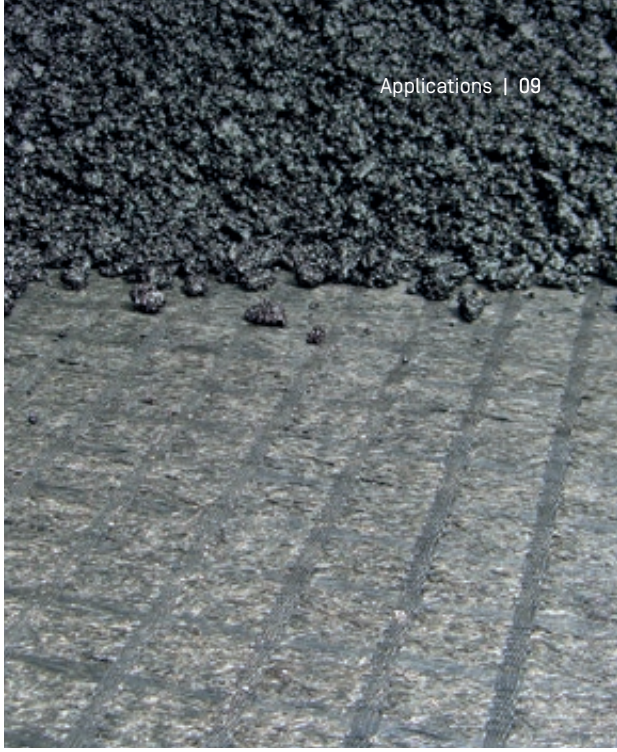
- refurbishing asphalt-bound traffic surfaces that exhibit various types of cracking (transverse, longitudinal and crazing cracks)
- preventing reflection cracking
- refurbishing concrete road surfaces (on a bituminous regulating course)
- covering over connections, seams and joints

**Rehabilitation of bituminous road surfaces**




**Rehabilitation of concrete roads**





# Applications matrix at a glance

We are happy to supply current data sheets, specifications, certificates and technical verifications on request.

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Website: www.beco-bermueller.de
Email: info@beco-bermueller.de

| Properties | G 50 | G 100 | G 120 | G 50 plus | G 120 plus | G 50 BC | G 100 BC | G 120 BC |
|---|---|---|---|---|---|---|---|---|
| Product type | Asphalt reinforcement grid with bitumen coating | | | | | | | |
| Additional laying aid | without | | | Mesh infill | | Non-woven fabric | | |
| Raw material | Grid: glass | | | Grid: glass<br>Mesh infill: glass | | Grid: glass<br>Non-woven fabric: PP | | |
| Maximum tensile strength longitudinal | 50 kN/m | 100 kN/m | 120 kN/m | 50 kN/m | 120 kN/m | 50 kN/m | 100 kN/m | 120 kN/m |
| Maximum tensile strength transverse | 50 kN/m | 100 kN/m | 120 kN/m | 50 kN/m | 120 kN/m | 50 kN/m | 100 kN/m | 120 kN/m |
| **Fields of application** | | | | | | | | |
| Road and traffic areas | ● | ● | ● | ● | ● | ● | ● | ● |
| Aircraft operation areas | | ● | ● | | ● | | ● | ● |

● suitable

# INSTALLATION
## BEBIT Asphalt Reinforcement Grids



## To be considered:

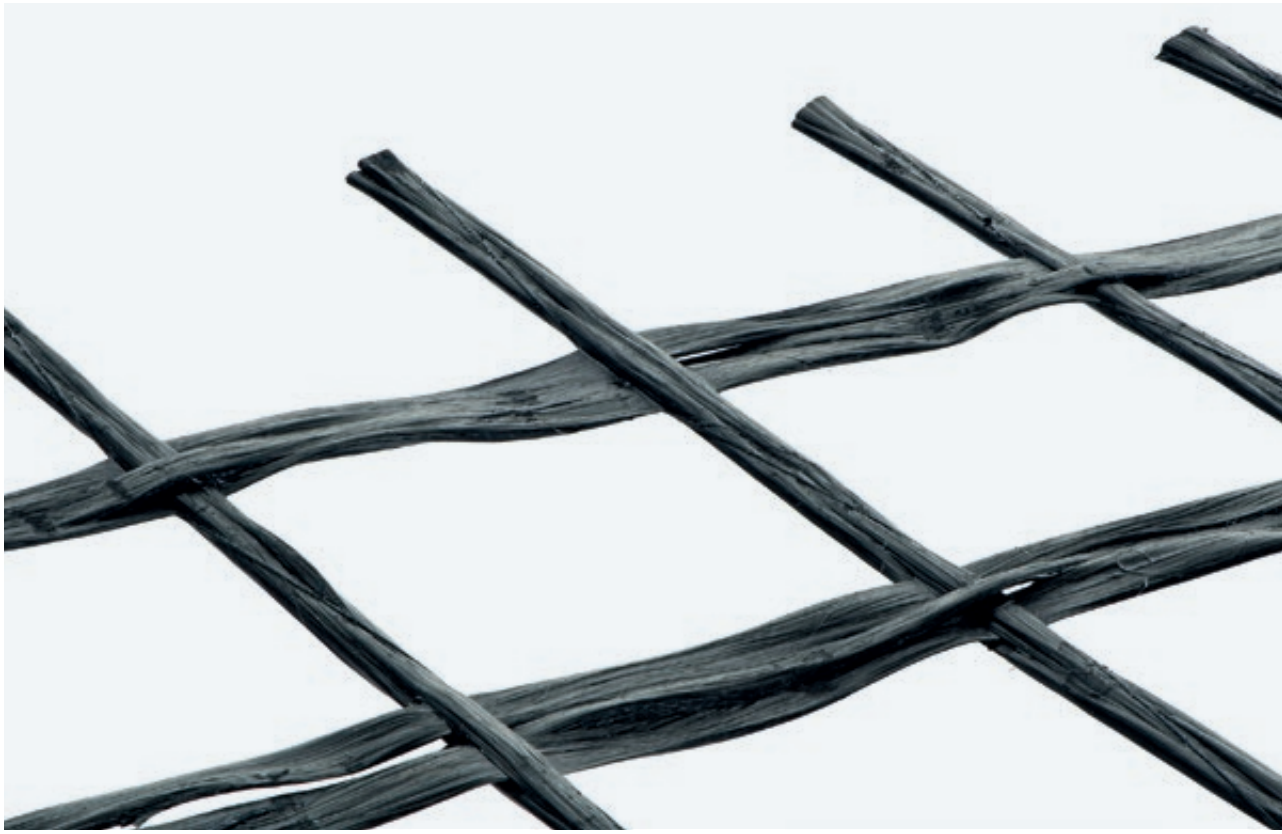
1. Prior to installation the eveness of the installation surface must be checked and the substrate cleaned. If any cracks, joints or other openings become visible, these must be filled.
2. The subsurface temperature must not less than 5 °C and the air temperature must be at least 10 °C during installation.
3. BEBIT asphalt inlays must be laid into the bitumen emulsion layer after the emulsion has broken. They must be laid in dry weather only and without creasing.
4. Immediately before the asphalt reinforcement is laid, the road surface is first sprayed with a Class C70BP 3-0B-1 polymer-modified bituminous emulsion tack coat, in accordance with TL BE StB 07. Good experience has also been had with Class C70BP 3-0B-2 emulsions. If any other type of emulsion is to be used, this must be tested in advance to make sure that good bonding with the supporting layer is achieved.
5. A road surfacing layer of at least 40 mm must be laid on top of the asphalt inlay immediately after the bitumen emulsion has dried.

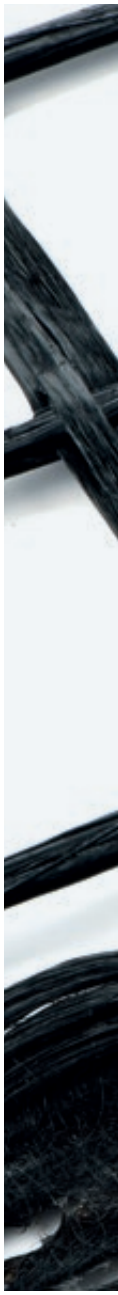
Our detailed installation and laying instructions for BEBIT Asphalt Reinforcement Grids must also be observed.

# ADVANTAGES

## BEBIT Asphalt Reinforcement Grids

- → Improves the usability of asphalt-bound traffic surfaces
- → Reinforcing effect
- → Complete solution with functional reliability
- → Good milling properties
- → Reusable milled material
- → Fast and cost-effective to lay
- → Extends the maintenance intervals
- → Reduces rehabilitation costs in the long term





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