

Installation Guide

BITUTEX[®] - COMPOSITE

What is BITUTEX[®] - COMPOSITE

Bitutex[®] - Composite is a paving grid with a polymer coating specially developed for asphalt reinforcement.

Bitutex[®] - Composite is Certified by tBU laboratories reference document number 0799-CPD-23

Why use BITUTEX[®] - COMPOSITE for asphalt reinforcement

Cracking is a well known problem in bituminous road surfaces and can result from different causes – bad construction of the road surface, variations in temperature, frost / dew changes and wear.

The installation of **Bitutex[®] - Composite** reinforces the pavement and inhibits crack formation, so that the durability of the pavement is much extended.

Bitutex[®] - Composite is a paving material of the new generation. The combination of a woven grid and a nonwoven assure bonding to the asphalt and allow for easy installation.

Bitutex[®] - Composite also lays flat when rolled out for easy installation.

Properties of BITUTEX[®] - COMPOSITE

- polymer impregnated glass grid + nonwoven
- maximum elongation. 3,5 %
- creep resistant
- high temperature resistance (800°C)
- high tensile strength



Advantages of BITUTEX[®] - COMPOSITE

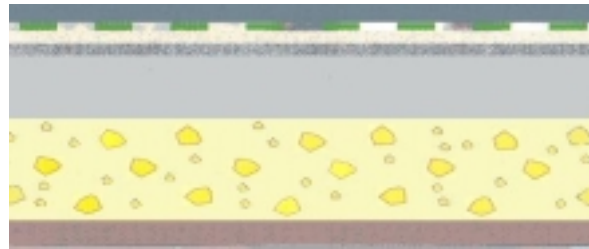
- extended durability of the road surface
- low costs for corrective maintenance
- simple, expeditious and economic installation
- less process engineering
- melting point > 800°C
- installation possible at low temperature
- polymer coating protects the glass grid from mechanical damages
- high tensile and tear strength
- reduction of asphalt thickness
- reinforcement and stabilisation of pavement
- high E modulus of the grid keeps asphalt surface movements uniform
- delays cracking
- less material fatigue and better tension distribution

possible applications for BITUTEX[®] - COMPOSITE

- in structure of new asphalt overlay (over existing layer and below new asphalt surface)
- in weak lane tracks
- overlay cracking caused by the weather and increasing tensions in the asphalt surface
- street repairs and other utility trenches
- lane widening
- reduction of street construction due to street extensions
- cracking joints at crossways (bridge – street)
- cracking at sealed joints
- cracking caused by heavy traffic (airfield, truck parking areas)
- surface renewal over Portland cement concrete
- in regions with major seasonal climate variations



Repair of rough streets



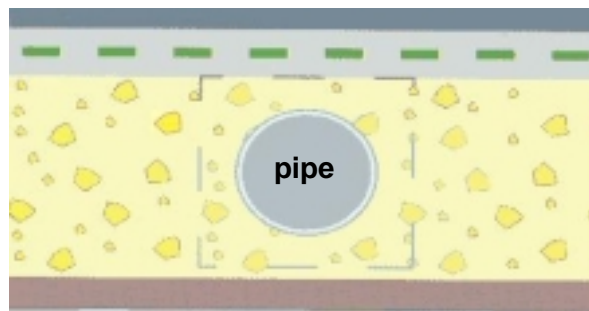
new surface overlay > 50mm
BITUTEX® - Composite
compensation layer

old surface
old bituminous truss layer

reinforcement layer

subsoil (base)

above utility feed line trenches

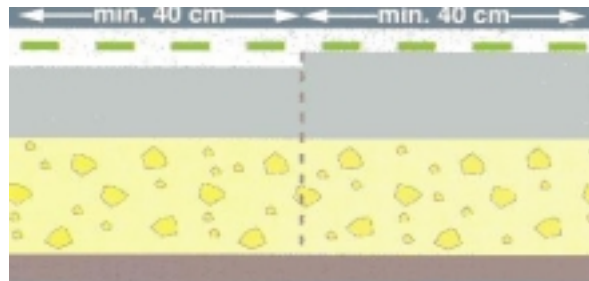


Repair above
supply trenches
BITUTEX® - Composite

not fixed truss layer

subsoil (base)

Pavement joints extensions



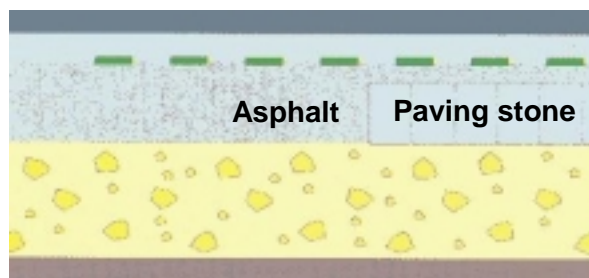
New surface > 50mm
BITUTEX® - Composite

bituminous truss layer

not fixed truss layer

subsoil (base)

Change between different kinds of pavement surfaces & subsoils



New double layers

BITUTEX® - Composite
partial area, minimum width
800 mm, paving stones/
bituminous truss layer

not fixed truss layer

subsoil (base)

***The installation of BITUTEX® - Composite in
asphalt surfaces is easy and user-friendly***

1. **Bitutex® - Composite** has to be stored flat and in a clean dry place. To avoid deformation, rolls should not be stacked over 3 high.
2. Milled surface should be as smooth as possible and not have a ribbed profile greater than 5mm. The surface should be clean and free of bituminous leavings. Cracks and holes are be filled and consolidated. Outlets in the reconstruction area - drains or duct covers - must be omitted.
3. The surface must be dry and the temperature should be +10° C minimum.
4. The reconstructing area is to be sprayed with a polymer bituminous emulsion of the class U60K (Pmb) or U70K (Pmb). Stable cation or anion emulsions are not advisable. The mass of spray at flat rate is about 1.200 g/m², the mass of spray at acclivity and decline respectively of maximum 8% about 1.800g/m². After a waiting time of about 20 – 25 minutes (at 20 – 25 °C outdoor temperature) following the applying of polymer bituminous emulsion **Bitutex® - Composite** should be installed by unrolling. The amount of emulsion may vary according to the requirements of the construction site (Example: recently removed surfaces could be more porous and will need more sealing material). The spraying temperature of the sealing should be 150 °C. A hydrostatic calibrated type-converter is recommended. A hand-converter should also be ready for operation. To reach an ideal adhesion the width of the sprayed area should overlap the total width of the **Bitutex® - Composite** about 50 to 150 mm each side.
5. Drapes and wrinkles of **Bitutex® - Composite** during installation should be avoided. In sharp curves or special requirements the grid can be cut in sections. If there are still drapes **Bitutex® - Composite** should be cut layed flat and then sprayed with some extra emulsion and overlapped in the work flow direction.
6. The overlapping of longitudinal and diagonal connections should be at least 25 to 80 mm and should also be overlapped in the work flow direction.
7. After installation of **Bitutex® - Composite** there shouldn't be any traffic except the asphalt paver and its supplier trucks. It is important that road work vehicles minimise hard braking and turning. Hard truck stops and sharp turns can damage the grid. Wrinkles or drapes must be removed prior to paving.
8. The asphalt should have an installation temperature of about 160 °C or as specified by the engineer and be installed with a minimum thickness of 50 - 60 mm.



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The ideal performance of **Bitutex® - Composite** depends on the compliance with standardised installation parameters (grit size, mixture ratio, compression, etc.). To eliminate wrinkles vehicles should not drive on installed **Bitutex® - Composite**. Also the overlapping of longitudinal and diagonal connections of the asphalt and **Bitutex® - Composite** must be done in the work flow direction. In order to compact the asphalt the technical installation guide must be followed. The use of vibration rollers at overlay thickness less than 80 mm can affect the bond between the layers adversely on a redeveloped street with **Bitutex® - Composite**.

Abstract

Bitutex® - Composite performs best when installed in accordance with above described methods and the principles of the project technical regulations for bituminous road construction.

For technical questions or advice we are willingly at your disposal.

Product modifications or changes of installation meaning engineering progress we reserved to ourselves. Guarantee claims can not be deflected from this Installation Guide.