



geofor
asphalt 

The Technology

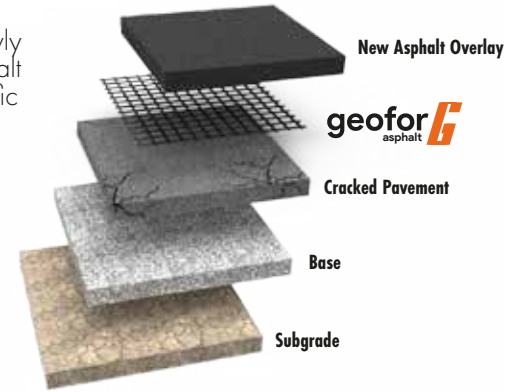
GEOFOR is a polymer coated Fiberglass Geogrid consisting of connected parallel sets of tensile ribs with apertures of sufficient size to achieve high interlock and effective bonding of two asphalt lifts. The polymeric coating helps to further optimize the chemical compatibility between the fiberglass reinforcement and the pavement overlay. Additionally, it is self-adhesive which help to better sticking and speeds up installation.

How GEOFOR Reinforces Pavement?

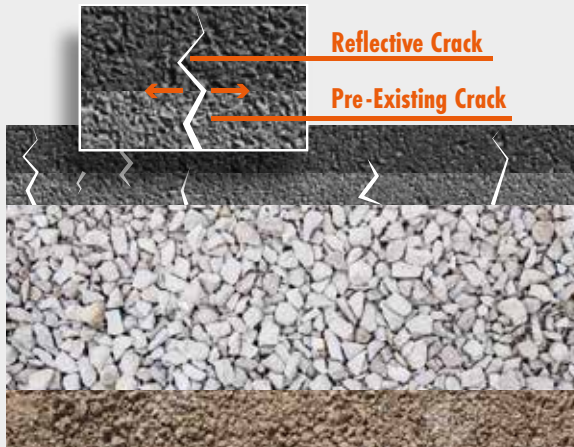
When new overlay is laid over the existing one, the existing crack in the old layer slowly propagates in the new laid over. This propagation is the beginning of the failure of asphalt pavement, following which numerous asphalt distresses occurs depending upon the traffic volume in the region and passage of time.

To stop such failures, a composite system is required between both the layers so that the propagation of crack is intercepted in between which must have properties with stiff tensile strength & minimum elongation and capacity to sustain laid temperatures of asphalt without melting.

Asphalt Interlayers makes this possible by forming a stiff interlayer and facilitating strong bond with the old and new asphalt thereby de-propagating the cracks horizontally by absorbing the tensile stresses.



Without geofor asphalt



New Asphalt Overlay Cracked Pavement

Base

Subgrade

With geofor asphalt



GEOFOR ASPHALT

Geofor Asphalt is made of high performance glass fibre rovings with high tensile strengths. It is thermally and chemically stable at bituminous mix temperatures up to 230°C. It is not affected by de-icing salt, petroleum or bitumen and has a coating for mechanical protection. Geofor Asphalt provides maximum strength even at very low strains. The Strain Factor is an important aspect because Un-reinforced asphalt or flexible pavement starts showing cracks at very low strains which can be as low as 1%. Geofor Asphalt has a Young's Modulus of 72GPA (20 times that of asphalt) which means that it provides effective reinforcement. Geofor Asphalt provides reinforcement to the asphalt layer and so its performance is enhanced with low maintenance and life cycle costs.

Asphalt Interlayer in Airport

One of major challenge at aerodromes is to sustain the life of pavements for the longest duration of time. Frequent repair & maintenance are extremely difficult due to short time lines as it leads to disruption of flights and considerable loss of revenue.

GEOFOR Asphalt provides a sustainable solution by delaying the maintenance period for reasonable duration of time.

Geofor Asphalt can be used for following applications:

- Arresting PCC Joint Cracks (Transverse / Longitudinal Cracks)
- Thermal Cracks / Reflective Cracks
- Preservation of newly laid Flexible Pavement
- Isolated and Spot Repairs
- New Constructions

Today, Geofor Asphalt is extensively used at airports for extending the life of runways pavements with apex bodies specifying it, for almost all airports with flexible pavements / rehabilitation & repairs.



Benefits of GEOFOR



Asphalt Fatigue Resistance

Asphalt reinforcement products can provide fatigue resistance by controlling crack initiation and/or propagation in asphalt. Pavement life may be increased or pavement thickness may be reduced.



Road Widening

Asphalt reinforcement products can mitigate cracking due to differential settlement.



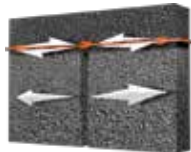
Bending

Asphalt reinforcement products can improve fatigue resistance of asphalt subjected to bending movement by delaying the onset of cracking.



Subgrade Driven Rutting

Asphalt rutting due to subgrade strain can be mitigated by reinforcing the asphalt layer.



Thermal

Asphalt reinforcement products can reduce cracking due to thermal expansion and contraction of the substrate.



Shear

Asphalt reinforcement products can reduce cracking by improving asphalt shear resistance and load transfer capabilities.

(Excessive vertical shear movements will necessitate pre-treatment for asphalt reinforcement to be effective.)



Permanent Strain

Asphalt reinforcement products can reduce horizontal strain at the reinforcement layer interface to improve resistance to asphalt rutting.

Uses of Asphalt Interlayer

Geofor Asphalt can be applied on all asphalt and concrete pavements, cracked due to thermal stresses /fatigue and related failure. It can also be used on cracks caused by uneven settlement, on joints in concrete pavements and for road widening. Due to the high tensile strength and excellent adhesion to the asphalt layer, Geofor Asphalt not only controls crack growth, but also increases the load bearing capacity of the pavement structure.

Geofor Asphalt can also be used in different asphalt layers on top of each other for example in joint-less /silent transitions at Bridges/Culverts or above expansion joints in concrete pavements. It has been successfully used within asphalt overlays throughout the World to help combat reflective cracking initiated by one or more of the following:

- Concrete Pavement Longitudinal & Transverse Joints
- Thermal Loading
- Lane Widening
- Cement Treated or Stabilized Layer Shrinkage Cracks
- Block Cracks / Asphalt Construction Joints

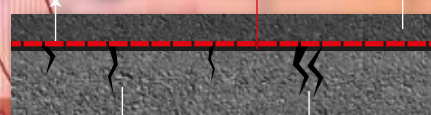


Repair of Bridge Deck Slabs/Culverts

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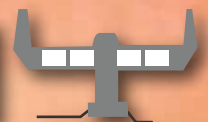
Leveling Course
25 mm Thick

Asphalt
50mm Thick



Distressed
Concrete

Cracks > 10mm to
filled as per MoRTH





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