

GLASS FIBER COMPOSITE GEOGRID (GTF - CG) ASPHALT PAVEMENT REINFORCEMENT

The GTF Glass Fiber Composite Grid Pavement Reinforcement and Moisture Barrier System is manufactured at GTF Private Limited facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381:2008. This composite material consists of a fiberglass reinforcement grid coated in an asphalt compatible polymer, bonded to a non-woven paving geotextile. The GTF Glass Fiber Composite Grid is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils. It conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory.

- **High Grid Stiffness** : Ensures wrinkle-free installation and direct load transmission, enhancing structural integrity.
- **Low Elongation** : Maintains minimal stretching under load, preserving dimensional stability.
- **Thermal and Chemical Stability** : Resistant to environmental factors, ensuring long-term durability.

BENEFITS:

- Quick and efficient installation.
- Efficient moisture barrier due to the non-woven fabrics Saturation with Tack Coat / Emulsion.
- High grid stiffness providing a wrinkle free installation.
- Easy cutting.
- Good trafficability (suppliers, trucks, paver).
- Thermal and chemical stability.
- Excellent milling performance.

• Applications

Composite Grid is used in places where a watertight seal of the underlying pavement structure is required and on uneven bases, such as milled surfaces. Composite Grid is also the best alternative where concrete pavements are overlaid with asphalt and where it is not possible to lay an asphalt-leveling course before applying the asphalt reinforcement. In this case, the Composite Grid protects the asphalt reinforcement against excess tension above the expansion joints.



<u>Properties</u>	<u>Unit</u>	<u>GTF-CG01</u>	<u>GTF-CG02</u>	<u>GTF-CG03</u>
Tensile Strength (MD x CMD)	kN/m (≥)	50 x 50	100 x 100	100 x 200
Tensile Elongation	%	3 (± 1)	3 (± 1)	3 (± 1)
Tensile Resistance @ 2% Strain (MD x XD)	kN/m (>)	35 x 35	75 x 75	75 x 160
Young's Modulus E	MPa (>)	76000	76000	76000
Melting Point of Glass	° C (>)	900	900	900
Melting Point of Coating	° C (>)	250	250	250
Mass per Unit Area	g/m ² (>)	320	520	730
Asphalt Retention	Kg./m ² (>)	1.10		
Aperture Size	MM	25 x 25	12.5 x 12.5 25 x 25	12.5 x 12.5 25 x 19
Roll Width	Meter	1.50 / 2.00 / 2.25 / 2.50 / 4.00 / 4.50 / 5.00 / 6.00		
Roll Length	Meter	50 / 75 / 100		
Material		Glassfiber Grid bonded to Nonwoven Geotextile.		

- MD – Machine Direction
- CMD – Cross Machine Direction

The values given are indicative and correspond to average results obtained in our laboratories and testing institutes. The right is reserved to make changes without notice at any time.

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METHODOLOGY OF INSTALLATION

Road Preparation

Fill cracks and depressions, potholes wider than 6 mm. Repair all structurally distressed areas and ensure surface is clean and dry. Badly damaged surface may require milling.

Road Surface Condition,

1. The prepared surface shall be either an evenly planed milled surface or apply leveling course prior to the installation of Glass Fiber Composite Geogrid.
2. The road surface temperature shall be between 5°C (40°F) to 60°C (140°F).
3. Extra care may need to be taken on surfaces less than 24 hours old and warmer than 46°C (110°F), as the mix has not yet solidified sufficiently to hold the material in place.
4. GTF-CG should not be placed if rain is likely during the overlay construction operations.

Tack Coat / Emulsion Application

A calibrated distribution truck capable of applying tack at a consistent rate over the pavement surface shall be used. Local environmental conditions may necessitate variation in tack coat / emulsion type and rate. The actual type of tack and rate shall be determined by the Project Engineer. The application rate is dependent on several factors including existing surface conditions, ambient surface temperatures. The material's asphalt retention rate of more than 1.10 Kg./m² is recommended.

GTF-CG shall be applied following application of tack coat / emulsion to achieve appropriate saturation of bitumen into fabric making the product a moisture barrier system.

GTF-CG Storage

Glass Fiber Composite Geogrid must be stored in a dust-free environment and kept dry at the job site. Glass Fiber Composite Geogrid must not be transported or stored at temperatures greater than 82°C (180°F).

Preferred Laying Method for GTF-CG - Using a Tractor

1. Apply tack coat/emulsion as per project requirements.
2. Load roll onto front or back of tractor. Always load product in such a way so non- woven side of fabric is down to facilitate tack coat / emulsion absorption. (Adjust timing so some liquid tack penetrates the fabric.)
3. Roll only with rubber-tired roller. Roller must be kept clean.
4. Take extra care to minimize wrinkles. Any wrinkles larger than 1" need to be slit and lapped in paving direction. Press GTF-CG down with PTR onto tack coat / emulsion for proper adhesion.

Important Notes

1. Workers should wear gloves while handling Glass Fiber Composite Geogrid, as Glass Fiber Composite Geogrid is considered a skin irritant product.
2. Glass Fiber Composite Geogrid can be custom cut to fit around structures by using a sharp utility knife.
3. Glass Fiber Composite Geogrid must be applied with minimal wrinkles. Sufficient tension will help to eliminate this problem. Any wrinkles larger than 1" need to be slit and lapped in paving direction. Immediately apply even pressure across the Glass Fiber Composite Geogrid to set the material into the hot tack coat /emulsion to ensure saturation of bitumen into the Glass Fiber Composite Geogrid.
4. Glass Fiber Composite Geogrid does not bend or stretch around curves. Shortened lengths should be placed in these areas.
5. Overlap at end of end roll joints 3". Ensure that the overlaps are shingled in the direction of paving.
6. Overlap longitudinal joints 3".
7. Prior to paving, only construction and emergency vehicles should be allowed to drive on installed Glass Fiber Composite Geogrid.

Delivered

10,000k m²