



GlasGrid® TF

Installation Procedures



The installation manual sets general recommendations for a successful installation of ADFORS GlasGrid TF100, TF200. Specific project conditions should be reviewed with a technical representative of Saint-Gobain ADFORS who can provide expert assistance during installation.

ADFORS GlasGrid TF - Fiberglass reinforcement self-adhesive composite bonded to thermo sensitive polymer based film specifically engineered to bond asphalt layers in asphalt overlays.



ADFORS GlasGrid TF

Installation Follow-up

- Transport and Storage
- General Site Review
- Weather Considerations
- Installation
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Transport and Storage

- Maintain storage of product in manufacturer's original packaging until ready for installation.
- ADFORS GlasGrid TF must be stored in dry, dust, dirt free environment and kept such at the job site.
- Prevent material from coming into contact with debris, asphalt, vegetation or other deleterious materials.
- Store and transport at temperatures between minus 30 °C and 60 °C and with a maximum relative humidity of 85%.
- Pallets with product should be stored and transported on dry and flat surface.
- Storage of pallets with product as well as unsecured product rollers one another are not recommended. Product performance could be affected at contractor responsibility.

General Site Review

- Prior to the installation of ADFORS GlasGrid interlayer system, evaluate and complete repairs to the existing pavement.
- Existing pavement should show no signs of poor drainage, pump-ing of fines, excessive deflections or structural instability. Sub-grade repairs shall be made to all areas where structurally instability is present.
- Potholes and cracks larger than 6 mm should be filled and compacted with appropriate material. Seal cracks between 3 mm and 6 mm with appropriate crack filler.
- The surface receiving the interlayer must be dry, dust-free mechanically cleaned by sweeping and vacuuming and be free of oil, vegetation, sand, dirt, water, gravel, and other contaminants prior to placement of interlayer reinforcing.
- Moisture and dirt will interfere with adhesion of the grid to the pavement surface. Therefore placement should not be under taken, if rain is likely to fall prior to covering the grid with an asphalt mat overlay. Grid that is placed and will not adhere due to moisture or dirt shall be removed and replaced at the contractor's expense.
- ADFORS GlasGrid TF can be installed directly on a new asphalt surface or on a leveling/binder course. **(Pic. 1, 2)**
- Receiving surface shall be smooth, with the existing cracks pretreated. Milled surfaces shall receive a levelling course prior to the ADFORS GlasGrid installation.
- For maximum performance ADFORS GlasGrid TF should be installed over a recently placed leveling or binder course with a minimum thickness of 20 mm **(Pic. 2)**. Full contact between surface and grid must be ensured.
- Consultation with an ADFORS technical specialist is recommended for any undescribed application.



Pic. 1: ADFORS GlasGrid TF detail with film to bond layers



Pic. 2: ADFORS GlasGrid TF installation

Weather Considerations

- Local weather guidelines must be maintained for paving (e.g. temperature, precipitation).
- Extra care should be taken when paving at either end of the temperature range. As an example, the use of a particular type of tack coat material may benefit the process in hot weather conditions over another type.
- ADFORS GlasGrid TF material that is exposed to moisture should be removed and replaced and no material should be left in place overnight due to condensation getting trapped under the film.

Installation

- Commence placement of ADFORS GlasGrid TF only if previously described conditions are fulfilled.
- The surface receiving the reinforcement shall be between 20 °C and 60 °C and support ADFORS GlasGrid installation. Fresh laid asphalt surface must harden with respect to the local paving guidelines. It is recommended to permit new paved asphalt surface to cool at least once to 43 °C.
- Reinforcement grid shall be installed with adhesive side facing of geocomposite down to adhere to the surface. **(Pic. 3)**

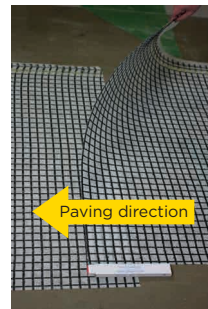


Pic. 3: ADFORS GlasGrid TF installation and rubber roller adhesive backing activation

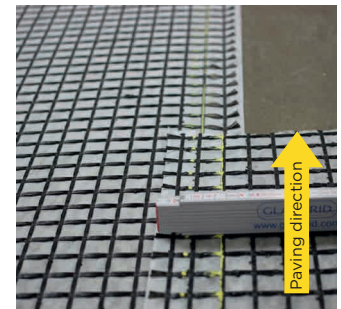
- Press ADFORS GlasGrid TF into surface for proper adhesion and surface leveling (brooms or clean rubber tired rollers can be used).
- Using sufficient pressure eliminate ripples.
- Cutting ADFORS GlasGrid TF can be done on tight radii to prevent ripples.
- Full contact between the lower surface and grid must be ensured.
- Protect the asphalt reinforcing grid until placement of the finished asphalt topping. If installed interlayer is damaged due to not sufficient protection and traffic on site it needs to be removed and replaced at the contractor's expense.
- Place the asphaltic overlay course within 24 hours the interlayer reinforcing grid is placed.

Overlap and Custom Fitting

- ADFORS GlasGrid TF must be applied without ripples. Sufficient tension during application will eliminate this problem.
- Overlap at end of end roll joints 100-150 mm. Ensure that the overlaps are shingled in the direction of paving. **(Pic. 4)**
- Overlap longitudinal joints at minimum 50 mm. **(Pic. 5)**
- ADFORS GlasGrid TF can be custom cut to fit around structures by using a sharp utility knife or other similar tool. Reinforcement laid out and rolled over ironworks (i.e., manhole covers, drainage grates, etc.) shall be removed in such an area by cutting the reinforcement grid.
- ADFORS GlasGrid TF does not bend or stretch around curves. Shortened lengths should be placed in these areas.
- Overlapping areas shall be arranged that areas do not coincide with paving lanes, cracks, joints or seams in the base. Overlapping area should be kept in minimum distance $\geq 0,5$ m.



Pic. 4: End of joints



Pic. 5: Longitudinal joints

Test for Proper Adhesion

- Cut 1 m² of ADFORS GlasGrid TF.
- Place the grid on area that is representative of the project condition.
- Alter proper adhesion of grid Insert hook of spring balance under center of ADFORS GlasGrid TF. **(Pic. 6)**

- Insert hook of calibrated spring balance under center of ADFORS GlasGrid TF.
- Pull upward until ADFORS GlasGrid TF starts to pull away from the surface.
- If result is 9 kg or more it is OK to pave. If less than 9 kg do not continue installation ADFORS GlasGrid TF without corrective action to address this issue.
- Consult the manufacturer if grid does not meet this pull rating and do place asphalt topping until an acceptable adhesion is achieved.
- If bond is not achieved then determination of the cause is required. This is typically due contamination on the smooth surface, in the form of either water or debris.
- After application, provide a minimum of one test per 300 m² of surface area and record result in kg.



Pic. 6: Adhesion pull out test

■ Tack Coat

- ADFORS GlasGrid TF is composite products made from fiberglass reinforcement and especially design thermo sensitive polymer based tack-film.
- ADFORS GlasGrid TF is recommended to apply without use of tack coat as a bonding agent for geocomposite installation for new surfaces/leveling courses.
- Use of tack coat after installation as a bonding agent for HMA layers should be used based on project requirements and local condition or based on designer and contractor experience after consultation with Saint-Gobain technician. Use of tack coat required on aged surfaces is recommended at a rate of 0.14-0.18 l/sqm.



Pic. 7: Film activation by HMA application over ADFORS GlasGrid TF

■ Boundary Conditions

- Prior to paving, only construction and emergency vehicles should be allowed to drive on installed ADFORS GlasGrid TF and with max. speed up to 20 km/h.
- Vehicles should limit turning and braking on installed ADFORS GlasGrid TF.
- To reduce the crack stresses distribution over individual cracks and distresses installation width has to be kept $\geq 1,0$ m (minimum 0,5 m each side from the crack).

■ Paving

- Hard braking and/or locking up of the trucks wheels on the grid shall be prohibited to not damage installed grid during the truck move and dispensing mix into the paver.
- Once ADFORS GlasGrid TF is fully secured it is recommended to pave within 24 hours with HMA temperature min 140 °C at the back of the paver.
- During asphalt overlay compaction must be base layer with ADFORS GlasGrid TF installed at minimum 20 °C.
- Installed ADFORS GlasGrid TF system shall be covered by hot asphalt layer with minimum thickness after compaction 40 mm generally recommended is minimum thickness 50 mm overlay after compaction. **(Pic. 8, 9)**
- Paving on steep grades, tight curves and in areas with high shear forces applied to the pavement structure are generally considered as critical.
- Stop paving immediately if ADFORS GlasGrid TF moves or ripples.



Pic. 8: HMA application over ADFORS GlasGrid TF

■ Health & Important Issues

- Because fiberglass is considered as a skin irritant, workers should wear protective clothes, gloves and glasses while handling ADFORS GlasGrid GG.

Final Note

- The installation of any asphalt reinforcement interlayer shall follow the local regulations for asphalt road construction.
- This guideline outlines recommendations for a quality installation and is based on familiarity with the product, and the consolidation of decades of project site experiences.
- If you have any questions or unique installation parameters, do not hesitate to contact us.
- Warranty claims cannot be based and forced on present information in this guideline. Each project should be consulted with a SG ADFORS technical specialist.
- In as much as Saint-Gobain ADFORS has no control over installation design, installation workmanship, accessory materials, or conditions of application, Saint-Gobain ADFORS does not warrant the performance or results of any installation or use of ADFORS GlasGrid. This warranty disclaimer includes all implied warranties, statutory or otherwise, including the warranty of merchantability and of fitness for a particular purpose. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product for the particular purpose desired in any given situation.



Pic. 9: Pave Overlay

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