PAVEMENT REINFORCEMENT SYSTEM

GlasGrid® PG/PM

Installation Procedures

The installation manual sets general recommendations for a successful installation of a ADFORS GlasGrid® PG100 a PM100. Specific project conditions should be reviewed with a technical representative of Saint-Gobain ADFORS who can provide expert assistance during installation.

ADFORS GlasGrid PG100 – Fiberglass reinforcement with modified polymer coating and bonded to a self-adhesive bitumen layer specifically engineered for asphalt overlays. **(Pic. 1)**

ADFORS GlasGrid PM100 - Fiberglass reinforcement with modified polymer coating and bonded to a self-adhesive bitumen layer specifically engineered for asphalt overlays and dedicated for a manholes repair. **(Pic. 1)**

Pic. 1: ADFORS GlasGrid PG/PM detail with protective film

Installation Follow-up

- Transport and Storage
- General Site Review
- Weather Considerations
- Installation
- Tack Coat
- Overlap and Custom Fitting
- Test for Proper Adhesion
- Boundary Conditions
- Paving
- Health & Important Issues
- Final Note

Transport and Storage

- Maintain storage of product in manufacturer's original packaging until ready for installation.
- ADFORS GlasGrid PG/PM 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 80 °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. Subgrade 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 asp-halt mat overlay. Grid that is placed and will not adher due to moisture or dirt shall be removed and replaced at the contractor's expense.
- ADFORS GlasGrid PG can be installed on an old asphalt surface or evenly planned milled surface. **(Pic. 2, 3)**
- ADFORS GlasGrid PM is dedicated for manholes repair. **(Pic. 4)**
- Milled surface max. limit "though to crest" variance is ≤10 mm or apply levelling course prior to the installation ADFORS GlasGrid PG/ PM.
- Consultation with an ADFORS technical specialist is recommended for any undescribed application.

Pic. 2: ADFORS GlasGrid PG application for local repairs

Pic. 3: ADFORS GlasGrid PG installation and adhesive layer activation

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.
- Should the surface containing ADFORS GlasGrid become wet; it should be left undisturbed until fully dried out. The traffic on the ADFORS GlasGrid while it is wet may break the bond.

Installation

- ADFORS GlasGrid PG/PM and tack coat must be installed and applied by trained personnel. Tack coat is not essential for installation and fixation of geocomposite unless otherwise described in project, or recommended by Saint Gobain ADFORS technician.
- Commence placement of ADFORS GlasGrid only if previously described conditions are fulfilled.
- Reinforcement grid shall be installed with adhesive side facing down using sufficient pressure to eliminate ripples. Remove any ripples by pulling the grid tight. Cutting of the grid can be done on tight radii to prevent ripples.
- The surface receiving the reinforcement shall be between 5 °C and 60 °C and support ADFORS GlasGrid installation. Fresh laid asphalt surface must harden with respect to the local paving guidelines. Is recommended to permit new paved asphalt surface to cool at least once to 43 °C.
- Reinforcement grid shall be installed adhesive side of geocomposite facing down to adhere to the surface.

Pic. 4: ADFORS GlasGrid PG installation for manhole repair

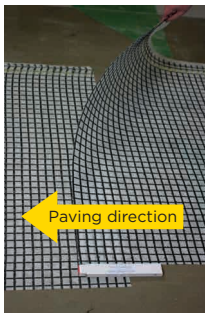
- Press fabric into surface for proper adhesion and surface leveling (brooms or clean rubber tired rollers can be used). Sufficient pressure eliminates ripples.
- Cutting of the grid can be done on tight radii to prevent ripples.
- Full contact between the lower surface and grid must be ensured.
- Protect 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.

Tack Coat

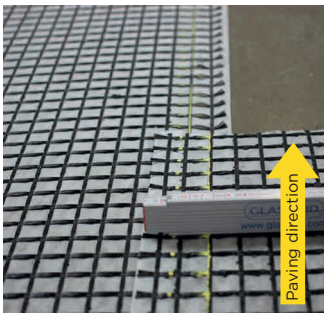
- ADFORS GlasGrid PG/PM are composite products made from fiberglass reinforcement and especially design self-adhesive polymer-bitumen layer. Polymer-bitumen has also function as substitute for approx. 0,5kg/m^2 residual bitumen content to bond asphalt layers.
- ADFORS GlasGrid PG/PM is recommended to apply without use of tack coat as a bonding agent for geocomposite installation.
- 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.

Overlap and Custom Fitting

- ADFORS GlasGrid PG/PM 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. 5)**
- Overlap longitudinal joints at minimum 50 mm. **(Pic. 6)**
- ADFORS GlasGrid PG/PM 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 areas by cutting the reinforcement grid.
- ADFORS GlasGrid PG/ PM does not bend or stretch around curves. Shortened lengths should be placed in these areas.



Pic. 5: End of joints

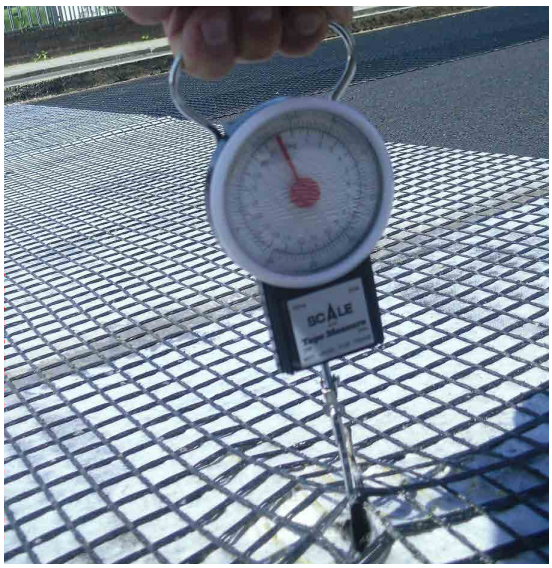


Pic. 6: Longitudinal joints

- 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 ≥0,5m.
- Ensure that in between overlapping ADFORS GlasGrid PG/ PM layers tack coat is also applied.

Test for Proper Adhesion

- Cut 1 m² of ADFORS GlasGrid PG.
- Place the grid on area that is representative of the project condition.
- Insert hook of calibrated spring balance under center of ADFORS GlasGrid PG. **(Pic. 7)**
- Pull upward until ADFORS GlasGrid PG 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 PG 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.
- Provide a minimum of one test per 300 m² of surface area and record result in kg.



Pic. 7: Adhesion pull out test

Boundary Conditions

- Prior to paving, only construction and emergency vehicles should be allowed to drive on installed ADFORS GlasGrid PG/PM and with max. speed up to 20 km/h.
- Vehicles should limit turning and breaking on installed ADFORS GlasGrid PG/PM.
- To reduce the crack stresses distribution over individual cracks and distresses installation width has to be kept ≥1,0 m (minimum 0,5 m each side from the crack).
- To reduce potential transfer of tack coat to the equipment tires, stone chips for example 1–1,5 kg/ (1–3 or 2–5 mm grain size) can be applied over the grid depending on project requirements.
- Extra care should be taken when paving at either end of the temperature range. For extreme heat, a higher grade of PGAC may be considered to address high temperature conditions.

Pic. 8: HMA application over ADFORS GlasGrid PM

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 PG/PM is fully secured it is recommended to pave within 24 hours with HMA ≥ 130˚C.
- Installed ADFORS GlasGrid PG/PM system shall be covered by hot asphalt layer with minimum width after compaction 40mm generally recommended is minimum width 50mm overlay after compaction. **(Pic. 8,9).**
- Paving in high slopes, 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 PG/PM moves or ripples.

Pic. 9: HMA application over ADFORS GlasGrid PG

Health & Important Issues

- Because fiberglass is considered as a skin irritant, workers should wear protective clothes, gloves and glasses while hand ling 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 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.

TROUBLE WITH YOUR ROAD?

Try the GlasGrid app to fix it!

GET IT ON Google play

Available on the App Store

SAINT-GOBAIN

SAINT-GOBAIN ADFORS CZ s.r.o.
Sokolovská 106
570 21 Litomyšl • Czech Republic
Tel: +420 461 651 111
Fax: +420 461 651 231
glasgrid.eu@saint-gobain.com
www.glasgrid.com/eu

SAINT-GOBAIN ADFORS AMERICA
1795 Baseline Rd, Grand Island,
NY 14072 • USA
Tel: +1 716-775-3900
Fax: +1 716-775-3902
www.glasgrid.com
glasgrid@saint-gobain.com
www.adfors.com

CE 1021-CPR-040/15-1
2015

CE 0799-CPD-123
2012

ADFORS GlasGrid® is manufactured at an ISO 9001:2008, EN15381:2008 registered facility of Saint-Gobain ADFORS.

1838/2018.01