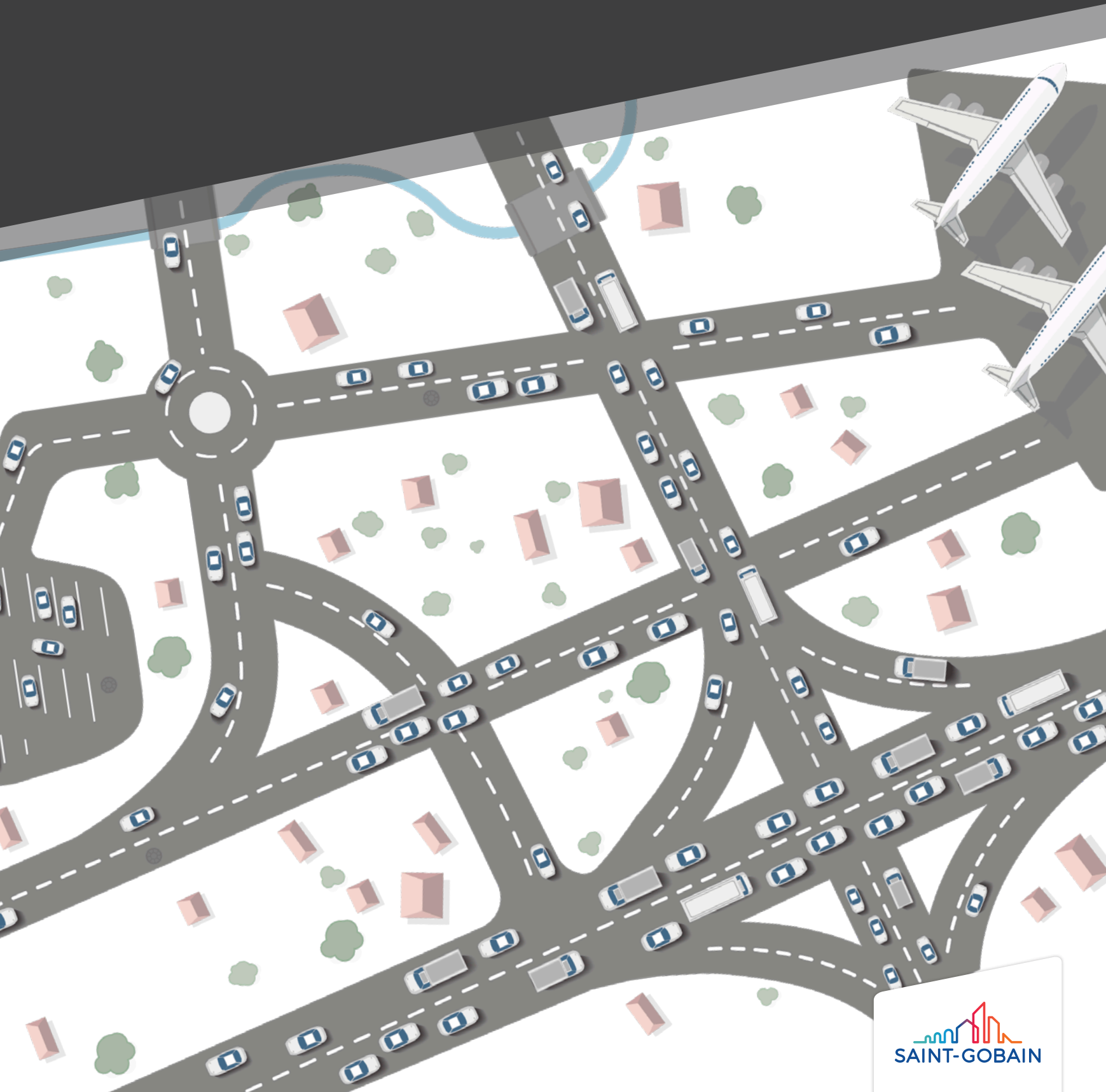


Pavement Reinforcement System **GlasGrid®**



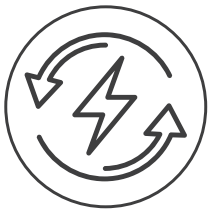


We Care About Our Planet

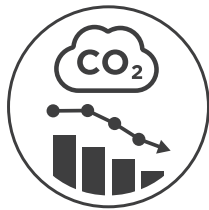
Our company sees sustainable development as a trend that satisfies today's needs while protecting the needs of future generations. Sustainability means finding balance between the economy, the social aspects of life and the environment daily in our work.

HOW DOES SAINT-GOBAIN ADFORS TAKE CARE OF THE ENVIRONMENT?

Between 2010 and 2020, we have reduced:



ENERGY
by 14%



CO₂
by 16%



WATER
by 46%

And that is not all. In line with the objectives of the European Union's Green Deal, our company has set an ambitious target of becoming **carbon neutral by 2050**, a significant commitment to improve the planet's air quality.

Environmental protection as Saint-Gobain ADFORS priority

ADFORS GlasGrid asphalt pavement reinforcement saves much needed building material

There is currently a shortage of materials for road and motorway construction in Europe, mainly asphalt, aggregate and gravel. One of the main advantages of asphalt reinforcement systems is the significant extension of the service life of roadways, which also prolongs maintenance and repair intervals. This saves money on valuable construction materials, as around 300 million tonnes of hot-mix asphalt are used in road construction in Europe every year because 90% of European roads are made of asphalt.

What's more...

The ADFORS GlasGrid product range offers reinforcements for application **without need for tack coat**.

- less machinery
- less asphalt binder
- less time
- fewer workers

↓ **AS A RESULT, WE REDUCE CO₂ EMISSIONS AND THUS CONTRIBUTE TO THE PROTECTION OF OUR ENVIRONMENT.**

WE HELP IMPROVE THE CONDITION OF ROADS AND THE ENVIRONMENT. LET'S HELP TOGETHER.

PROVEN!

ADFORS GlasGrid self-adhesive geogrids reduce total CO₂ emissions by approx. 20% per 1 km of EU motorway used over 30 years compared to an unreinforced motorway thanks to fewer repairs!

An independent company from Sweden has evaluated and calculated the positive environmental impact of ADFORS GlasGrid GG self-adhesive geogrid, comparing two **1 km long motorway sections over a 30-year period**. The motorway section repaired without the use of road reinforcement was compared with a section of the motorway maintained using GlasGrid GG. The geogrids reduced total CO₂ emissions by 19%, amounting to **197 tonnes of CO₂** thanks to extended repair intervals of the road surface.

Imagine...

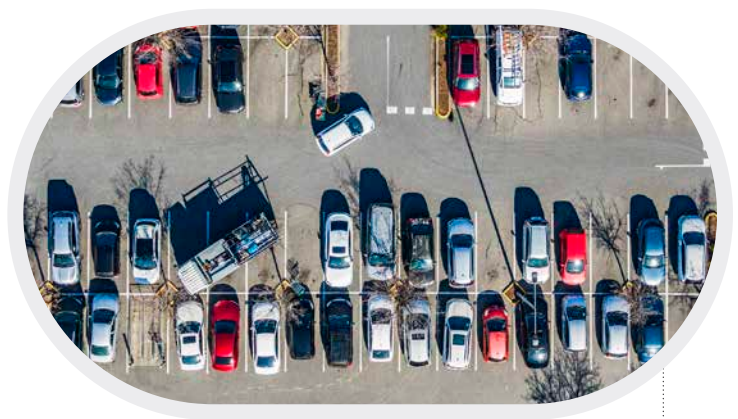
There are 13 000 km of motorways in Germany. If we applied ADFORS GlasGrid geogrids to every kilometre of German motorways, we would save an incredible 2 561 000 tonnes of CO₂ by reducing the number of repairs and maintenance by at least one repair over a 30-year period!



**197 tonnes
of CO₂ emissions**



**112 Paris-New York
return flights**



**2,5 mil tonnes
of CO₂ emissions**



**production
of 426 000
midsize
passenger cars**

And that's not all...

Another specific example of a sustainable solution is the largest project in GlasGrid's more than 30-year history. In 2021, ADFORS CZ supplied 540 000 m² of self-adhesive geogrid for the repair of the A1 motorway section from Chirpan to Stara Zagora in Bulgaria. The self-adhesive function of the geogrid allows application without nails and sprayed tack coat. This brings advantages:

- Significant reduction in the amount of sprayed tack coat (approx. 60% less) during construction
- Fewer installation workers (approx. 50% fewer)
- Faster application of the reinforcement (approx. 20% less time)



**432 tonnes
less sprayed tack coat**



**3x
longer motorway
service life**

Your Issue



Example of cracking for area-wide repairs



Example of cracking for local repairs



Example of microcracking for special repairs

Our Solution

Anti-cracking and structural reinforcement of asphalt layers | Self-adhesive grid - application on existing or new surface | Compogrid - application on milled surface



Advantages:

- Easy and fast application without the need for nails
- Edge marking for easy overlapping
- No damage during application and compaction
- Good trafficability on applied grid (suppliers, trucks, paver)
- Excellent asphalt layers bonding

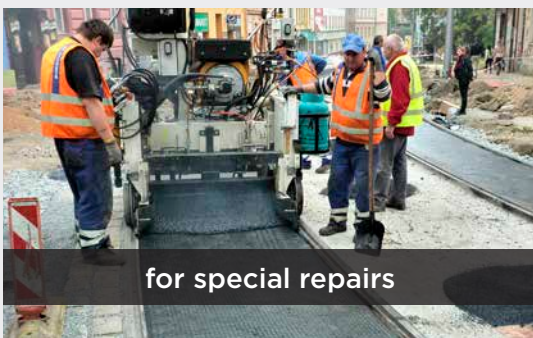
Small local area repair of asphalt layers on critical areas of potholes, joints superstructures, utility trench and around manholes



Advantages:

- Rapid Repair = Stick & Pave
- No special preparation of surface before application
- Fast and easy manual application due to self-adhesive bitumen layer
- Manpower saving due to no tack coat needed
- Protection against rain water penetration due to waterproofing function
- Available in rolls & special shapes for around manhole and hydrant areas

Product for all types of surfaces covered by mastic asphalt



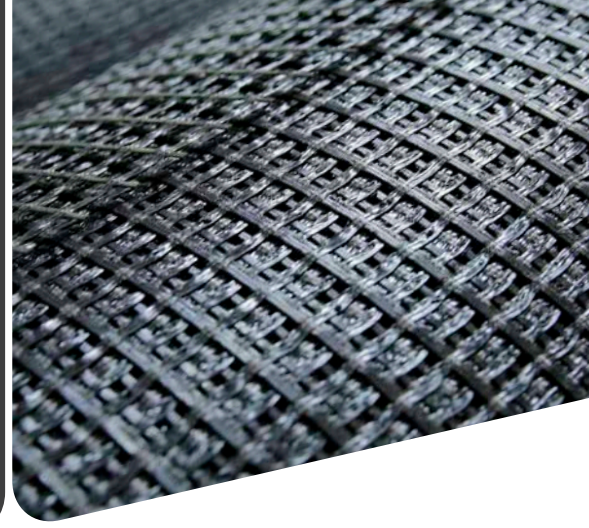
Advantages:

- Eliminates mastic asphalt flows during the hardening
- Eliminates microcracking in mastic asphalt
- Rut reduction
- Light weight for easy manipulation
- Easy to cut

Product Range

ADFORS GlasGrid product line offers several styles of pavement reinforcement grids designed to reinforce asphalt concrete overlays. They retard reflective cracking by a factor of 2 to 3 times by turning stresses horizontally in order to dissipate them.

The grid configuration features fiberglass strands coated with an elastomeric polymer. Each strand has a remarkably high tensile strength, as well as a high modulus of elasticity at low elongation - making ADFORS GlasGrid stronger than steel by weight.



GlasGrid GG



GlasGrid Mastic



GlasGrid CG



GlasGrid CGL



GlasGrid Rapid



GlasGrid PM

		GG	Mastic	CG	CGL	RAPID	PM
Classification EN 15381 *1	Flat surface/ Leveling course	R	R	R/STR/B	R/STR/B	R/STR/B	R/STR/B
	Milled surface	-	-	R/STR/B	R/STR/B	R/STR/B	R/STR/B
Characteristics	Self-adhesive	✓	✓/-			✓	✓
	Non-woven fabric layer			✓	✓	✓	✓
	Bitumen layer					✓	✓

*1 Function classification in accordance with EN 15381.

R = reinforcement | STR = stress relief | B = interlayer barrier

The key Advantages for You

- High-modulus and high tensile strength fiberglass grid due to consistent impregnation of each glass filament
- Polymer coating improving compatibility with bitumen
- Made from mineral raw materials
- Excellent layers' bonding
- Quick and efficient installation
- Good trafficability
- Easy cutting
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)
- Edge marking for easy overlapping
- Thermal and chemical stability
- Various strengths available 50 - 200 kN/m

Based on 30 years of successful installations around the world, **ADFORS GlasGrid extends pavement life up to 300%** and typically provides a 50% reduction in future investment cost (e.g. maintenance, rehabilitation and use costs) over the life of an average road.

ADFORS GlasGrid turns crack stresses horizontally and dissipates the stress.



Without ADFORS GlasGrid*

Stress travels uninterrupted, causing cracks



With ADFORS GlasGrid*

Stress is redirected horizontally and is dissipated, minimizing cracks

Tested in the lab, proven in the field

IFSTTAR full scale tests on ADFORS GlasGrid reinforced flexible pavements



The objective of this research was to evaluate the effect of the reinforcement by a fiberglass grid ADFORS GlasGrid GG 100 - 100 kN/m on the performance of a new flexible pavement, with a relatively thin bituminous wearing course (80 mm). For that purpose, one reinforced pavement section, and one reference section, without reinforcement, have been tested on the IFSTTAR accelerated pavement testing facility. They were submitted to a traffic consisting of 1 million dual wheel 65 kN load cycles (representing the French standard axle load), and then 200 000 additional cycles, with loads increased to 70 kN.

The conclusions of the study indicate a very positive effect of the fibreglass grid on the resistance to cracking of flexible pavements:

- Cracking appeared first on section without grid after 800 000 cycles. At the end, 70% of the section was cracked.
- Section with grid presents no cracking until the end of the test (1,2 M cycles).

Milling Performance and Recyclability - RWTH Aachen University



In this test, ADFORS GlasGrid GG 200 - 200 kN/m was installed on an existing binder course AC 16 B S and covered with 4 cm thick top layer SMA 8 S. The upper part of the binder course including the reinforcement grid were picked up by the milling machine in a single step. No adverse effects were realized and milling depth was not affected.

A second test, the Cycling Tension test, concluded that the partial reuse of milled asphalt granulate (including glass fibers) in a new asphalt mixture improved the fatigue behaviour of the recycled asphalt.

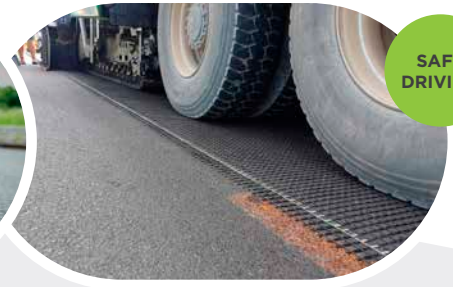
**Excellent adhesion to asphalt layer
EN 13596**

- High bond strength ensures safe application without waves and risk of wear and tear on tires occurred by driving of construction trucks on applied geogrid.

LABORATORY TEST RESULTS

- 190 N for GlasGrid GG 50
- 208 N for GlasGrid GG 100
- 230 N for GlasGrid GG 200
- 250 N for GlasGrid Rapid

ADHESION
IN THE FIELD
> 100 N



SAFE
DRIVING

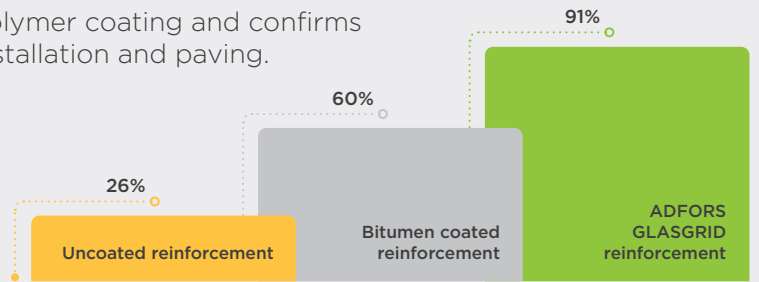
Effective protection of thermal stable polymer coating

1. Guaranteed tensile strength after application

EN ISO 10722:2020

- The dynamic load test simulates damage and tensile strength loss of reinforcement during installation and paving.
- The damage test proves effectiveness of thermal stable polymer coating and confirms resistance of ADFORS **GlasGrid** against damage during installation and paving.

**RESIDUAL TENSILE
STRENGTH AFTER TEST**

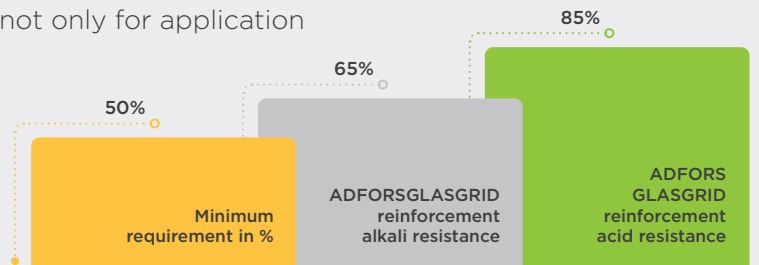


2. Alkali resistance allowing application on concrete

EN 14030

- Alkali resistance is needed for all functions of the geogrid used in direct contact with unprotected concrete or cement stabilized surface.
- The test result confirms that ADFORS **GlasGrid** is suitable not only for application on asphalt but also cement concrete surfaces.

**ALKALI & ACID RESISTANCE
TEST RESULT**



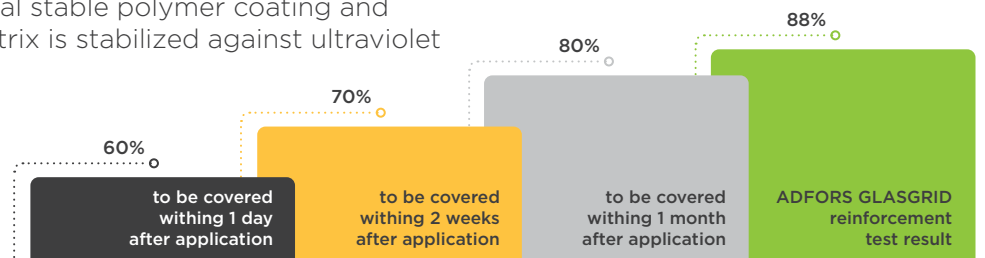
3. Resistance to weathering

EN 12224

- Resistance to weathering is needed when the geogrid is not covered by asphalt layer on the same day of the installation.
- The test approved effectiveness of thermal stable polymer coating and that every component of the geogrid matrix is stabilized against ultraviolet degradation.



**RESISTANCE TO WEATHERING
minimum standard requirements**



References

Area-wide repair project

A1 HIGHWAY TRAKIYA CHIRPAN-STARA ZAGORA, BULGARIA

Product: ADFORS GLASGRID GG SELF-ADHESIVE

Quantity: 540 000 m²

Installation date: March - June 2021

Overlay design:

4 cm SMA wearing course

8 cm HMA binder course

ADFORS GlasGrid GG 100

10 cm HMA new base course

30 cm Cold in-place recycling (CIR)

Project details:

Self-adhesive ADFORS GlasGrid is designed for easy and fast application without tack coat to adhere to the surface. The reinforcement was installed on new base course then pressed with the roller to activate the glue. The application was very fast and efficient with excellent adhesion to the surface.



Installation of ADFORS GlasGrid at Atatürk Airport, 2010

Local repair project

E-75 IA1, BELGRADE - NIŠ, RIGHT SIDE, GAS STATION, SERBIA

Product: ADFORS GLASGRID RAPID

Quantity: 3 000 m²

Installation date: May 2018

Overlay design:

5 cm SMA 11sa Pmb

ADFORS GlasGrid Rapid Patch concrete surface

Project details:

ADFORS GlasGrid placed directly on concrete and covered with 5 cm of wearing course. ADFORS GlasGrid was used as protection against penetration of dilatations and cracks through new asphalt layer.



Installation of ADFORS GlasGrid Rapid in Belgrade, 2018

Special repair project

TRAM LINES, MOSKEVSKA STREET, PRAGUE, THE CZECH REPUBLIC

Product: ADFORS GLASGRID NA MASTIC

Quantity: 6 000 m²

Installation date: September - November 2013

Overlay design:

4 cm mastic asphalt (with aggregate 11 mm)

GlasGrid Mastic GG NA

40 mm mastic asphalt (with aggregate 16 mm)

Underlay paper

Project details:

ADFORS GlasGrid placed between 2 mastic asphalt layers to avoid flowing of mastic asphalt during the hardening and eliminate the microcracking and rutting of wearing course.



Installation of ADFORS GlasGrid Mastic in Prague, 2013

The Hidden Strength in the Runway

Lower lifecycle costs of airfield asphalt overlays by up to 20 - 30 %

Centralia Airport, Exeter, Ontario, Canada →



State of the pavement before the repair in 1992 safety compromised



State of the pavement after 20 years in service (photo May 2012)

Heathrow International Airport London, UK

Project: Pink Elephant Car Park
Product: ADFORS GlasGrid GG 50
Quantity: 45 000 m²
Installation date: June 2005

Overlay design:

4 cm surface course
ADFORS GlasGrid GG 50 + fixing coat
3 cm leveling course
Existing PCC panels

Project details:

At Heathrow Airport in London, the PCC pavement of an existing taxiway needed to be converted into an asphalt paved parking lot. The budget was tight, but the client wanted to prevent reflective cracking to maintain the visual conditions and prevent the detrimental effect of moisture ingress in the structure. Using GlasGrid and a fixing coat of Sealoflex® polymer modified bitumen, a limited overlay thickness was provided. Inspection of the project in 2009 showed that this solution was very effective in addressing reflective cracking, as only one crack had reflected.



Atatürk International Airport Istanbul, Turkey

Project: Atatürk International Airport Runway Rehabilitation
Product: ADFORS GlasGrid GG 100
Quantity: 300 000 m²
Installation date: May 2010

Overlay design:

4 cm SMA-19 mm nominal
6 cm HMA-19 mm nominal
6 cm HMA-19 mm nominal
ADFORS GlasGrid GG 100
10 cm CRL-19 mm nominal

Project details:

A major overall reinforcement and expansion of the runway, which included significant volumes of fill to correct the pavement profile, needed to be completed. The old PCC was removed and reinstated with GlasGrid reinforced ACC. The result was a longer and wider runway that has the ability to handle heavier aircraft loadings.



General Description

ADFORS GlasGrid GG Full Lane Width Pavement Reinforcement System is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. ADFORS GlasGrid GG is a high strength, open fiberglass grid custom knitted in a stable construction and coated with an elastomeric polymer and self-adhesive glue. Every component of the matrix shall be stabilized against ultraviolet degradation and inert to chemicals normally found in a natural soil environment. ADFORS GlasGrid GG conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	GG 50	GG 100	GG 120	GG 200	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(55 x 55) - 5	(115 x 115) - 15	(135 x 135) - 15	(115 x 215) - 15	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	2,5 ± 0,5	2,5 ± 0,5	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(46 x 46) ± 10	(95 x 95) ± 20	(105 x 105) ± 20	(95 x 180) ± 20	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(2.200 x 2.200) ± 200	(4.600 x 4.600) ± 600	(4.600 x 4.600) ± 600	(4.600 x 8.600) ± 600	EN ISO 10319
Young's Modulus E	MPa	73.000	73.000	73.000	73.000	
Mass per Unit Area	g/m²	205	405	480	603	EN ISO 9864
Melting Point Coating	°C	>232	>232	>232	>232	ASTM D 276
Roll Length	m	150	100	100	70	
Roll Width	m	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 2,0; 3,0	1,5; 3,0	
Roll Area	m²	150, 225, 300, 450	100, 150, 200, 300	100, 150, 200, 300	105, 210	
Adhesive Backing		Pressure sensitive	Pressure sensitive	Pressure sensitive	Pressure sensitive	
Grid Size (Center to Center of Strand)	mm	25 x 25	25 x 25	25 x 25	25 x 19	
Material	Fiberglass reinforcement with modified polymer coating and pressure-sensitive adhesive backing.					

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Low elongation
- Thermal and chemical stability
- Excellent milling performance

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Installation

- Complete all crack sealing, pothole filling, base repairs, leveling course application. Road surface must be dry, clean and dust-free with temperature 5 °C – 60 °C.
- Unroll the geogrid with the sticky side face down on the flat layer/leveling course.
- Respect the overlap of end roll joints 10 – 15 cm and longitudinal joints at minimum 5 cm.
- Press the grid to the layer to activate glue and ensure bonding between the lower surface and grid.
- Apply tack coat per project requirements. (See application tack coat rate formula in Installation manual page 4).
- Permit the tack coat to completely cure prior to proceeding.
- Apply asphalt over layer.

See document Installation Procedures for detailed steps available on our website or watch the video on YOUTUBE ADFORS TV channel.



Benefits

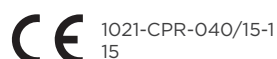
- Quick and efficient installation due to self-adhesive backing
- High grid stiffness providing a wrinkle free installation
- Easy cutting
- Good trafficability (suppliers, trucks, paver)
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

Palletization

Product	Roll width	Roll area	Roll weight	Core inner diameter	No of rolls on pallet	Total area
GG 50	1 m	150 m ²	35 kg	76 mm	12	1 800 m ²
	1,5 m	225 m ²	51 kg	76 mm	12	2 700 m ²
	2 m	300 m ²	69 kg	76 mm	6	1 800 m ²
	2 m	300 m ²	69 kg	76 mm	10	3 000 m ²
	3 m	450 m ²	104 kg	100 mm	6	2 700 m ²
	3 m	450 m ²	104 kg	100 mm	10	4 500 m ²
GG 100	1 m	100 m ²	35 kg	76 mm	12	1 200 m ²
	1,5 m	150 m ²	67 kg	76 mm	12	1 800 m ²
	2 m	200 m ²	90 kg	76 mm	6	1 200 m ²
	2 m	200 m ²	90 kg	76 mm	10	2 000 m ²
	3 m	300 m ²	135 kg	100 mm	6	1 800 m ²
	3 m	300 m ²	135 kg	100 mm	10	3 000 m ²
GG 120	1 m	100 m ²	53 kg	76 mm	12	1 200 m ²
	1,5 m	150 m ²	79 kg	76 mm	12	1 800 m ²
	2 m	200 m ²	106 kg	76 mm	6	1 200 m ²
	2 m	200 m ²	106 kg	76 mm	10	2 000 m ²
	3 m	300 m ²	159 kg	100 mm	6	1 800 m ²
	3 m	300 m ²	159 kg	100 mm	10	3 000 m ²
GG 200	1,5 m	105 m ²	69 kg	76 mm	12	1 260 m ²
	3 m	210 m ²	100 kg	100 mm	6	1 260 m ²
	3 m	210 m ²	100 kg	100 mm	10	2 100 m ²



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 GG. 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.



ADFORS GlasGrid® is manufactured at an ISO 9001:2015 registered facility of Saint-Gobain ADFORS. ADFORS GlasGrid® is a registered trademark of Saint-Gobain ADFORS. U.S. Patent 8,038,364; 8,349,431 and 8,882,385. Additional patents pending. © 2023 Saint-Gobain ADFORS

General Description

ADFORS GlasGrid Mastic is the product for special application on surfaces covered by mastic asphalt. The product is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. ADFORS GlasGrid Mastic is a high strength, open fiberglass grid custom knitted in a stable construction and coated with an elastomeric polymer. Every component of the matrix shall be stabilized against ultraviolet degradation and inert to chemicals normally found in a natural soil environment. ADFORS GlasGrid Mastic conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	Mastic GG	Mastic GG NA	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(55 x 55) - 5	(55 x 55) - 5	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(46 x 46) ± 10	(46 x 46) ± 10	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(2.200 x 2.200) ± 200	(2.200 x 2.200) ± 200	EN ISO 10319
Young's Modulus E	MPa	73.000	73.000	
Mass per Unit Area	g/m ²	205	205	EN ISO 9864
Melting Point Coating	°C	>232	>232	ASTM D 276
Roll Length	m	150	150	
Roll Width	m	1,5	1,5	
Roll Area	m ²	225	225	
Grid Size (Center to Center of Strand)	mm	25 x 25	25 x 25	
Material		Fiberglass reinforcement with modified polymer coating and pressure-sensitive adhesive backing.	Fiberglass reinforcement with modified polymer coating.	

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Low elongation
- Thermal and chemical stability
- Excellent milling performance

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Installation

- Unroll and lay the geogrid on dry and clean flat layer/leveling course.
- Respect the overlap of end roll joints 10 - 15 cm and longitudinal joints at minimum 5 cm.
- Apply mastic asphalt layer min. 4 cm.

Benefits

- Elimination of flowing of mastic asphalt during the hardening
- Protection against microcracking in mastic asphalt
- Quick and efficient installation
- Easy cutting
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

Palletization

Product	Roll width	Roll area	Roll weight	Core inner diameter	No of rolls on pallet	Total area
Mastic GG	1,5 m	225 m ²	51 kg	76 mm	12	2 700 m ²
Mastic GG NA	1,5 m	225 m ²	51 kg	76 mm	12	2 700 m ²



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General Description

ADFORS GlasGrid CompoGrid Pavement Reinforcement System and Moisture Barrier System is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. CompoGrid is a composite material consisting of fiberglass reinforcement grid coated in an elastomeric polymer, bonded to a non-woven paving geotextile. The non-woven geotextile is a staple fiber, needlepunched and manufactured from fibers that are needed to form a stable network and retain dimensional stability relative to each other. CompoGrid is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils. CompoGrid conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	CG 50	CG 100	CG 200	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(55 x 55) - 5	(115 x 115) - 15	(115 x 215) - 15	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	2,5 ± 0,5	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(46 x 46) ± 10	(95 x 95) ± 20	(95 x 180) ± 20	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(2.200 x 2.200) ± 200	(4.600 x 4.600) ± 600	(4.600 x 8.600) ± 600	EN ISO 10319
Young's Modulus E	MPa	73.000	73.000	73.000	
Mass per Unit Area	g/m²	335	535	733	EN ISO 9864
Melting Point Coating	°C	>232	>232	>232	ASTM D 276
Roll Length	m	100	70	60	
Roll Width	m	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 2,0; 3,0	1,5	
Roll Area	m²	100, 150, 200, 300	70, 105, 140, 210	90	
Grid Size (Center to Center of Strand)	mm	25 x 25	25 x 25	25 x 19	
Material	Fiberglass reinforcement with modified polymer coating bonded to a non-woven textile specifically engineered for asphalt overlays.				

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Low elongation
- Thermal and chemical stability

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Installation

- CompoGrid can be installed on an old asphalt surface or evenly milled surface. Fill cracks and depressions wider than 6 mm. Road surface must be dry, clean and dust-free with temperature 5 °C - 60 °C.
- Apply tack coat per project requirements. (See application tack coat rate formula in Installation manual page 3).
- Unroll the geogrid with the non-woven fabric side face down immediately after tack coat spraying. Respect the overlap of end roll joints 10 - 15 cm and longitudinal joints at minimum 5 cm. Ensure sufficient amount of tack coat is applied at the overlap, in order that both layers of materials become fully saturated.
- Press the grid to a layer to ensure a saturation of bitumen into the fabric.
- Permit the tack coat to completely cure prior to proceeding.
- Apply asphalt over layer.

See document Installation Procedures for detailed steps available on our website or watch the video on YOUTUBE ADFORS TV channel.

Benefits

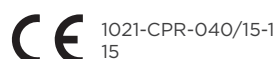
- Universal application on milling surface or over existing pavement surfaces
- Quick and efficient installation
- Efficient moisture barrier due to the non-woven fabrics
- High grid stiffness providing a wrinkle free installation
- Easy cutting
- Good trafficability (suppliers, trucks, paver)
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

Palletization

Product	Roll width	Roll area	Roll weight	Core inner diameter	No of rolls on pallet	Total area
CG 50	1 m	100 m ²	36 kg	76 mm	12	1 200 m ²
	1,5 m	150 m ²	53 kg	76 mm	12	1 800 m ²
	2 m	200 m ²	72 kg	76 mm	6	1 200 m ²
	2 m	200 m ²	72 kg	76 mm	10	2 000 m ²
	3 m	300 m ²	108 kg	100 mm	6	1 800 m ²
	3 m	300 m ²	108 kg	100 mm	10	3 000 m ²
CG 100	1 m	70 m ²	40 kg	76 mm	12	840 m ²
	1,5 m	105 m ²	59 kg	76 mm	12	1 260 m ²
	2 m	140 m ²	80 kg	76 mm	6	840 m ²
	2 m	140 m ²	80 kg	76 mm	10	1 400 m ²
	3 m	210 m ²	120 kg	100 mm	6	1 260 m ²
	3 m	210 m ²	120 kg	100 mm	10	2 100 m ²
CG 200	1,5 m	90 m ²	72 kg	76 mm	12	1 080 m ²



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General Description

CompoGrid Lite Pavement Reinforcement System and Moisture Barrier System is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. CompoGrid is a composite material consisting of fiberglass reinforcement grid coated in an elastomeric polymer, bonded to a non-woven textile. CompoGrid Lite is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils. ADFORS GlasGrid CGL conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	CG 50L	CG 100L	CG 120L	CG 200L	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(55 x 55) - 5	(115 x 115) - 15	(135 x 135) - 15	(115 x 215) - 15	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	2,5 ± 0,5	2,5 ± 0,5	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(46 x 46) ± 10	(95 x 95) ± 20	(105 x 105) ± 20	(95 x 180) ± 20	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(2.200 x 2.200) ± 200	(4.600 x 4.600) ± 600	(4.600 x 4.600) ± 600	(4.600 x 8.600) ± 600	EN ISO 10319
Young's Modulus E	MPa	73.000	73.000	73.000	73.000	
Mass per Unit Area	g/m²	222	422	497	620	EN ISO 9864
Melting Point Coating	°C	>232	>232	>232	>232	ASTM D 276
Roll Length	m	150	100	100	70	
Roll Width	m	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 2,0; 3,0	1,0; 1,5; 3,0	
Roll Area	m²	150, 225, 300, 450	100, 150, 200, 300	100, 150, 200, 300	70, 105, 210	
Grid Size (Center to Center of Strand)	mm	25 x 25	25 x 25	25 x 25	25 x 19	
Material	Fiberglass reinforcement with modified polymer coating bonded to a non-woven textile specifically engineered for asphalt overlays.					

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Low elongation
- Thermal and chemical stability

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Installation

- CompoGrid Lite can be installed on an old asphalt surface or evenly milled surface. Fill cracks and depressions wider than 6 mm. Road surface must be dry, clean and dust-free with temperature 5 °C - 60 °C.
- Apply tack coat per project requirements. (See application tack coat rate formula in Installation manual page 3).
- Unroll the geogrid with the non-woven fabric side face down immediately after tack coat spraying. Respect the overlap of end roll joints 10 - 15 cm and longitudinal joints at minimum 5 cm. Ensure sufficient amount of tack coat is applied at the overlap, in order that both layers of materials become fully saturated.
- Press the grid to a layer to ensure a saturation of bitumen into the fabric.
- Permit the tack coat to completely cure prior to proceeding.
- Apply asphalt over layer.

See document Installation Procedures for detailed steps available on our website or watch the video on YOUTUBE ADFORS TV channel.



Benefits

- Universal application on milled surface or over existing pavement surfaces
- Quick and efficient installation
- Optimum asphalt retention of the nonwoven
- High grid stiffness providing a wrinkle free installation
- Easy cutting
- Good trafficability (suppliers, trucks, paver)
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

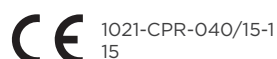


Palletization

Product	Roll width	Roll area	Roll weight	Core inner diameter	No of rolls on pallet	Total area
CG 50L	1 m	150 m ²	35 kg	76 mm	12	1 800 m ²
	1,5 m	225 m ²	53 kg	76 mm	12	2 700 m ²
	2 m	300 m ²	72 kg	76 mm	6	1 800 m ²
	2 m	300 m ²	72 kg	76 mm	10	3 000 m ²
	3 m	450 m ²	107 kg	100 mm	6	2 700 m ²
	3 m	450 m ²	107 kg	100 mm	10	4 500 m ²
CG 100L	1 m	100 m ²	44 kg	76 mm	12	1 200 m ²
	1,5 m	150 m ²	66 kg	76 mm	12	1 800 m ²
	2 m	200 m ²	90 kg	76 mm	6	1 200 m ²
	2 m	200 m ²	90 kg	76 mm	10	2 000 m ²
	3 m	300 m ²	134 kg	100 mm	6	1 800 m ²
	3 m	300 m ²	134 kg	100 mm	10	3 000 m ²
CG 120L	1 m	100 m ²	52kg	76 mm	12	1 200 m ²
	1,5 m	150 m ²	78 kg	76 mm	12	1 800 m ²
	2 m	200 m ²	104 kg	76 mm	6	1 200 m ²
	2 m	200 m ²	104 kg	76 mm	10	2 000 m ²
	3 m	300 m ²	156 kg	100 mm	6	1 800 m ²
	3 m	300 m ²	156 kg	100 mm	10	3 000 m ²
CG 200L	1 m	70 m ²	46 kg	76 mm	12	840 m ²
	1,5 m	105 m ²	68 kg	76 mm	12	1 260 m ²
	3 m	210 m ²	137 kg	100 mm	6	1 260 m ²
	3 m	210 m ²	137 kg	100 mm	10	2 100 m ²



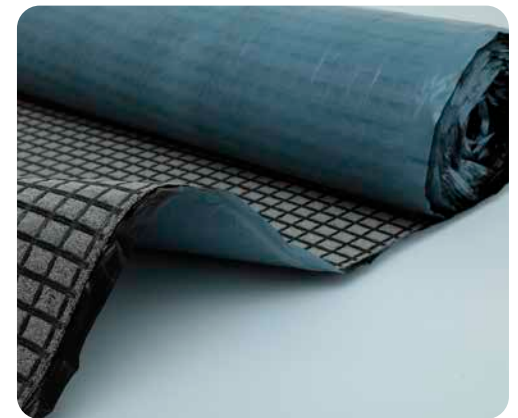
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General Description

The patch repair system ADFORS GlasGrid Rapid is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. ADFORS GlasGrid Rapid consists of a high stiffness fiberglass grid coated in an elastomeric polymer, a nonwoven fabric and a thin self-adhesive bitumen layer. The product is specially developed for very fast repairs with application on all types of surfaces without the need for tack coat saving time, labour and costs. ADFORS GlasGrid Rapid has a positive impact on reducing CO² emissions due to its application and extension of maintenance periods. ADFORS GlasGrid Rapid conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	Rapid Patch	Rapid Grid	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(115 x 115) - 15	(115 x 115) - 15	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(95 x 95) ± 20	(95 x 95) ± 20	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(4.600 x 4.600) ± 600	(4.600 x 4.600) ± 600	EN ISO 10319
Young's Modulus E	MPa	73.000	73.000	
Mass per Unit Area	g/m ²	1450 ± 150	1000 ± 100	EN ISO 9864
Melting Point Coating	°C	>232	>232	ASTM D 276
Roll Length	m	20	40	
Roll Width	m	1	1	
Roll Area	m ²	20	40	
Grid Size (Center to Center of Strand)	mm	25 x 25	25 x 25	
Material	Fiberglass reinforcement with modified polymer coating and bonded to a self-adhesive bitumen layer specifically engineered for asphalt overlays.			

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Self-adhesive bitumen layer
- Low elongation
- Thermal and chemical stability
- Excellent milling performance

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Installation

- Rapid can be installed on milled, flat or combined surfaces. Rapid is suitable for both an asphalt and a concrete. Road surface must be dry, clean and dust-free with temperature 5 °C - 60 °C.
- Unroll and peel off the foil in 1 step or unroll, adjust and then peel off the foil. Place Rapid non-woven fabric side face up. Respect the overlap of the end roll joints 5 - 10 cm and lay strips close to each other.
- Press the grid to a surface to ensure sticking.
- Apply asphalt over layer.

See document Installation Procedures for detailed steps available on our website.

Benefits

- Universal application on milled surfaces or over existing pavement surfaces
- Suitable for both asphalt and concrete surfaces
- Reinforcement of joint superstructures, single cracks and small asphalt areas
- Fast and easy manual installation
- Tack coat free application
- Self-adhesive bitumen layer
- No heating necessary
- High grid stiffness providing a wrinkle free installation
- Easy cutting
- Sand on the top of Rapid for good trafficability (suppliers, trucks, paver)
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

Palletization

Product	Roll width	Roll length	Roll area	Roll weight	No of rolls on pallet	Total area
Rapid Patch	1 m	20 m	20 m ²	28 kg	15	300 m ²
Rapid Grid	1 m	40 m	40 m ²	40 kg	11	440 m ²



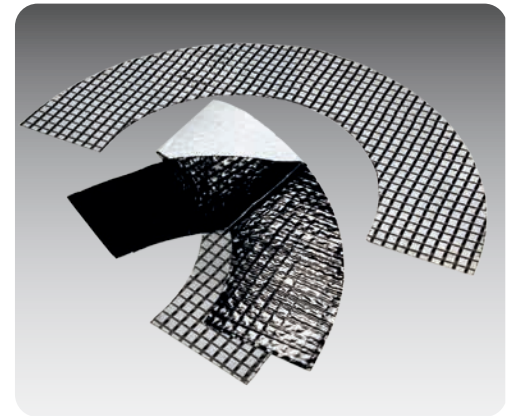
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General Description

The Manhole Patch Solution ADFORS GlasGrid PM (Patch Manhole) is manufactured at a Saint-Gobain ADFORS facility that has achieved ISO 9001:2015 certification and meets the requirements of EN 15381. ADFORS GlasGrid PM consists of a high stiffness fiberglass grid coated with a polymer coating. The product is specifically developed for the manual repair around ironwork structures and can be installed directly on the milled surface without additional preparation. ADFORS GlasGrid PM conforms to the property values listed below, which have been derived from quality conformance testing performed by a laboratory:



Technical Characteristics

Property	Unit	PM 100	Test Method
Tensile Strength (MD x XD) Ultimate	kN/m	(115 x 115) - 15	EN ISO 10319
Tensile Elongation Ultimate	%	2,5 ± 0,5	EN ISO 10319
Tensile Resistance @ 2% Strain (MD x XD)	kN/m	(95 x 95) ± 20	EN ISO 10319
Secant Stiffness EA @ 1% Strain (MD x XD)	N/mm	(4.600 x 4.600) ± 600	EN ISO 10319
Young's Modulus E	MPa	73.000	
Mass per Unit Area	g/m²	1450 ± 150	EN ISO 9864
Melting Point Coating	°C	>232	ASTM D 276
Grid Size (Center to Center of Strand)	mm	25 x 25	
Internal Diameter	mm	785	
Standard Number of Pieces in Box		5	
Material	Fiberglass reinforcement with modified polymer coating and bonded to a self-adhesive bitumen layer specifically engineered for asphalt overlays.		

Properties

- High grid stiffness provides a wrinkle-free installation and a direct load transmission
- Low elongation
- Thermal and chemical stability
- Excellent milling performance

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Installation

- Patch Manhole can be installed on an old asphalt surface or evenly milled surface without additional preparation. Road surface must be dry, clean and dust-free with temperature 5 °C - 60 °C.
- Remove the protection film on the back and place the grid non-woven fabric side face up. The overlap of the two halves of the material are necessary (minimum 1 cm).
- Press the grid to a layer to ensure a bonding.
- Apply asphalt over layer.

See document Installation Procedures for detailed steps available on our website.

Benefits

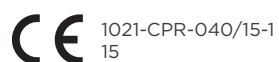
- Universal application on milled surface or over existing pavement surfaces
- Crack mitigation around manholes, road gulleys, hydrant caps and slide bars
- Fast and easy manual installation
- Self-adhesive bitumen layer
- No heating necessary
- High grid stiffness providing a wrinkle free installation
- Easy cutting
- Good trafficability (suppliers, trucks, paver)
- Thermal and chemical stability
- Excellent milling performance
- Measured unlimited recyclability & enhanced properties in Reclaimed Asphalt Pavement (RAP)

Palletization

Product	Internal Diameter	Number of pieces in box	Box dimensions	Box weight	No of boxes on pallet
PM 100	785 m	5	60 x 60 x 10 cm	5 kg	20



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World-class capabilities.
Worldwide reach.

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Saint-Gobain ADFORS is a global company within the Innovative Materials Branch of Compagnie de Saint-Gobain. We are an industry leader in the manufacture and distribution of a wide range of reinforcement fabrics. We offer a diverse selection of products, including some of the world's best-known reinforcement brand names.

Our worldwide manufacturing plants ensure reliability, quality and cost-effective material supply, while our research facilities and global sales offices deliver world-class service. We are committed to providing innovative solutions to your challenges and to developing breakthrough products.

Final Consideration

The installation of any asphalt reinforcement interlayer shall follow the local regulations for asphalt road construction.

If you have any questions or unique installation parameters, do not hesitate to contact us.

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Learn more about how ADFORS GlasGrid Pavement Reinforcement System products can increase the life of your paving projects.

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