

Installation Guidance for the AllianceGeo Pavement Reinforcement System

The AllianceGeo Pavement Reinforcement System consists of an RG, RGC, or RM interlayer product placed between an existing asphalt surface and an overlay. The main purpose for using an interlayer is to retard the propagation of reflective cracks resulting from thermal- or stress-related movements.

A. Storage and Handling

1. AllianceGeo RG, RGC, and RM interlayers (hereby referred to as “AllianceGeo Interlayers”) should be stored in a dry environment and covered such that they remain free of dust, dirt and excessive moisture. In addition, it is important that mud, fluid concrete, asphalt and other deleterious materials are prevented from coming into contact with the products.
2. AllianceGeo Interlayers should be stored at temperatures exceeding 20°F (-7°C).
3. Rolls with self-adhesive backing should be palletized and stored vertically to maintain roll shape.

B. Surface Preparation

1. The existing pavement must be clean, dry, dust free and with a relatively even surface free of rutting. The interlayer shall be placed on a drainable surface, and any rutting or low spots in the pavement shall be removed by milling or by placing a leveling course.
2. Any cracks exceeding 0.25 in. (6 mm) in width should be sealed prior to placement of an AllianceGeo Interlayer. An approved sealant or asphalt mix is most commonly used for this purpose.
3. Potholes or cracked sections of pavement should be repaired as instructed by the Engineer.
4. A leveling course is recommended prior to placing RG interlayers to promote strong adhesion between self-adhesive backing and the surface to-be-paved.
5. A leveling course is required prior to placing RG interlayers on a Portland Cement Concrete (PCC) surface, and recommended for RGC and RM interlayers on PCC.

6. For RG products placed on a milled surface, the milling groove depth and surface relief (distance between ridges) should be no more than 0.25 in. (6 mm). This is typically achieved by using fine milling or profile milling equipment. A hot asphalt tack coat is typically needed to obtain adequate adhesion to a milled surface (see requirements in Section C).
7. For RGC and RM products placed on a milled surface, the milling groove depth and surface relief should be no more than 0.5 in. (12 mm).

C. Tack Coats

1. A tack coat is typically not required to install self-adhesive RG products on a leveling course. The self-adhesive backing will provide adequate adhesion, provided the Surface Preparation requirements in Section B are followed.
2. When a tack coat is specified by the engineer for other reasons, such as bonding the new lift of asphalt to the existing surface, those requirements should be followed as they normally would if an interlayer system was not being used.
3. A hot asphalt tack coat is required prior to placement of RGC and RM interlayers to bond the product to the existing pavement surface. Recommended types include AC-20 and PG 64-XX. When ambient temperatures are above 90°F, AC-30 or PG-70-XX is recommended. Emulsions cannot be used as a tack coat for installing RGC and RM interlayers.
4. Tack coats should be applied using a calibrated distribution truck at a constant rate of 0.20 to 0.30 gal/SY for RGC interlayer, and 0.15 to 0.20 gal/SY for RM interlayers. The higher end of the range should be used when the application surface is rough or milled.
5. The width of tack coat application must extend 3 in. (75 mm) beyond the interlayer product on all sides.

D. Interlayer Placement

1. AllianceGeo Interlayers can be installed using a modified tractor or oil distributor truck with a fabric applicator system (including tension bar) mounted on the back. This method is typically used for full-width installations but can also be used for larger detail repairs.
2. Manual installation can be used for detail repairs and smaller localized areas.
3. Sufficient tension must be maintained on the interlayer product to facilitate a smooth laydown. Wrinkles or folds in excess of 1 in. (25 mm) shall be slit and laid flat or pulled out and replaced.

In these repaired areas, additional tack coat shall be applied as needed to achieve a strong bond to the underlying surface.

4. Brooming and pneumatic tire rolling must be used to maximize contact of the interlayer with the pavement surface.
5. Road surface temperature should be between 40°F (5°C) and 140°F (60°C) when placing an AllianceGeo Interlayer product. If the surface is less than 24 hours old, the upper temperature should be reduced to 110°F (46°C). A light hot asphalt tack coat may be needed to obtain adequate adhesion to the leveling surface for self-adhesive RG Products if the surface temperatures are between 40°F (5°C) and 70°F (21°C) (see requirements in Section C).
6. Adjacent rolls of AllianceGeo Interlayer product should be overlapped by 1 in. to 2 in. (25 mm to 50 mm) when placed side-by-side.
7. The ends of rolls should be overlapped by no more than 4 inches (100 mm). Care should be taken to ensure the end of the next roll is placed under the first. In addition, the overlapped areas should be fastened down where they occur.
8. Where curves with tight radii are encountered, it may be necessary to cut AllianceGeo Interlayers into shorter sections and overlap per the directions above.
9. Traffic should be kept to a minimum while the interlayer is exposed. If vehicles do need to drive directly on top of the product, their speed should be kept below 5 mph with no sudden turning, stopping or starting. Any damaged sections caused by construction traffic should be removed and patched prior to paving.
10. Excess tack coat on the interlayer surface may be countered by broadcasting hot mix to create a bond break between the excess tack and the construction equipment tires.
11. Whenever possible, paving should take place the same day the interlayer is installed.
12. A minimum overlay thickness of 1.5 in. (40 mm) should be used to prevent damaging the interlayer product.

E. Pull Test for Self-Adhesive RG Interlayers

1. When installing AllianceGeo RG interlayer products with a pressure-sensitive self-adhesive backing, proper adhesion must be obtained between the grid and the leveling course prior to paving. This adhesion can be demonstrated by performing a “pull test” on a sample section of RG using the procedure below. After the pull test has passed, the placement of the RG interlayer product may commence.

2. Place a square sample of the self-adhesive RG interlayer grid on the same road surface that will be paved and under like conditions. Sample should be at least 1 square yard in size.
3. Use a rubber-tired roller or other method to apply pressure to the grid to initiate bonding with self-adhesive glue to the road surface.
4. Using a spring scale, pull up on the grid until the material begins to separate from the road surface. Record scale reading.
5. A scale reading of at least 20lbs demonstrates proper adhesion can be achieved between RG interlayer grid and road surface to be paved, and placement of the product can commence.
6. If a 20lb reading cannot be obtained, identify issues with the road surface preventing adhesion (dust and debris, water), resolve, and re-test.

F. Safety Precautions

Because glass fibers form the main strength component within AllianceGeo Interlayer products, workers should wear gloves and protective glasses at all times.

