

LPWFG WOVEN FIBERGLASS PAVEMENT GRIDS

Installation Guide

Revised October 2021

The purpose of this guide is to share best practices to ensure a successful installation. Many variables can arise and affect the installation beyond what we can cover in this installation overview. The instructions below are intended as a general installation guideline.

STORAGE AND HANDLING

1. LPWFG series products should be stored in a dry environment and covered so 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 encountering the products.
2. LPWFG series products should not be stored at temperatures below 20°F (-29°C).

SURFACE PREPARATION

1. A leveling course is generally required prior to the placement of Layfield LPWFG series products. The minimum thickness of the leveling course is a function of the practicalities of placing it rather than any restrictions arising from the use of an interlayer product itself.
2. Asphalt tack coat is not required as it has a self-adhesive coating for bonding to the clean new leveling course
3. A standard emulsion tack coat is commonly used to promote a better bond between the asphalt layers. Typical fast setting polymer modified emulsin tacks are recommended.
4. An emulsion tack surface must be fully cured before it can support a proper bond. It is typically recommended to install the Interlayer LPWFG prior to the installation of the emulsion
5. The use of high-water content emulsion should be avoided or should be installed and cured prior to placement of the interlayer LPWFG.
6. The existing pavement should be clean, dry, dust free and with a relatively even/uniform surface.
7. Any cracks exceeding 0.25 in. (6 mm) in width should be sealed prior to placement of a LPWFG series products. An approved sealant or asphalt mix is most used for this purpose.
8. Potholes or cracked sections of pavement should be repaired as instructed by the Engineer.
9. A pull resistance test should be performed early in the installation to ensure that the interlayer is bonding with the asphalt leveling course. A standard fish scale is hooked and a gentle upward pull on the scale should give a reading of 9 kg (>20 lbs). The reading value below this would suggest that either the surface is not smooth and it's reducing the overall bond, or the adhesive is contaminated with dust, moisture, oil, debris, or uncured tack coat.

INTERLAYER PRODUCT PLACEMENT

1. There are two main ways by which Layfield LPWFG series products can be placed:
 - ▶ Mechanical Placement – this is the more common approach and involves the use of a modified tractor or similar vehicle to facilitate front-mounting of the product. For larger areas, it is by far the most efficient method of installation. This method is typically used for full-width installations but can also be used for larger detailed repairs.
 - ▶ Manual Installation – this approach is most used for areas that are more localized. Although the product is physically placed by hand, mounting the roll on for example the back of a pickup truck is highly recommended. Adopting this approach helps maintain tension during the installation process.
2. The interlayer should NOT be installed in rain or wet weather. The Emulsion tack will not cure and the pavement interlayer will NOT adhere to the wet surface
3. In the event of precipitation the on-site engineer should give approval to start up installation after the rain event, as precipitation can pool in the aperture opening of the grid. This should be addressed prior to resuming
4. The road surface temperature should be between 40°F (5°C) and 140°F (60°C) when placing a LPWFG series product. If the surface is less than 24 hours old, the upper temperature should be reduced to 110°F (46°C).
5. The LPWFG product should be rolled out for its entire length and its leading edge firmly fastened to the underlying pavement so tension can be applied.
6. The LPWFG product should be held in tension until the remaining parts have been fastened to the road.
7. Under most circumstances the adhesive on the back of the Layfield LPWFG geogrid interlayer product is sufficient to create a bond with the underlying leveling layer. In small, isolated areas, an additional bonding agent may be required.
8. Adjacent rolls of LPWFG product should be overlapped by 1 in. to 2 in. (25 mm to 50 mm) when placed side-by-side.
9. The ends of rolls should be overlapped by 6 in. 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.

10. Where curves with tight radii are encountered, it may be necessary to cut the LPWFG series product into shorter sections and overlap per the directions above.
11. Traffic should be kept to a minimum while the product is exposed. If vehicles do need to traffic directly on top of the product, their speed should be kept below 5 mph with no sudden stopping and starting. Any damaged sections caused by construction traffic should be removed and patched prior to paving.
12. Whenever possible, paving should take place the same day the product is installed.
13. A minimum overlay thickness of 1.5 in. (40 mm) should be used to prevent damaging the product.

HIGH TEMPERATURE INSTALLATIONS

1. When attempting installation on a hot day, the selection process for the emulsion tack coat becomes more critical. Contact the binder supplier for additional support.
2. When the pavement surface temperature exceeds 140°F (60°C) the tack coat can failure to provide proper bonding and the fiberglass geogrid and become dislodged from the surface during paving operations. These challenges can be overcome with the selection of the proper binder for the anticipated site conditions.
3. The pavement grids performance is dependent on a strong bond.

WRINKLE REMOVAL

1. Wrinkling can be kept to a minimum by maintaining proper tension in the product during placement. However, when it does occur all affected areas should be treated prior to commencement of paving operations.
2. In many cases, wrinkled areas can be treated by cutting the product and pulling by hand where it has folded back on itself. The product should then be stuck down using a suitable adhesive or by inserting fasteners.
3. Because glass fibers form the main strength component within the products, workers should always wear gloves and protective glasses.