GeoPaveX EzFloat

Resin binder for bound aggregate paving

1 Scope

1.1 This method statement applies to GeoPaveX EzFloat.

2 Installation

2.1 It is recommended that GeoPaveX EzFloat is applied by experienced contractors. We are able to suggest certified contractors or alternately provide training.

2.2 It is recommended that the weather forecast should be checked prior to starting any planned application, if wet weather is expected work should be delayed.

3 Equipment & Materials Checklist

- Suitable personal protective equipment (PPE) as dictated by product labelling and specific site requirements
- GeoPaveX EzFloat packs containing Parts A & B
- Selection of suitable resin/aggregate mix design
- The correct grades and proportions of aggregates to achieve the desired mix
- Algaecide/fungicide if necessary, see 5.1.4
- Degreasing agent if necessary, see 5.1.3
- Primer C if necessary, see 5.1.7
- An adequate power supply for the mixers
- Plastic sheet to protect the surface where mixing is carried out
- High torque plaster/mortar type mixer with spiral mixer blade attachment
- Forced action (mortar) mixer of a suitable capacity and power (e.g Baron Forced Action Mixer)
- Wheelbarrow or means of transporting mix
- Stopwatch
- Apparatus to measure ground temperature
- Polyethylene sheet to protect the wheelbarrow from material set off
- Suitable protection for all other surfaces from contamination
- Flat bladed squeegee
- Suitable stainless-steel trowel e.g. plasterers trowel
- Mineral Spirits Cleaning Solvent for tools, etc.
- A clean brush or cloth for lubricating the trowel face with mineral spirits
- Dried and graded Crushed Glass 300 for enhancing slip/skid resistance.
- Masking tape
- Battens for day joints, when required
- End-stop beading, when required

4 Aggregate

4.1 Aggregate is a natural product and as a consequence variations of color will occur, this can be reduced by inspection of the aggregates prior to use and selecting bags from different pallets to minimise color variations.

4.2 The final strength of a resin bound aggregate surfacing system using GeoPaveX EzFloat resin is determined by the choice of resin, aggregate (and its grading), mix design and degree of compaction during installation. Selection of an appropriate resin/aggregate mix design is crucial to a successful installation and the installer must satisfy themselves that the proposed mix is suitable for the intended use/site conditions.

4.3 Some aggregates have a greater resistance to crushing when subjected to heavy loads or by the repeated power steering turning action of wheels whilst the vehicle is stationary. If you are unsure about the suitability of a particular aggregate it is recommended that you contact the CompleteStreetsUSA for advice.

4.4 A blend of aggregates is typically selected to give the correct strength and cohesive matrix for the particular use, as part of this the nominal aggregate sizes can be from 1mm to 5mm, or for Tree pits 1mm to 10mm.

4.5 Natural aggregates such as gravel, flint, quartz, granite, and marble can be used to enhance your design.

4.6 If considering using other special materials, please consult us for further advice prior to use.

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4.7 Aggregates supplied for use in these systems can contain minor concentrations of iron, this is a natural occurrence which upon weathering may result in areas of rust staining. At no point prior or during application can any potential iron within the aggregate be identified and therefore resin bound gravel suppliers or installers cannot be held responsible for any iron staining that may occur.

5 Preparation

5.1 Preparation - Existing Sound Surfaces

5.1.1 Ensure both the GeoPaveX EzFloat Method Statement and Safety Data Sheets have been read and understood.

5.1.2 Ensure that the substrate is sound, contamination free, able to withstand the load that is expected from normal use and otherwise suitable for the purpose. This is of fundamental importance to a successful installation of resin bound surfacing.

5.1.3 Remove any oil, grease and similar contamination by treating with a suitable degreasing agent, followed by flushing with water. De-icing salt should be removed by flushing with water.

5.1.4 Fungal and algal growth is best removed by treating with proprietary fungicide and/or algaecide products according to the manufacturer's directions, followed by thorough rinsing or pressure washing.

5.1.5 Surfaces should be cleaned and free of any laitance from concrete. Surface contaminants will affect the adhesion of GeoPaveX EzFloat.

5.1.6 The substrate should be allowed to dry completely before the application of GeoPaveX EzFloat.

5.1.7 It is important that no dust is present on the substrate surface as this will affect the self-priming properties of GeoPaveX EzFloat. If the substrate is friable an application of Primer C may aid in the adhesion of the substrate. (Note: undertake a test on a small representative area to determine its suitability before full application.) When using Primer C, it is important to allow at least 1 hour, and no more than 6 hours, before applying GeoPaveX EzFloat to the surface. Priming and GeoPaveX EzFloat application must take place on the same day.

5.1.8 Ironwork, kerb edges etc should be masked to prevent contamination with the resin.

5.1.9 Any edges that are not abutted should be restrained by an end-stop bead of the correct depth. This will serve to prevent the edges from deteriorating, provide a guide to assist application and ensure that the correct thickness of GeoPaveX EzFloat is being applied. The beads are commonly fixed using an instant-grab caulking adhesive, but are best nailed or screwed to the substrate.

5.2 Preparation - New Surfaces

5.2.1 New areas intended for overlaying with GeoPaveX EzFloat should be ideally constructed as part of a Low Impact Development system where surface water can permeate through to the soil. Where this is not possible, the pavement should be constructed to withstand the expected loads using pavement quality concrete or asphalt to recognised national standards. Because water will drain through the GeoPaveX EzFloat surface course, drainage measures will need to be constructed in the impermeable substrate to handle run-off.

5.2.2 Because GeoPaveX EzFloat is permeable, new asphalt does not have to be left for any specific period to allow the migration of light oils. However, to promote greater adhesion, it is advised that the asphalt should be left slightly open-textured as this will provide a mechanical interlock with the GeoPaveX EzFloat surface course.

5.2.3 External concrete should ideally be finished as tamped or combed with a maximum texture depth of 3/16" (5mm) and should be left for a minimum of 7 days to allow surface drying.

5.2.4 While resin bound paving using GeoPaveX EzFloat resin is resistant to deformation, it is important to ensure that the surfaces upon which it is laid are free from defects and faults and are capable of withstanding the effects of expected loadings during both summer and winter conditions.

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6.1 Catalysation

6.1 Hardening of GeoPaveX EzFloat is progressive. A small quantity of catalyst is included at the time of manufacture to ensure curing will occur. However in many situations a faster cure may be required, particularly in cold conditions. For this reason, we supply a separate catalyst, Catalyst VA5, for this purpose.

6.2 The amount of catalyst to be added depends on a wide variety of factors, principally the temperatures involved of the various site elements at the time of application and the desired working edge/cure times. Accordingly the quantity of catalyst to be added can really only be determined on site according to experiences with initial material batches, with adjustments being made accordingly to subsequent batches to achieve the desired result. For guidance please contact CompleteStreetsUSA.

6.3 Generally speaking, for a given temperature the more catalyst that is added to the mix, the shorter the working time and cure time will be. Adding too much catalyst will make the mix cure too quickly and become unworkable, either in terms of laying the mix and/or in achieving a smooth working edge between mix batches; adding too little catalyst can also be a problem in certain conditions by causing the mix to take too long to cure and be prone to surface deformation. Typical levels of catalyst added range from 1ml to 10ml and may be more or less depending upon factors such as aggregate temperature, resin temperature, road surface temperature, ambient temperature etc. For any further guidance please contact CompleteStreetsUSA.

7 Mixing

7.1 Ensure that the area where mixing is to be carried out is protected using a suitable plastic sheet. Immediately after mixing, it is important that a quick and efficient routine is taken to ensure the prompt laying and installation of the mixed resin bound aggregate surfacing.

7.2 Do not apply to substrates below 41°F. During cold weather, it is advisable to store all materials in warm conditions prior to use, this will greatly assist the mixing and application processes.

7.3 It is advisable to keep materials in the shade during hot weather.

7.4 A preliminary check should be made to ensure that the aggregate used is thoroughly dry. Aggregates should not be used when wet or visibly damp. Under no circumstances should damp aggregate be used as this will seriously affect the performance of the final resin bound aggregate surfacing.

7.5 Mixing of batches is carried out using a forced action (mortar) mixer with a recommended minimum mixing capacity of 4-5 Cu Ft (e.g See Baron Forces Action Mixer range). The use of 'Belle' type mixers, concrete mixers or other mixer types are not recommended due to their non-forced action and consequential mix separation.

7.6 Load mixer with the aggregate as dictated by the mix design.

7.8 While continuing to mix the GeoPaveX EzFloat base (Part A) in its pail, using a drill and spiral mixing blade, carefully pour a small quantity of Catalyst VA5 into it and then the total content of the GeoPaveX EzFloat Activator (Part B), into the blended base and catalyst material. Sufficient space should be allowed in the base pail for this to take place.

7.9 It is important to mix all components thoroughly until homogeneous, ensuring that all material from the sides and bottom of the container are included. Note: Once the base and activator have been totally mixed the curing process will start to occur and no delays prior to and during the laying of the product should be allowed.

7.10 Start the forced actioned mixer containing the dry aggregate and mix for no more than 5 seconds to combine aggregate types or segregated material. Pour in the mixed GeoPav X EzFloat resin. Blend the aggregate and resin for up to 2 minutes, until homogeneous or evenly coated.

7.11 Ensure that the mixing times for each batch are identical. Batches left in the mixer for longer than others will be subjected to higher shear and can appear darker once installed. Variable mixing times must be avoided.

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7.12 Discharge the mix directly into a polythene lined wheelbarrow.

8 Application

8.1 Note: GeoPaveX EzFloat should not be laid during wet weather. If it starts to rain during application stop work and protect existing surface.

8.2 Transport the mixed material to the required application area and place on the pre-prepared surface.

8.3 Pre-level the material using a flat-bladed squeegee allowing an excess depth that can be consolidated to the required finished depth. Knowledge of the Ft^2 per pack at the required depth will assist with achieving correct application.

8.4 In order to ensure that the correct depth and spread rate is achieved, battens of the required thickness can be placed and used to gauge the depth and area applied per mix.

8.5 A hand applied, double-ended trowel is used for final compaction and finishing of the surface. Apply mineral spirits sparingly to the trowel using a cloth, wipe off any excess mineral spirits. Use the trowel to compress the mixed material, smoothing out any irregularities. Do not use any substance other than mineral spirits for this purpose as this may adversely affect the performance and appearance of the finished resin bound aggregate surfacing system.

8.6 Where a matt finish or a higher level of immediate slip/skid resistance is required, Crushed Glass 300 grade should be lightly broadcast onto the surface while still wet and tacky. Apply at a coverage of approximately 3.5oz/ft^2 (100 g/m^2), maintain an even coverage to prevent streaks or patches. Increase the amount of Crushed Glass 300 to achieve the desired slip/skid resistance. The clarity of the Crushed Glass 300 allows the resin surface to maintain its intended finish. Other non slip/skid products are available upon request.

8.7 It is essential that the GeoPaveX EzFloat is well compacted during installation to ensure good contact between the graded aggregates. Sufficient pressure must be applied to the trowel to achieve this. Insufficient contact will result in a more open surface, which will be at greater risk of damage due to traffic or falling objects. The installer must also ensure that GeoPaveX EzFloat is compacted to the thickness capable of withstanding the expected loads and traffic levels.

9 Design Elements

9.1 When it is required to introduce design elements within the surfacing, such as borders and inserts using different colored aggregates, different techniques may be employed. Wooden battens of suitable thickness, cut to shape and faced off with a suitable masking tape that will prevent sticking to the resin e.g brown pacing tape or polyethylene tape can be used to create edges. Templates for complex design elements such as logos can be cut from MDF of the correct thickness, taped as before and loosely fixed or placed onto the substrate undertaking the same procedure. Alternatively, commercially available stainless steel or aluminium edging profiles may be incorporated into designs to add special definitions.

10 Joints

10.1 Existing Joints

10.1.1 Existing joints within concrete slabs should be reflected within the GeoPaveX EzFloat surfacing.

10.1.2 Rake out any dirt or loose jointing material and reinstate using a proprietary jointing compound. Mark out or place pegs at the two ends of the joint and apply GeoPaveX EzFloat as prescribed. Upon curing, snap a chalked string-line between the two peg points and diamond sawcut a 1/4" (10mm) channel through the thickness of the GeoPaveX EzFloat surfacing. In-fill the joint slightly below existing levels using suitable jointing compound.

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10.2 Day Joints

10.2.1 Day joints may be necessary if the work stretches over consecutive days or if impending weather dictates.

10.2.2 Use a batten of the correct height for the finished thickness of the surfacing, preferably faced with polypropylene (brown parcel tape) Fasten the batten to the substrate, if necessary.

10.2.3 From at least 20in (0.5m) before the joint is struck, ensure that the resin bound surfacing is finished at the height of the batten, (using another piece of batten as a guide, this is necessary to ensure that there is no noticeable change in level at or near to the joint itself). Apply and finish the mixed material up to the day joint itself.

10.2.4 Once the initial cure is under way, the batten can be removed.

10.2.5 If continuing with the same mix type the following day and in order to prevent this straight joint being clearly visible, it is recommended that stones along the visible top edge of the joint are flicked off before curing has taken place to create a 'fuzzy' interface rather than a clearly defined straight line. If continuing the next day, new material can then be worked into and from the cured joint. Once completed the joint should be hardly discernible.

11 Cleaning of Equipment

11.1 Tools and equipment should be cleaned with mineral spirits solvent immediately after use. Where resin has been allowed to slightly cure, it may be possible to remove with a scraper blade. However, once the resin has cured, it will not be possible to remove it.

12 Storage

12.1 Store all unopened materials under cover in dry conditions and in temperatures of between 41-95°F (5-35°C).

12.2 If the activator component (Part B) is stored at very low temperatures, crystalline deposits may form within. The activator must not be used in this condition. However, activators that are affected in this way, should be placed under room temperature conditions, at a minimum of 68°F (20°C) and allowed to warm to room temperature. Shake the sealed container to dissolve any crystalline deposits.

12.3 Please read and comply with manufacturer's instructions regarding handling, storage and use. Aggregates, when stored correctly, should have an unlimited shelf life. Please check aggregate suitability before use.

13 Aftercare

13.1 The final resin bound aggregate surface requires minimal maintenance. To maintain the appearance of the surface, it is important that a good housekeeping routine is followed. This can be carried out by the regular sweeping and maintenance of the surface. Leaves and general debris should be removed as soon as possible.

13.2 Where it is necessary to remove stains caused by oil spillages and leaking vehicles, the use of suitable proprietary domestic detergents and or degreasers may be used ensuring that their directions of use are followed and comply with any safety precautions advised.

13.3 Cold/warm water pressure washing may be used to remove ingrained dirt, etc., however close contact by high pressure water jetting should be avoided.

13.4 After wear and exposure to the elements the resin surface will naturally lose its sheen. We offer a wide range of aftercare products designed to rejuvenate, protect, enhance and make good any damaged surfaces. GeoGlaze has been specifically produced for the GeoPaveX range, please refer to the GeoGlaze product information sheet for more information.

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