Stabilized Aggregate Path and Road Surface
TechniSoil G5 Premix Specification

1. Summary

This Section includes material labor requirements for construction with decomposed granite, ¼”-1” minus crushed stone mixes, soil, and sand.

Stabilized Aggregate Foot Paths, Bike Paths, Light Utility Vehicles, Heavy Vehicle, and Industrial Vehicles

2. Related Sections

Section 1 – Performance Requirements & Submittals of Granular Material
Section 2 – Site Preparation & Sub-base
Section 3 – Edge Restraint Option
Section 4 – Weather conditions
Section 5 – Installer Qualifications & Mock-up
Section 6 – Installation Procedures
Section 7 – Warranty and Repairs
Section 8 – Product
Section 1

Performance Requirements

a. Perform gradation of granular material in accordance with ASTM C 136 – Method for Sieve Analysis for Fine and Course

b. Determine if fortification of aggregate is needed in finer materials to achieve R-value requirements. Refer to Technisoil Aggregate Gradation Appendix 1.1 for reference.

Submittals

a. Product Data: For each product specified Submit 50 lb. sample and sieve analysis for grading of granular material to be sent to Technisoil Global Inc. prior to any construction. Allow 2 weeks turn around to determine mix ratio of binder and suitability of material(s).

b. Stabilized sample to have compressive strengths at or above:
   1. 1.5” compacted at or above 1,200 psi compressive strength
   2. 1.75” compacted at or above 1,400 psi compressive strength
   3. 2” compacted at or above 1,600 psi compressive strength
   4. 2.5” compacted at or above 2,000 psi compressive strength
   5. 3” and above – compacted at or above 2,500 psi compressive strength

c. Test treated surface for slip resistance with Rotational Penetrometer - Tia test Apparatus made by Beneficial Designs, Minden, Nevada USA for ADA compliance. Durability and Stability surface value needed of .22 or lower.

d. Send Site Drawings showing site plan with all pertinent sections.

Section 2

Site Preparation

a. Excavate project area to sub base & wearing course elevation requirements

Sub-base

a. Prepare Sub-base to grade taking into account fall and slope requirements

b. Compact Sub-base to engineered requirements
Section 3

Edge Restraints (Optional)

a. Edge restraints are recommended for not required for optimal stability of edge. If project does not call for edge restraints, hand tamp edge prior to surface compaction.

b. Common Examples of Edge Restraints: Bender Board, Treated Lumber, Concrete Curb, Plastic or Aluminium Edging, Landscape Stone or blocks.

c. Set edge restraints to specified depth taking into account a 20-30% loss during compaction.

Section 4

Weather Conditions

a. Environmental Limitations – Install stabilized surface during dry conditions no earlier than 48 hours after rainfall and no sooner than 48 hours prior to rainfall. Temperature to be 50 degrees and rising. No limit on maximum temperature.

Section 5

Installer Qualifications & Mock-up

a. Installer Qualifications: Installer to provide evidence to indicate successful experience in installing Technisoil G5 surface. Training and certification provided by Technisoil Global Inc. Redding CA, USA.

b. Installer to perform Mock-up 3’ x 6’ section with surface treatment for approval of customer.
Section 6

Installation Procedures

a. Equipment Needed: Refer to Technisoil Equipment Appendix 2.1, 2.2, 2.3, 2.4, 2.5

b. Add weighed granular material (soil/aggregate) to mixer (max moisture determined by Technisoil during granular material suitability test)

c. Mix material for 2-3 minutes dry to break up any clumps.

d. Evenly add weighed G5 binder at specified ratio. (determined by Technisoil and verified by contractor during test patch)

e. Mix until thoroughly combined to a uniform consistency, making sure there is no dry pockets of granular material.

f. Install mixed material within 20 minutes of mixing

g. Install material at 15-30% above grade to account for compaction loss.

h. Level material

i. Compact to 95% or to specification no later than 15 minutes after installation. Compaction can be achieved with 4-8 longitudinal overlapping passes (plate compactor) or 2-3 passes with a double drum roller. Use compaction method according to project specification. Make sure to test compaction and avoid over-compaction.

j. Curing: 24-72 hours to open up to foot traffic. 72 hours to open to vehicle traffic. Contractor to make final call to open to traffic based on site visit.
Section 7

Repairs and Warranty

a. Cracks can be repaired by applying binder material to crack section via squeeze bottle or other method being careful to not overflow crack. A dry dusting of aggregate should be broadcast over crack area. Let dry and blow loose material off with leaf blower or broom clean. Holes can be cut out with diamond blade saw and patched with same mix design used in course.

b. General Warranty: The special warranty specified in this Article shall not deprive the owner of other rights the owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

c. Special Warranty: Submit a written warranty executed by the installer agreeing to repair or replace components of stabilized surface that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:

1. Premature wear and tear, provide the material is maintained in accordance with the manufacturer’s written installation guidelines

2. Failure of system to meet performance requirements

d. Warranty Period: Contractor shall provide warranty for performance of product. Contractor shall warranty installation of product for the time of one year from completion.

e. Contractor shall provide, for a period of sixty days, unconditional maintenance and repairs and required.

Section 8

Product

a. Technisoil G5 Binder – Patented, non-toxic, bio based polymer that binds granular materials.
### Aggregate Gradation for Crushed Stone Mixes

#### 3/4” Minus Crushed Stone Mix

<table>
<thead>
<tr>
<th>Sieve Sizes</th>
<th>Percent Finer</th>
<th>Allowable Tolerance</th>
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#### 1/2” Minus Crushed Stone Mix

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#### 3/8” Minus Crushed Stone Mix

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#### 1/4” Minus Crushed Stone Mix

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### Aggregate Gradation for 3/8” Minus Decomposed Granite

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<td>No. 200</td>
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TechniSoil G5®
Installation Equipment
Prepared by: TechniSoil Global Inc.

TechniSoil G5® stabilized surfaces require specific methods of installation and specialized equipment depending on the size and scope of the project. The following pages contain a list of recommended methods and the equipment required for each type of project. For best results, see recommendations below.

### Equipment necessary for:

<table>
<thead>
<tr>
<th>Project Type</th>
<th>See:</th>
<th>Equipment Type</th>
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<td>Urban Area Sidewalks</td>
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<td>Large Road Shoulders</td>
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<td>Till-In, Premix</td>
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<tr>
<td>Residential Projects</td>
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<td>Till-In, Premix</td>
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</tbody>
</table>
Premix Method:
Road & Trail building

Mixer:
TechniSoil Trailblazer 900

Pug Mill Mixer:
Maxon skid mounted
7 cubic yard Maxcrete

Dump Truck

Skid Steer:
Caterpillar 216B,
Caterpillar 242B Series or similar

Skip Loader:
Case 570NXT

Paving Machine:
Bomag BF - 600C/600P
Bomag BF - 800C/800P

Loader:
Caterpillar 924K  2.5 - 6.5
Caterpillar 930K   yards
Caterpillar 938K

Rollers:
Bomag BW 80 AD-5
Bomag BW 141 AD-4
Bomag BW 100 ACM-5
Bomag BW 151 AC-4

Hand Tools:
* See Hand Tools (p.12)
Till in Method

Road building

**Reclaimer:**
Bomag MPH 125
Bomag MPH 122-2

**Rollers:**
Bomag BW 80 AD-5
Bomag BW 141 AD-4
Bomag BW 100 ACM-5
Bomag BW 151 AC-4

**Motor Grader:**
Caterpillar M-Series
12 M2/12M2 AWD

**Flat Bed Truck**

**Hand Tools:**
* See Hand Tools (p.12)
Trail, Sidewalk, Small Field

**Mixer:**
TechniSoil Trailblazer 900

**Skid Steer:**
Caterpillar 216B,
Caterpillar 242B Series or similar

**Forming Material**
2x4 Boards

**Screed Board**
2x4 Boards

**Vibratory Plate Compactor**
Bomag BP 20/50

**Wheelbarrow**

**Square Point Shovel**

**Asphalt Rake**

**Trowel**

**Edging Trowel**

**Hand Tamper**

**Weight Scale**

**Buckets**
Hand Tools

Vibratory Plate Compactor
Bomag BP 20/50

Wheelbarrow

Square Point Shovel

Asphalt Rake

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