SECTION [32 15 40]

ORGANIC-LOCK FOR STABILIZED PATHWAY AGGREGATE: VEHICULAR TRAFFIC

PART 1: GENERAL

1.1 SUMMARY

A. This section includes materials and execution information for construction with aggregate with Organic-Lock binder for vehicular applications

B. Related Sections:

Section [ ]
Section [ ]
Section [ ]

1.2 REFERENCES

A. ASTM C136 / C136M – 14, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates, ASTM International, West Conshohocken, PA, 2014, www.astm.org

B. ASTM D2419 – 14, Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregates, ASTM International, West Conshohocken, PA, 2014, www.astm.org

C. ASTM F1951 – 14, Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment, ASTM International, West Conshohocken, PA, 2014, www.astm.org

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 00 - Submittal Procedures:

1. Manufacturer's product data sheet.

2. [1 quart] [_____] sample of base course.

3. Base Course gradation indicating that the product meets specifications

4. [1 quart] [ ] sample of stabilized crushed aggregate paving.
5. Stabilized crushed aggregate gradation indicating that the product meets specifications.
6. Manufacturer's Material Safety Data Sheet.

1.4 SITE CONDITIONS

A. Ensure that the subgrade and base are properly graded and compacted to required specifications.

B. Do not install the Organic-Lock pathway aggregate during rain. Rain within 3-5 days after installation will increase curing time.

C. Protect all nearby surfaces, plants, and structures from possible contamination from materials or damage by equipment.

1.5 TEST PLOT

A. Install [20] square feet minimum of stabilized crushed aggregate paving including base course, at location approved by [Architect] [Engineer].

B. Allow [Architect] [Engineer] to view test plot before proceeding with rest of stabilized crushed aggregate paving.

C. [Approved mock-up may remain as part of completed Work.] [Remove test plot after acceptance of work specified in this Section.]

1.6 DELIVERY, HANDLING, AND STORAGE

A. Delivery:

Delivery of Organic-Lock is available from the manufacturer or select Organic-Lock dealers. Please contact the manufacturer for more information.

Delivery of Organic-Lock pre-blended with aggregate is available from select dealers. Contact your closest dealer or the manufacturer for more information.

B. Handling:

Wear appropriate respirator when ventilation is inadequate. Avoid contact with skin and eyes.

C. Storage:

Protect stabilized crushed aggregate mix from contamination. Store under cover.

PART 2: PRODUCTS

2.1 MANUFACTURERS

A. Organic-Lock for Organic-Lock stabilized pathway aggregate provided by:

Kafka Granite, LLC
550 E HWY 153
Mosinee, WI 54455
800-852-7415
kafka@kafkagranite.com
www.kafkagranite.com

2.2 MATERIALS

A. Crushed Aggregate Materials:

1. Crushed Aggregate Material shall consist of sound, angular, durable particles.
2. Gradation, in accordance with ASTM C136:

Optimal Gradation		
Sieve	Sieve Size (mm)	Percent Passing
3/8”	9.51	100%
4	4.76	80-100%
8	2.36	65-90%
16	1.18	40-60%
30	0.6	25-55%
50	0.3	15-35%
100	0.149	10-20%
200	0.074	5-15%

B. Organic-Lock Binder

1. Patented powdered organic binder designed to be blended with crushed aggregate

2. Made from 100% naturally occurring materials

PART 3: EXECUTION

SPECIFIER NOTES:

1. *Proper hydration of the Organic-Lock blended aggregate is crucial to the installation and longevity of the surface. The instructions below refer to Organic-Lock that has been pre-blended with aggregate and contains optimal moisture content. For more information on pre-wetting, and pre-blending Organic-Lock refer to Organic-Lock Installation Guidelines Brochure.*

2. *Achieve best results installing Organic-Lock blended aggregate in dry conditions and temperatures above 40° Fahrenheit (5° Celsius). Both wet and cold conditions slow down the curing/drying process.*

3.1 PREPARATION

1. Prepare the Subgrade

   Excavate the area to the depth required so that finish grade can be established as noted on plans.

   A vehicular traffic pathway will require a full depth of 12-16 inches: 8-12 inches of compacted base depth together with 4 inches of compacted Organic-Lock Pathway Aggregate.

   Compact the subgrade to 95% Modified Proctor Density.

2. Prepare the Base

   Spread the base material to approved depth. Crushed, granular road base such as 3/4" minus is an optimal base material.

   Vehicular Traffic Pathway will require 8-12 inches of compacted base material.

   Depending upon the method of compaction the installation of base material may require separate lifts.

   Compact the subgrade to 95% Modified Proctor Density using a single or double drum static roller or vibratory compactor.

3.2 WATERSHED MANAGEMENT

Crowns and/or cross-slopes must be incorporated into the compacted base material.

If the slope is 2% or lower, a crown should be incorporated into the pathway. If the slope is greater than 2%, incorporate a cross-slope.

Note: The addition of crowns and cross-slopes is heavily dependent upon surrounding watershed.

3.3 SPREADING

The use of a paving machine is highly recommended for large projects to evenly spread Organic-Lock Pathway Aggregate at the specified depth

Spread the loose and uncompacted Organic-Lock Pathway Aggregate over the compacted base material.

Typically, a lift of 5 inches of loose, pre-wet Organic-Lock Pathway Aggregate will compact to the required 4 inch depth for Vehicular Traffic Pathways.

3.4 COMPACTION

Make 4-6 passes using a 1 ton double or single static drum roller, or equivalent. A Vehicular application will typically require one lift, compacted to 4 inches.

Compaction will vary with different aggregates due to particle shape and size. Compact to 95% Modified Proctor Density.

Note: Vibratory compaction is acceptable for the base material but generally not suitable for Organic-Lock blended aggregate as it risks disassociating the bonds of the stabilized aggregate or allowing the fines and moisture to migrate to the surface, causing the surface to take on a smooth, concrete-like appearance. Organic-Lock Blended Aggregates should be compacted using a single or double drum static roller wherever possible. For tight spaces that are not accessible by drum rollers, a hand tamper is recommended, however, in certain circumstances, a vibratory or plate tamper can be used where the installer deems it to be more effective.

Provided the moisture content of the Organic-Lock blended aggregate is adequate, additional hydration should not be necessary. On dry, sunny days, however, the surface layer may start to dry out while installing, in which case, a light misting would be appropriate to prevent surface cracks from appearing during compaction. Refer to the *Organic-Lock Installation Guidelines Brochure* for more information.

3.5 COMPLETING INSTALLATION

Apply a light spray to the surface of the material to give a clean appearance. Apply water until the water begins to run-off.

Do not allow any traffic on the newly installed pathway until fully cured

3.7 REPAIRS AND PROTECTION

Excavate the damaged area and scarify exposed Organic-Lock Pathway Aggregate.

Pre-blend the replacement crushed stone aggregate material with Organic-Lock at 28-34 lbs/ imperial ton. Apply the material to the excavated area and compact. Thoroughly water the material to achieve a 8-10% moisture content. Use the "snowball test" to determine moisture content - refer to *Organic-Lock Installation Guidelines Brochure* for details.

Allow the newly installed Organic-Lock Pathway Aggregate to cure, but not completely dry out.

Re-compact the material, ensuring that the final grade and crown are maintained.

Note: Rotational stress, acceleration and deceleration will cause increased wear and tear on blended aggregate surfaces and more frequent maintenance may be required.

END OF SECTION