

Suggested Grasscrete® Specification

The GRASSCRETE contractor is licensed and trained by Bomanite® Corporation, P.O. Box 599, Madera, CA 93639-0599. The work is usually called out in a section of the specifications separate from concrete and landscaping (Section 2-p Paving and Surfacing is suggested).

SECTION ____: GRASSCRETE

1. Scope. All work in this section shall be as designated GRASSCRETE in the plans. The work shall include all labor, materials, equipment and transportation required to install GRASSCRETE.

2. Contractor. The Contractor for this work shall be licensed by Bomanite Corporation, P.O. Box 599, Madera, CA 93639-0599, (209) 673-2411. The licensee for this area is BEYOND CONCRETE, 36 Industrial Dr., Keyport, N.J. 07735; Tel: (800) 972-0668; Fax: (732) 441-3318; www.beyondconcrete.com; sales@beyondconcrete.com.

3. Subgrade. The subgrade for GRASSCRETE shall be prepared for expected loading and drainage requirements. Subgrade for vehicle traffic shall be in accordance with local concrete street specifications. (NOTE: Because of the wide variety of soil types, weather and anticipated loading, it is not possible to recommend one specific subgrade design. The specifier should keep in mind that GRASSCRETE is porous, and much of the water which falls on the surface will pass through to the subgrade. For most applications except for very heavy loads, native soil having a minimum "R" value of 30 and a compaction of 95% will provide a suitable subgrade. In areas having poor soil and/or very heavy anticipated loads, 4" or more of soil should be excavated and replaced with compacted base rock.)

4. Concrete Mix. The concrete shall have a minimum compressive strength of 3,000 psi in 28 days (except in severe freeze-thaw areas or for vehicles weighing 10 tons or more, in which case it should be 4,000 psi). Portland Cement shall conform to ASTM C 150, Type I, II, or V. Aggregates shall conform to ASTM C 33 and be minus 3/8". Mixing water shall be fresh, clean and potable. In freeze-thaw areas, air entrainment of 6.5% to 8.5% shall be provided. Water reducing admixtures and/or super-plasticizers are permitted and shall conform to ASTM C 494.

5. Slab Design. The GRASSCRETE slab shall have a minimum thickness of 5 inches. Where used for emergency vehicle access roads, all edges shall be solid concrete having a minimum width of 6 inches.

6. Reinforcement. The GRASSCRETE shall be continuously reinforced with ____ welded wire fabric chaired between 2 and 3 inches above the subgrade. (Refer to the following section for guidelines on the selection of reinforcement.)

Intended Use -- Welded Wire Mesh

a) Erosion control, parking lots, driveways, access roads for vehicles weighing 10 tons or less -- 6" x 6"-10 ga. x 10 ga. (6 x 6-W1.4 x W1.4)

b) Regular use by vehicles weighing more than 10 tons, and access roads for fire apparatus with outriggers -- 6" x 6"-6 ga. x 6 ga. (6 x 6-W2.9 x W2.9)

7. Construction Process.

- a) Subgrade shall be leveled to a uniform plane 5-1/2 inches below the final grade of the finished slab.
- b) Welded wire fabric shall be chaired.
- c) GRASSCRETE formers shall be placed on the subgrade.
- d) Concrete shall be placed and leveled to the tops of the GRASSCRETE formers. The concrete surface shall have a heavy rough broom finish.
- e) GRASSCRETE formers shall be withdrawn after the concrete has hardened sufficiently.
- f) Slab shall be cured with suitable curing membrane. (Do not use chemicals harmful to growth of grass.)

8. Joints. Expansion joints shall be provided wherever a GRASSCRETE slab abuts to other concrete or structures. In traffic areas, steel dowels shall be used to transfer loads between adjacent slabs.

9. Soil and Seed. Holes shall be filled with soil and grass seed or sod suitable for local conditions. (NOTE: Typically done by landscape contractor rather than GRASSCRETE Contractor.)

10. Traffic. No traffic of any kind shall be permitted on the GRASSCRETE slab until fourteen days after placing of concrete, and only after soil is placed in holes. Thereafter, vehicles shall be permitted providing they do not exceed the weight capacity for which the slab is designed.

ADDITIONAL DATA:

1. Grass Coverage. Surface area is 47% concrete & 53% hole. Grass usually covers much of the concrete in areas not subject to regular vehicle traffic.

2. Maintenance. GRASSCRETE requires watering and mowing as would be normal for any lawn. Irrigation must be provided in dry climates to keep the grass healthy. Mowing needs are less in area of frequent traffic. The grass roots are protected by concrete and are not damaged by vehicle use.

3. Alternate to planting grass. Holes may be filled with crushed stone, seashells, etc., to provide drainage without necessity to maintain grass.

4. Drainage. GRASSCRETE drains at about the same rate as would an ordinary lawn in the same location. In other words, the presence of the concrete has little effect on the drainage; the soil and the slope are the controlling factors. A test report by an independent laboratory on infiltration rates is available upon request.

Load Test Report. A test report by an independent laboratory on a fire truck load test is available upon request. A 33 ton Grumman fire apparatus with outriggers was tested with a horizontal extension of 100 feet of its man-lift with 800 pounds of weight in the man-lift. (Note that GRASSCRETE is a continuously reinforced monolithic slab, and therefore has flexural strength, unlike unit pavers.)

6. Alternate Reinforcement. It is acceptable to substitute steel reinforcing bar of equivalent

reinforcement value for the welded wire steel fabric; however, this will usually raise the cost because of the additional labor required.

7. Concrete Volume. GRASSCRETE is 60% concrete by volume, and 40% void area, not including widened edges and solid borders.

8. Slope Paving. GRASSCRETE can be readily installed on slopes as steep as 3:1. Steeper slopes are more difficult and costly, and 2:1 is the steepest that could be possible.

9. Curved Areas. GRASSCRETE formers are square and are used most effectively in rectangular areas free of obstruction. GRASSCRETE may be used in curved areas and areas having obstructions, but there may be some design limitations and increases in unit costs.

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