

SUGGESTED GRASSCRETE® SPECIFICATIONS

Continuously reinforced monolithic slab

Notes:

1) A specifier is within his rights to issue a proprietary specification that names only one brand. If in the informed and professional judgment of the specifier, his client's needs will be best served by naming a particular brand, then he has the responsibility to limit his specification to one source. This practice is even acceptable on publicly funded projects. This principle of proprietary specification has found legal support in the case of Whitten Corp. v. Paddock Pool Builders, Inc., a Federal District Court case from Massachusetts (376 F. Supp. 125). Further support came in 1975 when the U.S. Supreme Court rejected further appeal and review.

2) The following is the suggested Grasscrete specification to assist you in the preparation of the project documents. The Grasscrete portion of this project should be separated from the balance of the concrete work in Division 3, since, the work will be performed by specifically trained BOMANITE contractor. Depending on the project, the Grasscrete may also be included in a separate section from concrete and landscaping (Section 2-p Paving and Surfacing).

Please feel free to call us for additional assistance on specifications and technical questions.
 Progressive Concrete Works Inc.
 Office 623-582-2274
 Fax 623-582-1751
 E-mail pcw@progressiveconcrete.com
 Web Site www.ProgressiveConcrete.com

1. Scope. All work in this section shall be as designated **GRASSCRETE a continuously reinforced monolithic slab** on 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 Progressive Concrete Works Inc. who has been licensed and trained by BOMANITE CORPORATION.

Progressive Concrete Works Inc.
 Office 623-582-2274
 Fax 623-582-1751
 E-mail pcw@progressiveconcrete.com
 Web Site www.ProgressiveConcrete.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 or ABC.)

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 1/2" inches. GRASSCRETE should be recessed 1"-1 1/2" below adjoining surfaces to allow for grass and topsoil. All perimeters of GRASSCRETE should be restrained by an existing hard surface or monolithic concrete border. Red painted borders, reflectors or signage should be used on all edges of emergency access paving.

6. Reinforcement. The GRASSCRETE shall be continuously reinforced with _____ welded wire fabric chaired between 2"-3" inches above the subgrade. (Refer to the following section for guidelines on the selection of reinforcement.) Intended Use -- Welded Wire Mesh.

Intended Use	Welded Wire Mesh
a.) Erosion control, parking lots, driveways, access roads for vehicles weighing 10 tons or less.	6"x6"-10 ga.x10 ga. (6x6xW1.4xW1.4)
b.) Regular use by vehicles weighing more than 10 tons and access roads for fire apparatus with outriggers.	6"x6"-6 ga. x 6 ga. (6x6xW2.9xW2.9)

For alternate reinforcement, #3 rebar placed at 18" on center may be used in lieu of welded steel fabric. This will increase the cost.

7. Construction Process.

- a. Subgrade shall be leveled to a uniform plane 5 ½" inches below the final grade of the GRASSCRETE slab and 6 ½" – 7" below adjoining surfaces.
- 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. Soil and Seed - Holes shall be filled and 1"-1 ½" of topsoil is to cover the GRASSCRETE surface for seeding or sod suitable for local conditions. (NOTE: Typically done by landscape contractor rather than GRASSCRETE Contractor.)

9. 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.

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

7. 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.

8. 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.

®GRASSCRETE is a registered trademark with the U.S. Patent Office. The trademark is owned by Grass Concrete International, Ltd. BOMANITE CORPORATION is licensed in the United States by Grass Concrete International, Ltd. to use its trademark.

Certification

The Bomanite International Society of licensed contractors is a worldwide network of specially trained and equipped professionals. Through constant exchange of new ideas, re-education and development programs, members of the Bomanite International Society continue to increase already high standards of quality and service. The activities of the Bomanite International Society are coordinated by Bomanite Corporation. The Corporation also provides services and technical assistance to its member licensees, and to architects, designers and engineers specifying Bomanite products.

BOMANITE® is a registered trademark and servicemark with the U.S. Patent Office and other countries. Micro-Top™ is a trademark of Bomanite Corporation (with formal registration pending) and cannot be copied for any purpose.

For more information contact:

Progressive Concrete Works Inc.

Office 623-582-2274

Fax 623-582-1751

E-mail pcw@progressiveconcrete.com

Web Site www.ProgressiveConcrete.com