CONCAST

Fibercrete®

PRECISELY ENGINEERED HIGH STRENGTH CONCRETE

MODULAR GROUND SLEEVE SPECIFICATIONS

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GENERAL SPECIFICATIONS FOR MODULAR GROUND SLEEVES

1. TECHNICAL SCOPE

1-A. These specifications cover precast Fibercrete® (G.F.R.C.) MGS manufactured by Concast Incorporated in Zumbrota, Minnesota. The manufacturer must have experience in design and fabrication of these products and also the facilities for fabricating them with the quality specified herein and without delay to the agreed upon schedule.

1-B. The modular ground sleeve unit shall be designed and constructed to provide a serviceable life and warranty of 35 years when installed outdoors in full sunlight and without any protection from the weather at any location in the continental United States or Canada.

1-C. The Supplier shall design, construct, perform dimensional and quality control tests, and prepare the pads for truck shipment. Shipping and delivery responsibilities shall be defined in the project specific purchase documents. The Supplier shall provide all necessary documentation as stated in this specification.

2. DIMENSIONS AND DESIGN

2-A. Drawings shall be made available for engineering approval and field installation, and identification; in PDF, SolidWorks, or AutoCAD format. Standard PDF format component drawings shall also be available online.

2-B. The tolerances of the dimensions of each Fibercrete® MGS unit shall not exceed +/-1/4". These tolerances apply to the components when ready for shipping, when set on a flat and level surface with no loads applied to it.

2-C. Corners of modular panels shall be designed with interlocking male and female parts to reduce vertical shifting of panels.

2-D. MGS units shall be made available to fit design requirements and dimensions of the equipment being supported.

2-E. Ground sleeve shall be of modular design and easily assembled by two people. It shall be composed of four vertical sidewall panels and a hardware kit.

2-F. The sidewalls shall be constructed with internal ribs/waffles to increase strength and unit integrity, while reducing the overall weight of the unit.

2-G. The ground sleeve shall have a rigid, flat, and stable top surface.

2-H. The ground sleeve shall be designed and constructed so that it and any related hardware will not trap or hold water when required, and so that it will be able to withstand repeated freeze and thaw cycles.

2-I. The flat pad color shall be a natural concrete gray unless otherwise required and agreed upon.

2-J. Each MGS unit shall be equipped with equipment hold-down accommodations.

2-K. The precast components are designed to conform to requirements stated in ASTM C857-07 "Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures, ASTM C858-07 "Specifications for Underground Precast Concrete Utility Structures".

3. PERFORMANCE AND MATERIALS

3-A. Cement shall conform to ASTM C150-07 "Specification for Portland Cement".

3-B. Course and fine aggregates shall conform to ASTM C33 "Specification for Concrete Aggregates".

3-D. Preparation of concrete shall conform to ASTM A94 "Specification for Ready-Mix Concrete" & ACI 304 "Guide for Mixing, Transporting and Placing Concrete".

3-E. PREMIX GFRC - FIBERCRETE®

3-E.1 Composed of cement mortar reinforced by alkali resistant glass fiber, and a deformed prefabricated high tensile welded steel wire. It is fabricated via casting into steel forms.

3-E.2 Shall obtain a minimum compressive strength of 6000 PSI at 28 days of age.

3-F. REINFORCEMENT

3-F.1 Steel reinforcing bars shall conform to ASTM A615 "Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement".

3-F.2 Steel reinforcing wires shall conform to ASTM A496 "Specification for Steel Wire, Deformed for Concrete Reinforcement".

3-F.3 Steel reinforcing weld wire cages shall conform to ASTM A497 "Specification for Steel Welded Wire Fabric, Deformed for Concrete Reinforcement".

3-G. The ground sleeve must not be affected by asphalt, transformer oil, other common chemicals, weather, or other normal service conditions that it might be exposed to.

3-H. The ground sleeve must not warp, rust, be UV degradable, or sustain combustion.

3-I. With equipment installed; the ground sleeve shall be capable of withstanding temperature variations of -40° Fahrenheit to 149° Fahrenheit without cracking, splitting, or otherwise deforming. Material shall be have been tested and conform to ASTM C666/C666M-03.

3-J. When required, site-specific, PE stamped, seismic calculations shall be provided.

3-K. Concrete properties will vary depending upon the particular formulation of the concrete mix design. Customized properties can be achieved by using nonstandard ingredients, by changing or adding reinforcements, and by tailoring the overall mix design.

4. INSTALLATION REQUIREMENTS

4-A. When the bottom of the excavation is soft, or where in the opinion of the soils engineer unsatisfactory foundation conditions exist, the contractor shall over excavate to a depth to ensure a proper foundation as directed by the soils engineer. The excavation can then be brought back up to the prescribed flat pad foundation grade with a thoroughly compacted granular material.

4-B. All backfill material shall be a granular material as required by the soils engineer. MGS units shall be designed to have no limitations of backfill height. Backfill should not be bulldozed or dropped directly on the MGS unit.

4-C. Installation guidelines shall be made available online.

NPCA CERTIFIED PLANT

SEPA solar electric power association

aci international

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