



## SECTION 03540

### PLASTERFORM POLYMER GLASSFIBER REINFORCED CEMENT (G.R.C.)

#### **1 GENERAL:**

REV: 11/99

##### **1.1 SECTION INCLUDES**

- .1 Furnish all materials, labor, equipment and services necessary for the supply and installation of PlasterForm G.R.C. Components as indicated on the drawings and contract documents, all in compliance with local codes and/or ordinances.
- .2 Work shall include supply and installation.

##### **1.2 RELATED SECTIONS**

- .1 Section 09100 : Metal Support Systems
- .2 Section 07920 : Sealants and Caulk
- .3 Section 09900 : Painting

##### **1.3 INTENT**

- .1 This specification is intended to generally outline the PlasterForm G.R.C. requirements, as they pertain to the overall project design. In all cases, the manufacturer's printed specifications shall govern the work of this section.

##### **1.4 RESPONSIBILITY**

- .1 The Gypsum Board or Carpentry Contractor shall install the work under this section and he will be responsible for coordinating the installation with other trades.

##### **1.5 SUBMITTALS**

- .1 Submit a minimum of 3 - 8" x 8" PlasterForm G.R.C. flat samples to the finishing contractor for paint selection. Use only high grade breathable exterior primer and paint.
- .2 Submit shop drawings for approval showing plans, sections, details, joint treatment, reinforcing, fastening devices and the relation of the PlasterForm G.R.C. components to the surrounding construction.

##### **1.6 MOCK-UP**

- .1 Prior to production erect one proto-type on-site or at the PlasterForm plant, for review by the architect. Once approved this proto-type will establish standards by which the work will be judged.

## 1.7 SUBSTITUTIONS

- .1 Manufacturers desiring to submit proposals other than PlasterForm shall, at least 10 days prior to the bid date, submit to the architect all descriptive information of the system. These manufacturers must have a minimum of five years experience with the system and provide photographs and shop drawings of at least three projects similar in detail and scope with names, addresses and phone contacts of the respective architects and installation contractors. Independent test data showing compliance with the specified system and three samples of similar details must also be submitted.

## 2 PRODUCTS:

### 2.1 MANUFACTURER

- .1 PlasterForm Inc.  
1180 Lakeshore Road E.  
Mississauga, Ontario  
Canada L5E 1E9

Local Contact: Arcspec, 225 Peterson Rd., Libertyville, IL 60048, phone: 847-362-1590, fax: 847-362-1557

### 2.2 MATERIALS

- .1 PlasterForm G.R.C. components shall be prefabricated with Portland Cement, free of resin and asbestos, reinforced with chopped strand fiber.
- .2 PlasterForm G.R.C. components shall be suitably reinforced with galvanized steel.
- .3 Fabrication will be as per approved shop drawings and will not include assembly. If multiple components are required to complete design criteria as per contract drawings, additional site work under related section, installation or finishing may be required.
- .4 PlasterForm G.R.C. components shall be ready to receive primer and paint as specified under Section 09900.

### 2.3 TOLERANCES (FABRICATION)

Dimensional - all directions	+/- 1/8"
Thickness - skin	+/- 1/16"
Thickness - total unit	1/4" - 3/8"
Warpage or Bowing	+/- 1/16"/foot
Out of Plane - unit to unit	+/- 1/8"

Site conditions and normal manufacturing variations may require additional site work to maintain these tolerances.

## 2.4 PHYSICAL PROPERTIES

Shell Thickness	3/8"
Weight (depending on reinforcement)	2-1/2 - 4 lbs/sq.ft
Density	130 - 140 lbs/cu.ft
Compressive Strength (ASTM C-109-92 Mod.)	9,810 p.s.i.
Flexural Strength (ASTM C-947-89 Mod.)	2,060 p.s.i.
Modulus of Elasticity - In Flexure (ASTM D638-94b Mod.)	2.28 x 10 <sup>6</sup> p.s.i.
Tensile Strength (ASTM D-638-94b Mod.)	940 p.s.i.
Impact Strength (ASTM D-256-93a; Method A)	1.30 ft-lbs/in of notch
Coefficient of Linear Thermal Expansion (ASTM D-696-91)	0.60 x 10 <sup>-5</sup> /°F
Humidified Deflection (ASTM C-473-95)	No Measurable Value
Thermal Conductivity (ASTM C-177-85 (1993))	4.35 Btu-in/hr-sq.ft-°F
Fuel Contribution (ASTM E-136-98a)	0
Flame Spread (ASTM E-84-98)	0, Class A
Smoke Index (ASTM E-84-98)	0, Class A
Resistance to Weathering (ASTM G-23-93)	Class 5 Negligible color alteration
Screw Withdrawal (standard lab procedure)	346 lbs
Fiber Content	5%-6% by weight

## 2.5 INSPECTION

The Architect or his representative shall have access to the manufacturing facilities, either prior to contract award or thereafter, to inspect or verify compliance with the above specifications.

## 3.0 EXECUTION:

### 3.1 PRE-INSTALLATION RESPONSIBILITY

- .1 Field Measurement: Prior to manufacturing, the installer will be responsible for obtaining all field dimensions for inclusion on the manufacturers shop drawings.
- .2 Co-Ordination: The installer will be responsible for the co-ordination of the installation with related sections, within the tolerances specified in the respective articles.
- .3 Discrepancies: Prior to installation, the installer shall check job site dimensions and conditions. Any discrepancies between design and field dimensions shall be brought to the attention of the General Contractor and the Architect.

### 3.2 DELIVERY, STORAGE, HANDLING AND PROTECTION

- .1 Transport and handle units in a manner that avoids excessive stresses or damage.
- .2 Components displaying obvious damage must be rejected at site at time of delivery.
- .3 Store the components in a controlled environment, weather protected, on level surfaces, with temporary supports as required. Do not stack or lean.

**3.3 INSTALLATION**

- .1 Components shall be lifted with suitable devices.
- .2 Components shall be installed plum and true. Shim where necessary.
- .3 Fasten components using galvanized or stainless steel screws only through face or back as indicated on shop drawings.
- .4 Where components are suspended, use as a minimum 12 gauge galvanized steel wire and the suspension points indicated on the shop drawings.
- .5 Framing, hangers, etc, as specified for Gypsum Board Construction.
- .6 Butt Joints are to be caulked, as specified for Caulking - Section 07920.

**3.4 PATCHING AND CONTROL JOINTS**

- .1 Introduce control joints as required and as specified under related sections of the Specifications.
- .2 Patch countersunk fasteners and any damage to match component texture using suitable materials furnished by PlasterForm or by installer.

**3.5 FINISHING**

- .1 The Paint Contractor shall comply with the Painting Section of the Specifications for exterior concrete. Use only high grade exterior primer and paint.