



SECTION 04 23 16

HIGH LOAD PRECAST CONCRETE AND GLASS PAVER PANELS

PART 1. GENERAL

1.1. SUMMARY

A. Section Includes:

1. Precast concrete and glass paver panels.
2. Anchorage and attachments.
3. Glazing materials and sealant for panels

B. Related Requirements:

1. Division 01 - General Requirements: Administrative, procedural, and temporary work requirements.

1.2. ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:

1. Conference call with project stakeholders 2-4 weeks prior to beginning work of this Section.
2. Attendance suggestions: Architect, Owner, Contractor, Construction Manager, Installer, and related trades.
3. Review: Project conditions, manufacturer requirements, delivery, and storage, staging and sequencing, and protection of completed work.

1.3. SUBMITTALS

A. Action Submittals:

1. Shop Drawings: Show panel locations, sections of panels with attachments and provisions for expansion and contraction, and adjacent construction.
2. Samples: Submit Two full size samples of glass paver units.

B. Informational Submittals:

1. After approval of Shop Drawings submit drawings and calculations signed by registered Structural Engineer licensed in State in which Project is located, confirming that panels meet specified requirements.

C. Closeout Submittals:

1. Maintenance Data: Recommendations for cleaning and maintenance of panels, including glass unit replacement.

1.4. QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 3 years' experience in the manufacture of precast concrete and glass paver panel construction.
- B. Installer Qualifications: Minimum 3 years' experience in the installation of precast concrete panels and glass paver panels.
- C. Mockup:
 1. Provide mockup of glass masonry and concrete panel [if required]
 2. Size: 36" x 36"
 3. Review precast and glass paver panels' relationship to adjacent construction, and attachments.

1.5. DELIVERY, STORAGE AND HANDLING

- A. Handle units in manner to prevent damage and discoloration.
- B. Unless otherwise directed by manufacturer in writing, only lift panels from the top. Do not rack, torque, or cause load forces in an inappropriate manner.
- C. Store panels in dry location on wood spacers.
- D. Support panels on all edges on level and true supports with minimum bearing as indicated on manufacturers shop drawings.

1.6. SYSTEM DESCRIPTION

- A. Design Requirements: design panels to withstand:
 1. Minimum live load of 600 PSF on a 48" clear span.
 2. Concentrated load of [] pounds over 12" x 20" square foot area.
 3. Expansion and contraction caused by an ambient temperature range of -10 degrees F to 120 degrees F without damage to panels or attachments, failure of joint seals, reduction in performance, or other detrimental effects.
- B. Performance Requirements:
 1. No water penetration other than condensation on underside of panels.

1.7. WARRANTY

- A. Provide manufacturer's standard one (1) year warranty against defective materials and workmanship which includes leakage of water around undamaged glass pavers (except at panel joints and perimeter), structural failure, deterioration of finishes in excess of normal weathering and aging.

The manufacturer's warranty does not include glass breakage, damage caused by improper handling or use, improper installation, vandalism, abuse, or natural conditions exceeding standard performance requirements.

Where manufacturer is contacted and upon inspection finds that performance failure is due to defective materials of fabrication, all materials necessary to repair will be provided by the manufacturer at no extra cost to the customer.

The manufacturer's liability is limited to materials in the factory prefabricated panels only and manufacturer shall not be liable for damage caused by handling by contractor and installer, installation procedures, and consequential damages or expenses.

The contractor and installer shall furnish a written warranty covering defects in handling, installation procedures, materials and workmanship and field applied perimeter sealant work for a period of one (1) year from the date of installation. The contractor and installer's liability shall be limited to the prompt repair or replacement of panels, materials and/or perimeter sealant work.

PART 2. PRODUCTS

2.1. MANUFACTURERS

- A. Acceptable Manufacturer: GBA Architectural Products + Services, **877-280-7700**,
Email **sales@gbaproducts.com** / www.gbaproducts.com

2.2. COMPONENTS

- A. Prefabricated Precast and Glass Paver Panels: Factory fabricated precast concrete framework with traffic bearing, replaceable, glass paver units.
- B. Fabrication:

1. Glass pavers units: Solid, traffic bearing, replaceable, factory installed in cell openings using waterproof bedding and sealant materials. Note: Sandblasted top surface of glass paver is recommended.
2. Precast Color: [Natural Gray.] [Mineral Gray.] [Sand.] [Beige.] [Cream.] [Ivory.] [Custom color.]
3. Precast Finish: [Sandblasted.] [Acid etched.] [Broomed.]
4. Glass Paver Size: [6x6], [8x8], [4.5 round], [7.5 Round]

PART 3. EXECUTION

3.1. INSTALLATION

- A. Install panels in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Set panels with full bearing on all supported edges, with top of panels flush with adjoining surfaces [unless otherwise indicated].
- C. Where necessary, build up supports with materials similar to support members.
- D. Set panels to minimum 1/4 inch per foot slope; ensure drainage of surface water without ponding.
- E. Fasten panels to supports when so indicated on Shop Drawings.
- F. Allow joint sealer space between panels and adjacent construction, typically 1/2 inch.

3.2. FIELD QUALITY CONTROL

- A. Test panels after installation, in presence of [GC], [Owner] [and/or], [Architect], for water infiltration.
- B. Flood panels with water for minimum 15 minutes.
- C. Observe underside of panels for leakage during flood test.
- D. Correct deficiencies and repeat test until no leakage occurs.

3.3. PROTECTION

- A. Protect installed panels from damage during subsequent construction operations. The GC shall protect both the precast walking surface and glass paver surfaces to mitigate any construction related damage after installation.
- B. Replace cracked, broken, or otherwise damaged glazing units.

END OF SECTION