

Extrutech Plastics, Inc.  
5902 West Custer Street  
Manitowoc, Wisconsin 54220  
Toll Free 888-818-0118  
Phone 920-684-9650  
Fax 920-684-4344  
Website www.epiplastics.com  
E-mail info@epiplastics.com

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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The CSI Construction Specifications Practice Guide*.

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" after editing this section.

Section numbers and titles are from *MasterFormat 2012 Update*.

### SECTION 03 11 26

#### PERMANENT WALL FORMING

Specifier Notes: This section covers Extrutech Plastics, Inc. "Extrutech Concrete FORM System", a permanent, rib-reinforced, stay-in-place concrete form, for poured in place concrete walls, with interior and exterior prefinished, washable, PVC wall surfaces. Consult Extrutech Plastics, Inc. for assistance in editing this section for the specific application.

#### PART 1

##### GENERAL

#### 1.1 SECTION INCLUDES

- A. Permanent, rib-reinforced, PVC forms for cast-in-place concrete walls with interior and exterior, prefinished, washable, PVC wall panel surface.

## 1.2 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as necessary. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

- A. Section 03 30 00 – Cast-in-Place Concrete: Concrete placed in permanent PVC forms for walls.
- B. Section 06 64 00 – Plastic Paneling.
- C. Section 07 92 00 – Joint Sealants.

## 1.3 REFERENCE STANDARDS

Specifier Notes: List reference standards used elsewhere in this section, complete with designations and titles.

- A. ASTM D 3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- B. ASTM D 3274 – Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Fungal or Algal Growth, or Soil and Dirt Accumulation.
- C. ESR-4250 – ICC-ES Evaluating Report for compliance with the following codes:  
2018, 2015 and 2012 International Building Code®(IBC)  
2018, 2015 and 2012 International Residential Code® (IRC)  
Section 4.2.4 fire-resistance of concrete wall with Model P824 components have a one-hour fire resistance rating as limited load-bearing walls.
- D. ASTM E 84-16 and ASTM E84-2013a – ICC-ES Listing Report (ESL-1129) Standard Test Method for Surface Burning Characteristics of Building Materials, ASTM International
- E. ASTM E-72-15 Standard Test Method of Conducting Strength Tests of Panels for Building Construction  
ASTM C39/39M-21 for Compressive Strength  
ASTM E72- Section 12 for Transverse Load
- F. ISO 9001:2015 – Quality Management Systems – Requirements.

## 1.4 SUBMITTALS

Specifier Notes: Edit submittal requirements as necessary. Delete submittals not required.

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating dimensions, tolerances, materials, components, fabrication, fasteners, finish, options, and accessories.

- D. Samples: Submit manufacturer's sample of wall panels.
  - 1. Size: Minimum 6 inches long by panel width.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- F. Manufacturer's Project References: Submit manufacturer's list of successfully completed wall panel projects, including project name and location, name of architect, and type and quantity of wall panels furnished.
- G. Cleaning Instructions: Submit manufacturer's cleaning instructions.
- H. Warranty Documentation: Submit manufacturer's standard warranty.

## **1.5 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications:
  - 1. Manufacturer regularly engaged, for past 29 years, in the manufacturing of wall panels of similar type to that specified.
  - 2. ISO 9001:2015 QMS certified company.
- B. Installer's Qualifications:
  - 1. Installer regularly engaged, for past 5 years, in installation of wall panels of similar type to that specified.
  - 2. Employ persons trained for installation of wall panels.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Store materials in clean, dry area indoors.
  - 4. Do not store materials near sources of heat.
  - 5. Do not store materials directly on floor.
  - 6. Store materials on flat, level surface, raised above floor, with adequate support to prevent sagging.
  - 7. Protect materials and finish during storage, handling, and installation to prevent damage.

## **1.7 AMBIENT CONDITIONS**

- A. Cold Temperatures: Warm wall panels to a minimum of 60 degrees F (16 degrees C) overnight before field-cutting in ambient temperatures below 40 degrees F (4 degrees C).
- B. Warm Temperatures: Cool wall panels to a minimum of 60 degrees F (16 degrees C) overnight before installing panels in ambient temperatures above 70 degrees F (21 degrees C).

## 1.8 WARRANTY

- A. Conditional Warranty Period:
  - 1. Wall Panels: Limited Lifetime Warranty.
  - 2. Accessories: Limited Lifetime Warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Manufacturer: Extrutech Plastics, Inc., 5902 West Custer Street, Manitowoc, Wisconsin 54220. Toll Free 888-818-0118. Phone 920-684-9650. Fax 920-684-4344. Website [www.epiplastics.com](http://www.epiplastics.com). E-mail [info@epiplastics.com](mailto:info@epiplastics.com).

### 2.2 MATERIALS

- A. Permanent Wall Forming: "Extrutech FORM System".
  - 1. Description: Permanent, rib-reinforced, PVC forms for cast-in-place concrete walls with interior and exterior, prefinished, washable, PVC wall panel surface.
  - 2. Material: 100 percent virgin, exterior-grade PVC.
    - a. Recyclable Content: 100 percent.
  - 3. Interior and Exterior Prefinished Surface:

Specifier Notes: Consult Extrutech Plastics, Inc. for availability of custom colors.

- a. Color: Bright white.
    - b. Finish: Smooth, high gloss, reflective.
  - 4. Outside Panel Surfaces: Flat.
  - 5. Thickness:
    - a. Wall Panels: 6 inches and 8 inches.
    - b. Interior and Exterior Prefinished Surface: 0.110 inch for 6 inch thick and .120 inches for 8 inch thick
    - c. Reinforcing Ribs Inside Panels: 0.075 inch.

Specifier Notes: Consult Extrutech Plastics, Inc. for availability of custom panel widths.

- 6. Panel Width: 24 inches.
        - 7. Unit Weight: 3.5 psf.
        - 8. Panel Connections: Panels snap together and lock in place with double-spline, male/female, "E-Locking System".
        - 9. Fungus Resistance, ASTM D 3273 and D 3274: No mold or mildew growth.
        - 10. Nonporous.
        - 11. Waterproof.
        - 12. Corrosion proof.
        - 13. Termite resistant.
        - 14. Does not conduct heat or electricity.
        - 15. No exposed fasteners.
        - 16. Acceptance:

- a. USDA.
- b. Canadian Food Inspection Agency (CFIA).

## **2.3 FABRICATION**

- A. Shop Fabrication: Shop-cut wall panels to required lengths.

## **2.4 ACCESSORIES**

- A. Wall Corners: (6"&8")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.110 inch.
  - 3. Width: 6" & 8" inches.
  - 4. Color: Match wall panels.
  - 5. Finish: Match wall panels.
- B. Cap Channels: (6"&8")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.075 inch.
  - 3. Width: 6" & 8" inches.
  - 4. Color: Match wall panels.
  - 5. Finish: Match wall panels.
- C. Male/Female Inserts: (6")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.110 inch.
  - 3. Width: 5.875 inches.
  - 4. Color: Match wall panels.
  - 5. Finish: Match wall panels.
- D. 4.5 Degree Connector: (6")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.110 inch.
  - 3. Width: 6" inch.
  - 4. Color: Match wall panels.
  - 5. Finish: Match wall panels.
- E. Tee Post Connector: (6")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.110 inch.
  - 3. Width: 6" inch.
  - 4. Color: Match wall panels.
  - 5. Finish: Match wall panels.
- F. Spline Inserts: (6"&8")
  - 1. Material: Same as wall panels.
  - 2. Face Thickness: 0.250 inch.
  - 3. Width: 0.750 inch.
  - 4. Color: Match wall panels.

5. Finish: Match wall panels.
- G. Fasteners:
1. In accordance with manufacturer's instructions for application type.
  2. Use to fasten trim.
- H. Joint Sealants:
1. Fast curing, single compound joint sealant for concrete joints and perimeter caulking. In accordance with manufacturer's instructions.
  2. Use to seal panel and trim joints.
  3. Specified in Section 07 92 00.
- I. Adhesives:
1. Heavy-duty construction adhesive.
  2. Use as panel and trim adhesive.
  3. In accordance with manufacturer's instructions.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine locations to receive wall panels.
- B. Notify Architect of conditions that would adversely affect installation or subsequent use.
- C. Do not begin preparation or installation until unacceptable conditions are corrected.

### **3.2 PREPARATION**

- A. Clean and prepare locations to receive wall panels in accordance with manufacturer's instructions.
- B. Ensure locations to receive wall panels are level, flat, and clean.

### **3.3 INSTALLATION**

- A. Install wall panels in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install wall panels plumb, level, square, flat, and in proper alignment.
- C. Connect wall panels together to form wall assemblies in accordance with manufacturer's instructions.
- D. Provide smooth, aligned transition between panel faces.
- E. Brace wall panels, corners, and wall ends in accordance with manufacturer's instructions to accept placement of cast-in-place concrete.

- F. Install steel reinforcing bars as specified in Section 03 30 00 and as indicated on the Drawings.
- G. Place concrete in wall panels as specified in Section 03 30 00.
- H. Install wall panels to be waterproof and washable.
- I. Install accessories in accordance with manufacturer's instructions.
- J. Install joint sealants in joints between installed wall panels as specified in Section 07 92 00.
- K. Recommended Cement Mix: Use range of 6-8 Slump w/Plasticizer added; of 1/4" to 3/8" Pea Stone and range of 3000-5000 PSI - 7 Bag Mix and Pour Lifts of 3' Foot – 4' Foot Max.

### **3.4 ADJUSTING**

- A. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Architect.

### **3.5 CLEANING**

- A. Clean wall panels promptly after installation in accordance with manufacturer's instructions.
- B. Wash down excess concrete and remove temporary, clear protective film from wall panels as soon after finishing the pouring of concrete.
- C. Do not use harsh cleaning materials or methods that could damage finish.
- D. Do not use abrasive cleaners.

### **3.6 PROTECTION**

- A. Protect installed wall panels from damage during construction.

**END OF SECTION**