



ICC-ES Listing Report ESL-1209

Reissued June 2023

This listing is subject to renewal June 2024.

CSI: DIVISION: 03 00 00—CONCRETE
Section: 03 11 00—Concrete Forming

Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Product: EXTRUTECH FORM – MODEL P824

Listee: EPI 04 INC. DBA EXTRUTECH PLASTICS INC.

Evaluation: Extrutech Form – Model P824 are used as stay-in-place formwork for plain and reinforced concrete load-bearing and non-load-bearing wall. The Model P824 formwork is manufactured by a co-extrusion process, from a rigid polymer-based composite material of proprietary blend and was evaluated as a wall assembly when tested to the following standards:

- ASTM E119-16, ASTM E119-2012A, ASTM E119-2008A, and ASTM E119-07, Standard Test Methods for Fire Tests of Building Construction and Materials, ASTM International.

Assembly: Concrete walls constructed with the Model P824 components:

1. **PVC Formwork:** Model P824 formwork components are available for wall designs that are nominally 8 inches (200 mm) thick with a nominal interior cell wall thickness of 0.075 (1.91mm) and nominal wall panel thickness of 0.120 inch (3.05 mm). Each Model P824 formwork is primarily comprised of multi-cell panel components. The multi-cell panel connectors interlock with each other panels to form a monolithic wall formwork.
2. **Concrete:** The Extrutech Forms must be filled with normal-weight concrete having a maximum aggregate size of $\frac{3}{8}$ -inch (9.5 mm), a minimum slump of 5-inches (127 mm), a minimum 28-day compressive strength of 4,000 psi (27.6 MPa).
3. **Steel Reinforcement:** Deformed steel reinforcement bars must have a minimum yield stress of 40 ksi (275 MPa).

Findings: The assembly described in the Assembly Section, is a limited-load bearing 1-hr fire-resistance-rated wall assembly, where the applied design load (P_u) is limited to 15 kips/ft (20.3 kN/m) at a 10-foot height. The assembly is based on testing in accordance with ASTM E119, as referenced in the applicable section of the following code editions:

- 2018, 2015, 2012 and 2009 *International Building Code*®
Applicable Section: 703.2

Identification:

1. Each component of the Model P824 formwork is identified with a label indicating the manufacturer's name and address, the product name, the part number of the component, the ICC-ES evaluation report number (ESR-4250) and/or the ICC-ES listing report number (ESL-1209), and the ICC-ES listing mark, as applicable.

2. The report holder's contact information is the following:

EPI 04 INC. DBA EXTRUTECH PLASTICS INC.
5902 WEST CUSTER STREET
MANITOWOC, WISCONSIN 54220
(920) 684-9650
www.epiplastics.com
info@epiplastics.com

Installation: The product must be installed in accordance with the EPI 04 Inc. dba Extrutech Plastics Inc.'s published installation instructions and applicable codes.

Conditions of Listing:

1. The listing report addresses only conformance with the standard and code sections noted above.
2. Approval of the product's use is the sole responsibility of the local code official.
3. The listing report applies only to the materials tested and as submitted for review by ICC-ES.
4. Extrutech Form – Model P824 is manufactured in Manitowoc, Wisconsin under a quality control program with inspections by ICC-ES.