



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: CONFORM™ CF6

Listee: NUFORM BUILDING TECHNOLOGIES, INC.

Evaluation: CONFORM™ CF6 was evaluated based on a tested exterior limited load-bearing wall assembly consisting of building-material components described in the Assembly Section, tested in accordance with the following standards:

- UL 263-03 (with revisions through October 2007) and UL 263-03, Standard for Fire Tests of Building Construction and Materials, Underwriters Laboratories, Inc.
- ASTM E119-08A and ASTM E119-07, Standard Test Methods for Fire Tests of Building Construction and Materials, ASTM International.

Assembly: Concrete walls constructed with the following CF6 components have a two-hour fire-resistance rating as limited load-bearing walls:

I. Conform Formwork: Conform components are manufactured by a co-extrusion process, from a rigid polymer-based composite material that is identified by the manufacturer as Royalloy™ B. Royalloy™ B is a proprietary blend of polyvinyl chloride resin, acrylic modifiers, waxes, lubricants, tin stabilizers, ultraviolet protectants, smoke suppressant and flame retardant. The ultimate tensile strength of Royalloy™ B is 5,800 psi (40 MPa) and the modulus of elasticity is 0.458×106 psi (3158 MPa). Royalloy™ B is a Class CC1 plastic in accordance with IBC Section 2606.4. The maximum thickness of the Royalloy™ B material is 0.10 inch (2.54 mm). See Figure 1 for details.

II. Concrete: Conform formwork must be filled with normal-weight concrete having a maximum aggregate size of $\frac{3}{8}$ inch (9.5 mm), a minimum slump of $4\frac{1}{2}$ inches (114 mm), a minimum 28-day compressive strength of 3,000 psi (20.5 Mpa), and must comply with Chapter 19 of the IBC or Section R611.5.1 of the IRC.

III. Reinforcement: Deformed steel reinforcement bars must have a minimum yield stress of 40 ksi (275 MPa) and must comply with the applicable code.

The applied factored load (P_u) is limited to the lesser of the following:

- a. 42.5 kips/ft (619.6 kN/m)
- b. 46% of the design strength (ϕP_n) determined in accordance with Section 14.5 or Section 22.6 of ACI 318, as applicable.

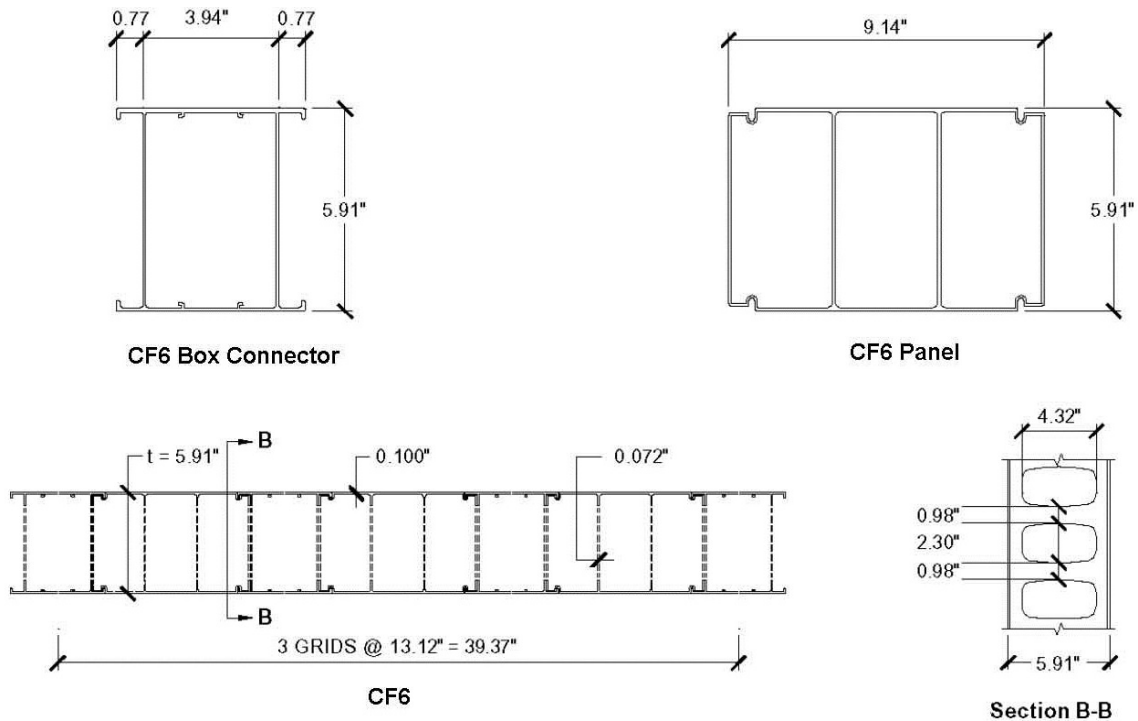


FIGURE 1

Findings:

The assembly described in the Assembly Section, with the CONFORM™ CF6 as a component of the assembly, is a two-hour fire-resistance-rated exterior limited load-bearing wall assembly, based on testing in accordance with UL 263/ASTM E119, as referenced in the applicable sections of the following code editions:

- 2012 and 2009 *International Building Code*®
Applicable Section: 703.2 and 705
- 2012 and 2009 *International Residential Code*®
Applicable Section: R302

Identification:

1. Each component of the Conform formwork is identified with a label indicating the manufacturer's name (Nuform Building Technologies Inc.) and address, the product name (Conform), the part number of the component, the listing report number (ESL-1092) and the evaluation report number (ESR-1223), and when applicable, the ICC-ES listing mark.
2. The report holder's contact information is the following:

NUFORM BUILDING TECHNOLOGIES, INC.
100 GALCAT DRIVE, UNIT #2
WOODBIDGE, ONTARIO L4L 0B9
CANADA
(905) 652-0001
www.nuformdirect.com

Installation:

The CONFORM™ CF6 shall be installed in accordance with the Nuform Building Technologies, Inc.'s published installation instructions and applicable codes.

Conditions of Listing:

1. The listing report addresses only conformance with the standards 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. The Assembly Section describes the assembly (or assemblies) using CONFORM™ CF6 that are qualified for use in an exterior limited load-bearing wall fire-resistance-rated assembly.