DIVISION: 03 00 00—CONCRETE
SECTION: 03 11 19—INSULATING CONCRETE FORMING

REPORT HOLDER:
DIVERSIFOAM PRODUCTS

EVALUATION SUBJECT:
A-ONE INSULATING CONCRETE FORMS™ (ICFS)

“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”

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1.0 EVALUATION SCOPE  
1.1 Compliance with the following codes:  
- 2015, 2012 and 2009 International Residential Code® (IRC)  
- Other Codes (see Section 8.0)  

Properties evaluated:  
- Structural  
- Surface-burning characteristics  
- Crawl space fire evaluation  
- Fire-resistance-rated construction  

1.2 Evaluation to the following green code:  
- 2016 California Green Building Standards Code (CALGreen), Title 24, Part 11  

Attributes verified:  
- See Section 3.1  

2.0 USES  
A-ONE Insulating Concrete Forms™ (ICFs) are used as stay-in-place formwork for structural concrete, load-bearing and nonload-bearing, below-grade and above-grade walls. The forms are used in construction of plain and reinforced concrete beams, lintels, exterior and interior walls and foundation and retaining walls. The forms remain in place after placement and curing of concrete and must be covered with approved interior and exterior finish material, as described in Sections 4.2.2 and 4.2.3, respectively. The forms are limited to buildings of Type V construction under the IBC and to buildings constructed under the IRC.  

3.0 DESCRIPTION  
3.1 General:  
The A-ONE ICF is a flat ICF system that complies with the requirements of ASTM E2634 as specified in 2015 IBC Section 1903.4, 2015 IRC Sections R404.1.3.6.1 and R608.4.4, 2012 IBC Section 1903.3, 2012 IRC Sections R404.1.2.3.6.1 and R611.4.4 and 2009 IRC Section R611.3.1, allowing for a solid reinforced concrete wall core of uniform thickness. The ICFs consist of expanded polystyrene (EPS) foam plastic panels and plastic cross-ties. See Figures 1 through 5 of this report for illustrations of the forms.  

The attribute of the A-ONE ICF system has been verified as conforming to the provision of CALGreen Section A4.404.3.3 for premanufactured building systems. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.  

3.2 Material:  
3.2.1 A-ONE Insulating Concrete Forms™: The EPS panels of the A-ONE Forms™ are 16 inches (406 mm) high, 48 inches (1219 mm) long and 2 1/2 inches (64 mm) thick. The ICFs consist of two EPS foam plastic boards separated by injection-molded polypropylene webs (cross-ties), which are partially embedded into the EPS boards. The polypropylene webs maintain the EPS board facings at a fixed clear distance of 4 inches (102 mm), 6 inches (152 mm), 8 inches (203 mm), 10 inches (254 mm) or 12 inches (305 mm). The panels are manufactured by injecting and expanding polystyrene beads into molds, as described in the approved quality control manual. The resulting EPS foam plastic complies with ASTM C578 as Type II, with a nominal density of 1.5pcf (24.03 kg/m³). The EPS foam plastic has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84. The form units have a preformed interlocking mechanism along the top and bottom edges, to facilitate stacking. See Figures 1 through 5. In addition to the standard forms, 45-degree angle and 90-degree angle corners are available.  

3.2.2 Polypropylene Cross-ties: The polypropylene cross-ties, spaced 8 inches (203 mm) on center horizontally, connect the EPS foam plastic panels at a fixed clear distance. The cross-ties consist of a flange that is embedded in the foam plastic panel during the foam plastic molding process, and a web that connects the two flanges and therefore the two foam plastic panels. The
cross-ties have openings to permit concrete to flow through, and have slots to support horizontal steel reinforcing bars. The plastic flange is recessed $\frac{1}{2}$ inch (12.7 mm) below the EPS surface and is used for attachment of exterior and interior finish materials. The flange of the cross-tie is 2.5 inches (64 mm) wide by 16 inches (406 mm) high by 0.150 inch (3.8 mm) thick.

3.2.3 90-Degree Corner: The 90-degree corner has an outside corner bracket made of polypropylene, as well as the same plastic cross-ties used in the straight form, and is recessed $\frac{1}{2}$ inch (12.7 mm) from the surface.

3.2.4 45-Degree Corner: The 45-degree corner uses the same plastic cross-ties as the standard form and the 90-degree corner.

3.2.5 Concrete: Concrete must be normal-weight concrete complying with IBC Chapter 19, and must have a maximum aggregate size of $\frac{1}{2}$ inch (19.1 mm) and a minimum specified compressive strength of 3,000 psi (21 MPa) at 28 days. Under the IRC, concrete must comply with 2015 IRC Sections R404.1 and R608.5.1 and 2012 IRC Sections R404.1 and R611.5.1.

3.2.6 Reinforcement: The reinforced walls must be reinforced with deformed steel bars having a minimum specified yield stress of either 40 ksi (276 MPa) or 60 ksi (413 MPa), depending on the structural design. The deformed steel bars must comply with Section 20.2.1.3 of ACI 318-14 under the 2015 IBC (Section 3.5.3.1 of ACI 318-11 and -08 under the 2012 and 2009 IBC) and IRC Section 1903. If construction of the ICFs is based on the IRC, reinforcement must comply with 2015 IRC Sections R404.1.3.3.7 and R608.5.2, and 2012 and 2009 IRC Sections R404.1.2.3.7 and R611.5.2, as applicable; otherwise the concrete must be designed in accordance with ACI 318.

3.2.7 Other Components: When required by Section 2304.12 of the 2015 IBC and Section 2304.11 of the 2012 and 2009 IBC or Section R317.1 of the IRC, wood members in contact with concrete for plates of window and door framing must be treated with an approved wood preservative in accordance with the applicable code, or be of a naturally durable species, and must be attached with hot-dipped galvanized or stainless steel fasteners complying with 2015 IBC Section 2304.10.5, 2012 and 2009 IBC Section 2304.9.5 or IRC Section R317.3, as applicable.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 IBC Method, Including Alternative IBC Wind Design in Accordance with ICC 600: For buildings constructed under the provisions of the IBC, concrete walls formed by the ICFs must be designed and constructed in accordance with IBC Chapters 16 and 19, as applicable. Footings and foundations formed by the ICFs must be designed and constructed in accordance with IBC Chapter 18.

Solid concrete walls formed by flat ICFs may be designed and constructed in accordance with the prescriptive provisions of Section 409 of the ICC Standard for Residential Construction in High Wind Regions (ICC 600-2008) under the 2012 and 2009 IBC, as applicable, subject to the limitations found in Exception 1 of IBC Sections 1609.1.1 Exception 1 and Section 1609.1.1.1. Design and construction under the provisions of ICC 600-2014 or 600-2008 are limited to resistance to wind forces.

4.1.2 IRC Method: For buildings constructed under the provisions of the IRC, concrete walls formed by the ICFs, which comply with the dimensional requirements found in 2015 IRC Table R608.3 and Figure R608.3(1), or 2012 and 2009 IRC Table R611.3.1 and Figure R611.3(1), must be designed and constructed in accordance with 2015 IRC Sections R404.1.3 and R608, or 2012 and 2009 IRC Sections R404.1.2 and R611, as applicable, for flat wall systems.

The 4-inch-thick (102 mm) concrete walls are limited to above-grade construction in accordance with 2015 IRC Section R608 or 2012 and 2009 IRC Section R611, as applicable.

4.1.3 Footings and foundations must be designed and constructed according to Section R404 of the IBC. The IRC Method is an alternate method to the IBC Method. When buildings constructed under IRC provisions do not conform to the applicability limits of 2015 IRC Sections R404.1.3 and R608.2 or 2012 and 2009 IRC Sections R404.1.2 and R611.2, as applicable, construction must be in accordance with the prescriptive provisions of the 2012 Prescriptive Design of Exterior Concrete Walls for One- and Two-family Dwellings (PCA 100-12) under the 2015 IBC, or the 2010 Prescriptive Design of Exterior Concrete Walls for One- and Two-family Dwellings (PCA 100-10) under the 2012 IBC or 2007 Prescriptive Design of Exterior Concrete Walls (PCA 100-07) as applicable, or a structural analysis and design of the concrete must be in accordance with ACI 318 and IRC Chapters 16, 18 and 19.

4.2 Installation:

4.2.1 General: Installation of ICFs must comply with the manufacturer’s published installation instructions. The manufacturer’s published installation instructions must be available at the jobsite at all times during installation.

The ICFs and resulting concrete walls must be supported on concrete footings complying with IBC Chapters 18 and 19, or IRC Chapter 4, as applicable. Placement of the form units must begin at a corner and proceed around the building perimeter. The amount, placement and spacing of reinforcing required must be determined for each project, based on the approved plans and the applicable code. Vertical rebar embedded in the footing must extend into the base of the wall system the minimum development length necessary for compliance with Chapter 25 of ACI 318-14 under the 2015 IBC or Chapter 12 of ACI 318-11 or -08 under the 2012 and 2009 IBC or 2015 IRC Section R608.5.4 or 2012 and 2009 IRC Section R611.5.4, as applicable. Additional reinforcement around doors and windows must be described in the approved plans. Concrete quality, mixing and placement must comply with ACI 318-14 as referenced in 2015 Section 1901 [ACI 318-11 as referenced in 2012 IBC Section 1901 (2009 IBC Section IBC Section 1905)] or 2015 IRC Sections R404.1.3.3 and R608.5.1 [2012 or 2009 IRC Sections R404.1.2.3 and R611.5.1], as applicable. The minimum ambient temperature during placement must be in accordance with ACI 306. Window and door openings must be built into the form units, with wood or polyvinyl chloride plastic frames of the same dimensions as the "rough stud opening" specified by the window or door manufacturer, prior to the placement of the concrete. Connections of concrete walls to footings, floors, ceilings and roofs must be in accordance with 2015 IRC Section R608.9 [2012 and 2009 IRC Section R611.9], or be engineered in accordance with the IBC, as applicable. Wood plates must be anchored to the top of the wall. Anchor bolts used to connect the wood ledgers and plates
to the concrete must be cast in place, with the bolts sized and spaced, as required by the design and the applicable code. Details must be prepared to accommodate the specific job situation, in accordance with the applicable code and the requirements of this report, subject to the approval of the code official.

4.2.2 Interior Finish:

4.2.2.1 General: The ICFs exposed to the building interior must be finished with an approved 15-minute thermal barrier, such as minimum 1/2-inch-thick (12.7 mm) gypsum board complying with ASTM C36 or ASTM C1396, as required by IBC Section 2603.4 and IRC Section R316.4, as applicable. The wallboard must be placed either vertically or horizontally and must be attached to the cross-tie flanges with either No. 6, Type W, coarse-thread gypsum board screws or No. 6, Type S, gypsum board screws complying with ASTM C954 or C1002, spaced 16 inches (406 mm) on center horizontally and vertically. The screws must penetrate a minimum of 1/2 inch (6.4 mm) through the cross-tie flange. Gypsum board joints must be taped and finished with joint compound in accordance with ASTM C840 or GA 216. See Section 4.2.2.2 for installation details for attic and crawl space applications without an ignition barrier on the interior face.

4.2.2.2 Attic and Crawl Space Installations: The ICFs are permitted to be used as walls of attics and crawl spaces without an ignition barrier applied to the attic or crawl space side of the foam plastic, provided all the following conditions are met:

- Entry to the attic or crawl space is only to service utilities, and no storage is permitted.
- There are no interconnected attic or crawl space areas.
- Air in the attic or crawl space is not circulated to other parts of the building.
- Attic ventilation is provided when required by IBC Section 1203.2 or IRC Section R806, as applicable.
- Under-floor (crawl space) ventilation is provided when required by 2015 IBC Section 1203.4 [2012 and 2009 IBC Section 1203.3] or IRC Section R408.1, as applicable.
- Combustible air is provided in accordance with IMC (International Mechanical Code®) Section 701.

4.2.3 Exterior Finish:

4.2.3.1 Above Grade: The A-ONE Insulating Concrete Forms (ICFs) must be covered with an approved exterior wall covering in accordance with the applicable code or a current ICC-ES evaluation report. Under the IRC, the walls must be flashed in accordance with 2015 IRC Section R404.1.2(2), R404.1.2(3), and R404.1.2(8). For concrete foundation walls in accordance with the IBC, vertical reinforcement size and spacing must be in accordance with IRC Tables R318.4(2), R318.4(3), and R318.4(8). For concrete foundation walls in accordance with the IRC, vertical reinforcement size and spacing must be in accordance with IRC Table 1807.1.6.2. Alternative design and construction may be in accordance with ACI 318, ACI 332, or PCA 100 (see 2015 IRC Section R404.1.3 [2012 and 2009 IRC Section R404.1.2]) for buildings under the IRC.

4.2.5 Retaining Walls: The ICFs are permitted to be used as a retaining wall with the wall designed in accordance with accepted engineering principles, Section 4.1 of this report, and the applicable code.

4.2.6 Protection Against Termites: Where the probability of termite infestation is defined as “very heavy” by the code official, the foam plastic must be installed in compliance with 2015 IRC Section 2603.8 [2012 IBC Section 2603.9 (2009 IBC Section 2603.8)] or IRC Section R318.4, as applicable. Areas of very heavy termite infestation must be determined in accordance with 2015 IRC Figure 2603.8 [2012 IBC Figure 2603.9] or IRC Figure R301.2(6), as applicable.

4.2.7 Fire-resistance-rated construction: A-ONE ICFs can be used to construct fire-resistance-rated wall assemblies as shown in Table 2. The normal-weight concrete must have carbonate aggregate and a minimum 28-day compressive strength of 3,000 psi (21 MPa). The minimum size reinforcement must be No. 4 reinforcing bars. The bars must be spaced as required by ACI 318. At a minimum, bars placed vertically must be in the center of the wall and spaced 24 inches (610 mm) on center; and bars placed horizontally must be spaced 16 inches (406 mm) on center and must be staggered on either side of the vertical bars, from top to bottom. The maximum axial compressive load must be 7 percent of the load determined in accordance with Chapter 19 of the IBC.

4.3 Special Inspection:

4.3.1 IBC: Special inspection is required as noted in 2015 and 2012 IBC Section 1705 [2009 IBC Section 1704] for placement of reinforcing steel and concrete, and for concrete cylinder testing. Special inspection in accordance with 2015 IBC Sections 1704.2 and 1705.16 [2012 IBC
Conditions of Use

The A-ONE Insulating Concrete Forms™ (ICFs) described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The ICF units are manufactured, identified and installed in accordance with this report and the A-ONE Insulating Concrete Forms™ published installation instructions. If there is a conflict between the manufacturer's published installation instructions and this report, this report governs.

5.2 Plastic cross-ties must be stored indoors away from direct sunlight.

5.3 The forms must be separated from the building interior with an approved 15-minute thermal barrier, as described in Section 4.2.2.2, except for attic or crawl space construction as described in Section 4.2.2.2.

5.4 Concrete walls formed by the A-ONE are limited to buildings of Type V-A and Type V-B (IBC) construction, and to construction in accordance with the IRC, as applicable.

5.5 When required by the code official, calculations showing compliance with the general design requirements of Chapters 16, 18 and 19 of the IBC must be submitted to the code official for approval, except that calculations are not required when the A-ONE Insulating Concrete Forms™ are installed and used in accordance with the prescriptive provisions of the IRC or PCA 100, as described in Sections 4.1.2 and 4.1.3, respectively, of this report, or when foundation design is based on IRC Section R404.

5.6 Concrete quality, mixing and placement must comply with IBC Section 1905 or 2015 IRC Sections R404.1 and R608.5.1 [2012 and 2009 IRC Sections R404.1 and R611.5.1], as applicable.

5.7 Special inspection must be provided in accordance with Section 4.3 of this report.

5.8 As described in Section 4.2.6 of this report, protection against termites must be provided as required by 2015 IRC Section 2603.8 [2012 IRC Section 2603.8] or IRC Section R318.4, as applicable.

5.9 For the ICFs recognized as walls of attics or crawl spaces without an ignition barrier applied to the attic or crawl space side of the foam plastic, as described in Section 4.2.2.2 of this report, the exposed, inside face of the ICFs must be labeled with the ICC-ES evaluation report number (ESR-1815) and the phrase “Acceptable for use in attics and crawl spaces.” The label must be applied such that, at a minimum, it is visible in every 160 square feet (14.72 m²) of wall surface area.

5.10 When required by the code official, calculations and details showing compliance with the provisions found in 2015 IRC Sections R404.1.3.3.6 and R608.5.3 [2012 and 2009 IRC Sections R404.1.2.3.6 and R611.5.3] must be submitted to the code official for approval. The calculations and details, establishing that the ICFs provide sufficient strength to contain concrete during placement and that the cross-ties are capable of resisting the forces created by fluid pressure of fresh concrete, must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.11 When the ICFs are used as part of a fire-resistance-rated assembly, Section 4.2.7 of this report applies.

5.12 Form units are manufactured at 9091 Country Road 50, and 6901 West Road, Rockford, Minnesota, under a quality control program with inspections by ICC-ES.

Identification

7.1 Each bundle of A-ONE Insulating Concrete Forms™ must bear a label that includes the company name (DiversiFoam Products), address and telephone number; manufacturing address; product name and manufacturing code number; and the evaluation report number (ESR-1815). Additionally, the ICFs must be labeled as indicated in Section 5.9 of this report.

7.2 The report holder's contact information is the following:

DIVERSIFOAM PRODUCTS
9091 COUNTRY ROAD 50
ROCKFORD, MINNESOTA 55373
(763) 477-5854
www.diversifoam.com

Other Codes

8.1 Evaluation Scope:

The products described in this report were also evaluated for compliance with the requirements of the following codes:

- 2006 International Residential Code® (2006 IRC)

8.2 Uses:

See Section 2.0
8.3 DESCRIPTION:
Same as Section 3.0 except:
- Section 3.1 is revised to say that A-ONE ICFs are flat ICF wall systems in accordance with Section R611.3 of the 2006 IRC.
- Section 3.2.5 is revised to say that if construction of the ICF wall system is based on the 2006 IRC, the concrete must comply with Sections R404.4.5 and R611.6.1.
- Section 3.2.6 is revised to say that if construction of the ICF wall is based on the 2006 IRC, reinforcement must comply with Sections R404.4.6 and R611.6.2.
- Section 3.2.7 is revised to say that wood members in contact with concrete must comply with Section R319.3 of the 2006 IRC.

8.4 Design and Installation:

8.4.1 Design:

8.4.1.1 2006 IBC Design: See Section 4.1.1, except that concrete walls formed by the A-ONE ICFs must be designed and constructed in accordance with 2006 IBC Chapters 16 and 19, as applicable. Footings and foundations must be designed and constructed in accordance with 2006 IBC Chapter 18.

8.4.1.2 IRC Design: See Section 4.1.2, except that concrete wall design and construction is in accordance with 2006 IRC Sections R404.4 and R611 including Figure R611.3 for flat ICF wall systems. Footings and foundations must be designed and constructed in accordance with 2006 IRC Chapter 4.

8.4.1.3 Alternate IRC Design: When buildings constructed under the 2006 IRC provisions do not conform to the applicability limits of 2006 IRC Sections R404.4.1 and R611.2, the structural analysis and design of the concrete must be in accordance with ACI 318 and Chapter 19 of the 2006 IBC.

8.4.2 Installation: See Section 4.2, except:
- In Section 4.2.1, it must be indicated that vertical rebar embedded in footing must extend into the base of the wall system the minimum development length necessary for compliance with Chapter 12 of ACI 318 (IBC) or 2006 IRC Section R611.7.1.2, as applicable. Concrete quality, mixing and placement must comply with 2006 IBC Section 1905 or 2006 IRC Section R611.6.1. Connections of concrete walls to footings, floors, ceilings and roofs must be in accordance with 2006 IBC Sections R611.7, R611.8 and R611.9, or be engineered in accordance with the IBC.
- In Section 4.2.2.1, the IRC reference to an approved 15-minute thermal barrier is revised to 2006 IRC Section R314.4.
- In Section 4.2.2.2, it must be indicated that under-floor (crawl space) ventilation is provided when required by 2006 IBC Section 1203.3 or 2006 IRC Section R408, as applicable. Combustible air is provided in accordance with 2006 IMC Sections 701 and 703.
- In Section 4.2.3.2, for basement wall installations, it must be indicated that the ICF surfaces must be dampproofed and/or waterproofed in accordance with 2006 IBC Section 1807) or 2006 IRC Section R406, as applicable. Drainage requirements must comply with 2006 IBC Section 1807.4 or 2006 IRC Section R405.1, as applicable.
- In Section 4.2.4, it must be indicated that design and installation of the ICFs as foundation walls must comply with Section 1805.5 of the 2006 IBC, or Sections R404.4 and R404.1.2 of the 2006 IRC, as applicable. For concrete foundation walls in accordance the IBC, vertical reinforcement size and spacing must be in accordance with 2006 IBC Table 1805.5(5).
- In Section 4.2.6, where the probability of termite infestation is defined as “very heavy” by the code official, the foam plastic must be installed in accordance with 2006 IBC Section 2603.8 or 2006 IRC Section R320.5, as applicable.

8.4.3 Special Inspection:

8.4.3.1 IBC: Special inspection is required as noted in 2006 IBC Section 1704 for placement of reinforcing steel and concrete, and for concrete cylinder testing. Special inspection, in accordance with 2006 IBC Sections 1704.1 and 1704.12, is required when an EIFS wall covering is applied. Duties of the special inspector include verifying field preparation of materials, expiration dates, installation of components, curing of components, treatment of joints, and application of sealants.

8.4.3.2 IRC: For walls designed and constructed in accordance with Section 8.4.1.2, special inspection is not required. For walls designed for use under the 2006 IRC, in accordance with Section 8.4.1.3 of this report, special inspection in accordance with Section 8.4.3.1 is required.

8.5 Conditions of Use:
Same as Section 5.0 except as follows:
- Section 5.4: When required by the code official, calculations showing compliance with the design requirements of Sections 8.4.1.1 and 8.4.1.3 of this report must be submitted for approval, except calculations are not required when the building design is based on the prescriptive method noted in Section 8.4.1.2. The calculations and details must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- Section 5.5: Concrete quality, mixing and placement must comply with 2006 IBC Section 1905 or 2006 IRC Section R611.6.1, as applicable.
- Section 5.6: Special inspection must be in accordance with Section 8.4.3.
- Section 5.7: In areas where the probability of termite infestation is defined as “very heavy” by the code official, the foam plastic must be installed in accordance with 2006 IBC Section 2603.8 or 2006 IRC Section R320.5, as applicable.
- Section 5.9 is not applicable

8.6 Evidence Submitted:
Data in accordance with the ICC-ES Acceptance Criteria for Stay-in-place, Foam Plastic Insulating Concrete Form (ICF) Systems for Solid Concrete Walls (AC353), dated October 2007 (editorially revised April 2008).

8.7 Identification:
See Section 7.0.
TABLE 1—ALLOWABLE WITHDRAWAL AND LATERAL CAPACITIES OF FASTENERS IN PLASTIC TIE FLANGES

<table>
<thead>
<tr>
<th>FASTENER</th>
<th>ALLOWABLE LOAD CAPACITY (lbf)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 6, Type W, coarse-thread gypsum wallboard screw</td>
<td>57</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>No. 6, Type S, fine-thread gypsum wallboard screw</td>
<td>53</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>0.108-inch diameter by 1 5/8-inch-long (2.7 By 41.2 mm) ring-shank, drywall nail</td>
<td>39</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>No. 10 by 2 1/2-inch (63.5 mm) Phillips flat head, steel, wood screw</td>
<td>89</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>No. 9 by 2 1/2-inch (69.9 mm), flat head, cross-cut thread, outdoor, steel, wood screw</td>
<td>94</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

For SI: 1 lbf = 4.45 N; 1 inch = 25.4 mm.

TABLE 2—FIRE-RESISTANCE-RATED WALL ASSEMBLIES

<table>
<thead>
<tr>
<th>CONCRETE THICKNESS (inches)</th>
<th>FIRE-RESISTANCE RATING (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm.

FIGURE 1—4-INCH A-ONE FORM WALL SYSTEM

FIGURE 2—6-INCH A-ONE FORM WALL SYSTEM
FIGURE 3—8-INCH A-ONE FORM WALL SYSTEM

FIGURE 4—10-INCH A-ONE FORM WALL SYSTEM

FIGURE 5—12-INCH A-ONE FORM WALL SYSTEM