



ONLINE DIRECTORIES

BXUVC.W012 Fire-resistance Ratings

[Page Bottom](#)

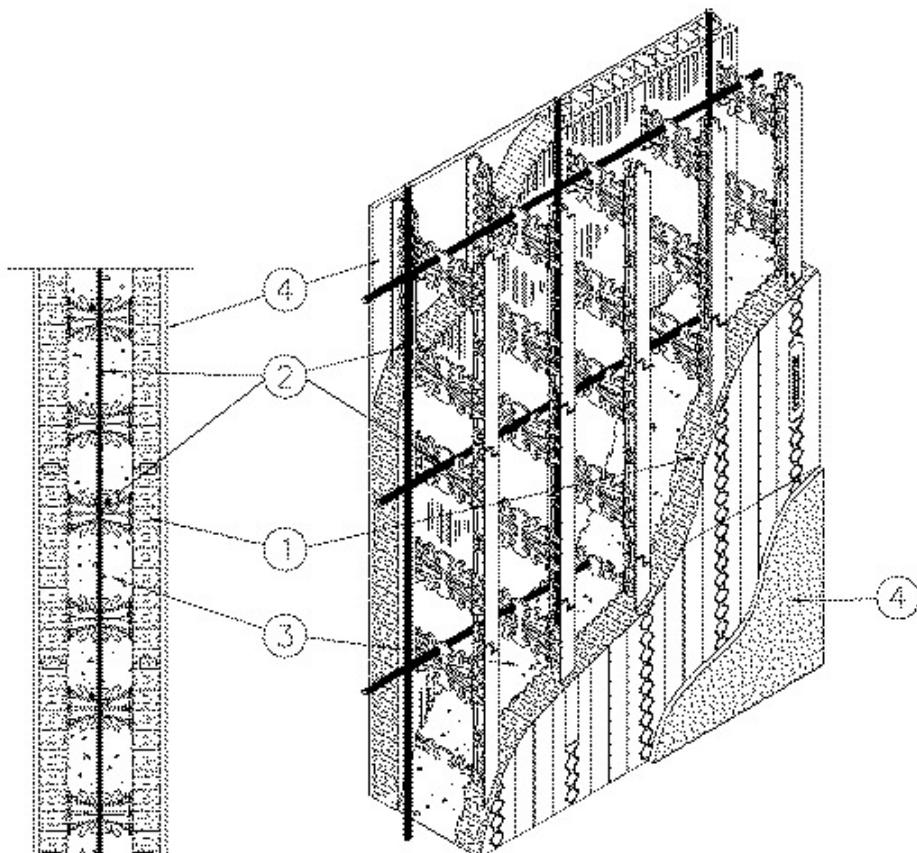
Fire-resistance Ratings

[See General Information for Fire-resistance Ratings](#)

Design No. W012

February 18, 2014

Assembly Rating - 2 or 4 h (See item 1)



Bearing Wall

- 1. **Insulated Concrete Forms** — (CDEL). Standard form units comprised of two 2440 by 457 mm by 67 mm thick expanded polystyrene (EPS) panels linked by polypropylene webs at 200 mm OC. The minimum width of the ICF cavity is 102 mm as shown in the table below. Height adjusters consist of 813 mm long, 76 mm high and 67 mm thick flat EPS panels. End caps vary with wall thickness from 102 mm to 305 mm wide, 457 mm high and 60 mm thick flat EPS panels. Assembly ratings depend on width of ICF cavity as shown in table below:

| Assembly Rating, h | Min. ICF Cavity Thickness, mm |
|--------------------|-------------------------------|
| 2 | 102 |
| 4 | 152 |

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2. **Reinforcing Steel** — 10M reinforcing bars inserted horizontally into each ICF course within polypropylene web notches. Reinforcing bars placed vertically at 400 mm OC into centre of ICFs.

3. **Sand-Limestone Concrete** — $2300 \pm 50 \text{ kg/m}^3$ density, 20 MPa nominal compressive strength.

4. **Gypsum Wallboard** — Min. 12.7 mm thick, min. 6.6 kg/m^2 , 1220 mm wide, Listed or unlisted gypsum wallboard with paper or fiberglass facing. Gypsum wallboard fastened to flanges of polypropylene webs with min. 50 mm long drywall screws at 425 mm OC vertically and 200 mm OC horizontally. When gypsum board is greater than 12.7 mm thick, screw length shall be increased to provide min. 37.3 mm penetration into the polypropylene webs. Joints covered with joint compound, covered with joint tape, and covered with an additional coat of joint compound. Screwheads covered with joint compound. When the exterior face of the exterior wall is required to be of noncombustible materials, the gypsum wallboard may be substituted with min. 12.7 mm thick, min. 6.6 kg/m^2 , 1220 mm wide, exterior grade, Listed or unlisted non-combustible gypsum wallboard installed as specified above using galvanized exterior grade screws. When the Insulated Concrete Wall is used as an exterior wall, in order for the Fire Resistance Rating to remain valid from both sides of the wall, the gypsum wallboard on the exterior face of the exterior wall may be substituted with minimum 25 mm thick concrete or masonry mechanically fastened to the supporting Insulated Concrete Wall independent of the EPS insulation.

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[Page Top](#)

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