
The Advantage ICF System® combines rigid expanded polystyrene (EPS) insulation panels with a web and interlock connector system that results in a concrete wall of uniform thickness. The EPS insulation panels in the Advantage ICF System stay in place permanently to provide an insulated cast-in-place concrete wall resulting in a superior, energy efficient building envelope.

The table below summarizes requirements related to ICF foundation wall applications.

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The table below summarizes requirements related to ICF walls not in contact with the ground (above-grade) to a maximum of two storeys in **building height**. The code defines **building height** (in storeys) as the number of **storeys** contained **between the roof and the floor of the first storey**. The **first storey** is defined as the uppermost storey having its **floor level** not more than 2 m above grade.

### Above Grade ICF Wall Construction:

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The following notes provide additional information related to design and installation of wall construction using the Advantage ICF System:

1. For design conditions beyond the scope of the referenced building code provisions refer to the **Advantage ICF System Design Manual**.
2. The **Advantage ICF System Installation Manual** provides additional information on the construction of ICF walls.
3. Article 9.25.3.2. related to air barrier system properties has been revised in the NBC 2010 and the 2012 BCBC to add a reference to a new Table A-9.25.5.1.(1) in Appendix A which indicates the air leakage characteristic for 50 mm thick concrete is negligible.
4. Article 9.25.4.2. in the NBC 2010 and 2012 BCBC related to vapour barrier materials has been revised to add a new Sentence 9.25.4.2.(6) indicating that where insulation functions as the vapour barrier, it shall be sufficiently thick to meet the vapour material requirements. **NOTE:** Refer to Advantage ICF System Product Information Bulletin 209 for additional information on air barrier and vapour barrier requirements.

The following detail drawings attached with this bulletin provide additional assistance to identify code requirements for ICF construction:

- D.0.1 – **RESIDENTIAL FOUNDATION WALL PRESCRIPTIVE REQUIREMENTS PER NBC 2005 AND NBC 2010.**
- D.0.2 – **RESIDENTIAL ABOVE-GROUND PRESCRIPTIVE REQUIREMENT PER NBC 2005 AND NBC 2010.**
- D.0.3 – **RESIDENTIAL OPENINGS REINFORCING REQUIREMENT PER NBC 2005 AND NBC 2010.**
ICF FOUNDATION WALLS

LATERAL SUPPORT @ TOP
9.15.4.3.(5)

SILL PLATE
9.20.17.5.(4)
9.23.6.1.(2)(3)

TOP REINFORCING
9.15.4.5.(1)(a)(i)

PROTECTIVE COVER EPS
9.10.17.10.(1)

DAMP PROOFING/WATERPROOFING
SEE PIB 205
DAMP PROOFING
9.13.2.4.(3)
ICF PREPARATION
OR
WATERPROOFING
9.13.3.4.(3)
ICF PREPARATION

TYPICAL HORIZONTAL REINFORCING
9.15.4.5.(1)(a)(ii)

TYPICAL VERTICAL REINFORCING
9.15.4.5.(2)

CONCRETE SLAB

LATERAL SUPPORT @ BOTTOM
DOWELS 9.15.4.4.(1)(c)

LATERAL SUPPORT @ BOTTOM
SHEAR KEY & FRAMING 9.15.4.4.(1)(b)

SOIL BEARING CAPACITY
AS PER
9.15.1.1.(1)(c)

FOOTING WIDTH AS PER
9.15.3.3
9.15.3.4
9.15.3.5

FOOTING THICKNESS
9.15.3.8.(1)

STEP FOOTING
9.15.3.9.(1)

TYPE 2 EPS UNDERSLAB INSULATION AS PER
9.25.2.2 AND 9.36.2.8

NOTE: SEE D.0.3 FOR REINFORCING REQUIREMENT FOR OPENINGS
ABOVE-GROUND ICF WALLS

ROOF CONNECTION 9.20.17.6

TOP REINFORCING
9.20.17.2.(1)(a)(i)
9.20.17.2.(1)(b)

HORIZONTAL REINFORCING
9.20.17.2.(1)(a)(ii)

VERTICAL REINFORCING
9.20.17.2 (2)(3)

COLD JOINTS
9.15.4.5.(3)

LEDGER CONNECTION
9.20.17.5

BELOW GRADE

NOTE: SEE D.0.3 FOR REINFORCING REQUIREMENT FOR OPENINGS
BELOW GRADE OPENING REINFORCING - SEE 9.15.4.5.(4)

ABOVE GRADE OPENING REINFORCING - SEE 9.20.17.3 AND 9.20.17.4

FIGURE 1 - OPENINGS IN NON-LOADBEARING WALLS

≤ 3000 IN WIDTH

> 3000 IN WIDTH

FIGURE 2 - OPENINGS IN LOADBEARING WALLS

BOTTOM REINFORCING TABLES A-17, A-18 OR A-19 OR ADVANTAGE TECH MANUAL

> 900 IN WIDTH