



This bulletin summarizes findings from a comprehensive engineering analysis evaluating the fire performance of Insulating Concrete Forms (ICFs) used in exterior wall assemblies. The analysis, based on results from NFPA 285 fire tests, supports the use of various wall configurations that comply with NFPA 285 requirements for flame propagation control. NFPA 285 is a fire test mandated by the International Building Code (IBC) for multi-story exterior walls containing foam plastic insulation in Type I, II, III, and IV construction.

It is important to note that only select ICF products have been shown to meet the NFPA 285 requirements. One such product is Element ICF, which has demonstrated compliance through an evaluation of NFPA 285 fire test results conducted under the Insulating Concrete Form Manufacturers Association (ICFMA) program.

**KEY POINTS**

- Compliance Requirements: According to IBC Section 2603.5.5 (2000–2024), foam plastic insulation in walls must comply with NFPA 285 for buildings of Types I-IV of any height.
- Testing Summary: Two wall assemblies were tested under NFPA 285:
  - One with noncombustible brick veneer
  - One with combustible ACM (Aluminum Composite Material) veneer

**TESTED WALL ASSEMBLIES COMPONENTS**

<b>NFPA 285 Tested Wall Assemblies</b>	
<b>Brick Veneer System</b>	<b>ACM Veneer System</b>
Interior: 1/2" gypsum wallboard	Interior: 1/2" gypsum wallboard
ICF: 2 3/4" EPS (interior) + 4" concrete + 4 3/4" EPS (exterior)	ICF: 2 3/4" EPS (interior) + 4" concrete + 4 3/4" EPS (exterior)
WRB: Tremco ExoAir 230	WRB: DuPont Tyvek Commercial Wrap
Exterior: 4" brick veneer with air gap	Exterior: 4mm Alucobond PLUS ACM panels with 3" air cavity.



**NFPA 285 COMPLIANT WALL COMPONENTS BY EVALUATION**

**Table 1: ICF with Thermally *Thick* Veneers**

Wall Component	Summary
Interior Wallboard	Min. ½" gypsum, full coverage, screw fastened to crossies
Core Wall System	ICF with EPS foam and min. 4" concrete (max EPS total 7½")
Exterior Sheathing	None or min. ½" exterior gypsum sheathing
WRB Materials	None or per Table 3
Exterior Veneer	Brick, CMU, Concrete, Stone, AAC, Stucco, Thin Brick, Ceramic Tile, EIFS
Opening Protection	2 layers of ¾" FRT plywood or 2× FRT lumber, plus steel L angle and T-shield at header

**Table 2: ICF with Thermally *Thin* Veneers**

Wall Component	Summary
Interior Wallboard	Min. ½" gypsum, full coverage, screw fastened to crossies
Core Wall System	ICF with EPS foam and min. 4" concrete (max EPS total 7½")
Exterior Sheathing	Min. ⅝" Type X gypsum sheathing
WRB Materials	None or per Table 3
Exterior Veneer	Terracotta, Fiber Cement, Plate Metal, Honeycomb Composite, ACM
Opening Protection	2 layers of ¾" FRT plywood or 2× FRT lumber, plus steel flashing at header

**Table 3: Permitted Water-Resistive Barrier (WRB) Materials<sup>1</sup>**

WRB Manufacturer / Product	Thermally Thick Veneer (Table 1)	Thermally Thin Veneer (Table 2)
3M 3015	✓	
3M 3015 NP	✓	
DuPont Tyvek CommercialWrap	✓	✓
DuPont Tyvek ThermaWrap	✓	✓
Tremco ExoAir 230	✓	
Kingspan GreenGuard RainArmor	✓	
Kingspan GreenGuard Raindrop 3D	✓	✓
Prosoco R-Guard Spray Wrap	✓	
Prosoco R-Guard CAT-5	✓	
VaproShield RevealShield	✓	✓
VaproShield PanelShield SA	✓	✓
Sto ExtraSeal with StoGuard Mesh	✓	✓
MetalClad	✓	✓
W.R. Meadows Air-Shield Aluminum	✓	✓

1. ✓ indicates approved for the respective veneer type.



### OPENING PROTECTION REQUIREMENTS

- Minimum: Two layers of ¾" FRT plywood or 2× FRT lumber
- ACM and EIFS systems: Additional steel protection or back-wrapped mesh

### CONCLUSIONS

Two NFPA 285 tests validate the fire performance of wall assemblies constructed with Element ICF, demonstrating compliance with both noncombustible and combustible veneers. A wide range of cladding materials and water-resistive barriers (WRBs) are now deemed compliant for multi-story exterior walls containing foam plastic insulation in Type I, II, III, and IV construction.

For more information about NFPA 285 compliance, please contact Logix Brands Technical Services at [techdept@logixbrands.com](mailto:techdept@logixbrands.com). The full report can be found in the [Element ICF Technical library](#).