Insulating Concrete Forms

THE GREEN SOLUTION

Insulating Concrete Forms (ICFs) are **Expanded Polystyrene (EPS)** panels joined with a web and tie system that take the place of traditional concrete forms with an added benefit – they stay in place. As the ICF forms are stacked to match the wall dimensions, they are reinforced with steel rebar, and then filled with concrete. The result is a building envelope of superior energy performance, unmatched comfort, and enduring strength. The permanence of concrete construction coupled with the energy efficiency of the ICF forms increases the value of your investment. When you build with ICFs you can be assured that your project will withstand the test of time.

ENERGY PERFORMANCE

Energy efficiency is a significant concern for property owners as energy costs continue to rise. Federal and state governments are increasingly regulating building energy efficiency and owners are becoming more aware of their responsibility to reduce energy consumption. Design and construction of an ICF building envelope can significantly increase energy efficiency and contribute to attainable low or zero Energy Building.

CELBLOX® ICF walls feature a monolithic poured concrete core enclosed on both sides with 2 ½" of EPS insulation broken only by door and window openings. ICF wall thermal efficiency testing has established that ICF walls are 21-43% more efficient than their stated R-value. Additionally, the thermal mass of the concrete minimizes heat transfer and virtually eliminates air infiltration through the ICF building envelope.

FIRE RESISTANCE

CELBLOX® ICF walls have a fire rating of up to four hours. CELBLOX® EPS is treated with a fire retardant and will not support combustion and the concrete core does not burn even when exposed to high temperatures. In "fire-wall" tests, ICF walls subjected to temperatures of up to 2000°F for four hours showed no structural failure.

WIND RESISTANCE

CELBLOX® ICFs can withstand 250 mph winds according to a Texas Tech University Wind Study and are impervious to projectiles up to 100 mph. *"All-concrete structures could more than stand up to the positive and negative pressures from a hurricane or tornado."*

SEISMIC

In CELBLOX® ICF walls, the combination of concrete and steel provide the three most important properties for earthquake resistance – stiffness, strength, and ductility. Portland Cement Association research determined that the higher strength of ICF wall systems resist earthquakes of much higher magnitudes than framed wall systems. *Technology Brief 8*

SOUND ATTENUATION

CELBLOX® ICF walls reduce outside noise by as much as 87% effectively blocking street noise or airport traffic and have a minimum STC rating of 51. In sound transmission tests, ICF walls allowed less than one-third as much sound to pass through as a wood-framed wall.

For more information visit our website at www.celblox.com or Contact us at 1-608-630-2205

Approved by International Construction Code ICC-ESR-1525 • IRC R404.4 and R611prescriptive building method
Conforms to IBC commercial design specifications • Florida and Wisconsin State Approvals