

INSULATED CONCRETE FORMS

A Factsheet from Austin Energy's Green Building Program

Information on Insulated Concrete Forms (ICFs), which can be substituted for wood framed walls as well as concrete foundations when building an energy-conscious home.



Insulated Concrete Forms (ICFs) are new to the building industry. Their acceptance in the home building marketplace as an alternative to traditional wood framing has made them a competitive, durable option. ICFs come in a variety of forms (block or plank) with each company having their own patented design. The basic appearance of an ICF is a hollow core (which is later filled with concrete) flanked by two panels of foam held apart by some type of spacer (plastic, metal, or more foam). Most panels interlock somehow, with grooves or teeth on the top and bottom and sides of the form to provide a secure lock that will not give

way when the concrete is poured into them. The advantages of ICFs are durability, hurricane and tornado resistance (they are filled with concrete after all), good insulation value, and tight construction (the wall is poured full of concrete, filling gaps and voids where air might enter, which reduces energy costs).

Things to think about when planning an ICF house or building:

1. Use non ozone-depleting foam - all expanded polystyrene foams are now produced without ozone-depleting chemicals, the same cannot be said of all extruded polystyrene foams.
2. Plan for future expansions/additions - because they are filled with concrete, making a doorway out of an existing window or wall for an addition or expansion requires the use of a jackhammer. Planning ahead and creating knock-outs in the walls can save time and money and add long-lived versatility to a building.
3. The cost of concrete - all of these products must be filled with concrete, check the price of concrete before settling on ICFs as your building system. Though most are efficient with their concrete requirements, systems vary, and recent increases in the price of concrete have added substantially to the cost of an ICF house.
4. Roof connections - how your roof connects to the hurricane and tornado resistant walls is important. A chain is only as strong as its weakest link, and ensuring your roof is properly tied to these walls is part of the process of creating a wind resistant building.
5. Excellent product support - is the manufacturer willing to come out to your site and help train you or your contractor?
6. Properly size your air-conditioning system - because many ICFs help reduce the cooling load, a smaller air conditioner may be appropriate. The Portland Cement Association has several technical guides for right-sizing the A/C system in ICF houses.

Resources

<p>RastraTexas Central Texas Distributors of Rastra products 512-472-2547 www.rastratexas.com</p>	<p>South River Construction Installer of multiple ICF systems 512-847-5215 www.southernriverconstruction.com</p>
<p>ICFWeb.com www.icfweb.com Information on manufacturers and dealers.</p>	

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