

# Anyway you slice it, using ICFs in commercial buildings is a smart choice.



*Insulating Concrete Forms - The cutting edge in wall systems.*



## **Concrete Delivers™**

*Engineered concrete solutions for sustainability, durability and value.*

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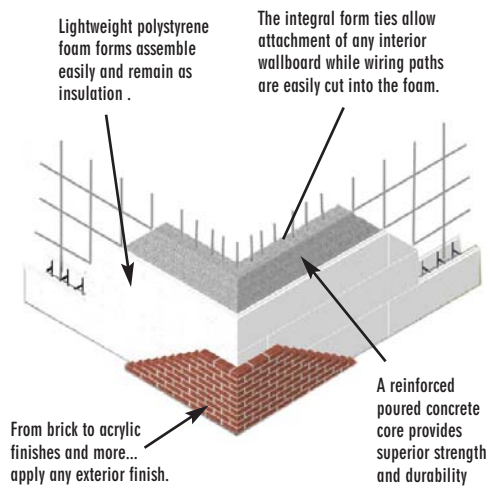
# Insulating Concrete Form technology... the cutting edge in commercial building wall systems.

For nearly half a century, stay-in-place Insulating Concrete Forms have proven themselves as a premier, high-performance wall system, offering superior economic, environmental and durability benefits.

Today, as more and more commercial building owners, architects, contractors, lenders and investors discover the cutting edge value of ICFs, a 30+% annual growth makes it the most rapidly expanding building system in the U.S. ICFs use rigid foam insulation to form and encase concrete walls, like a concrete sandwich with insulating foam in place of the bread. On the job site, interlocking ICF blocks or panels are assembled with remarkable ease and held in place at a desired thickness with engineered ties. Reinforcing is often added, then concrete is poured into the cavity. Along with systems for easy mounting of finishes and channeling of

utilities, the insulation remains in place with the concrete to provide ICFs' advanced economic, thermal, safety, environmental and comfort benefits.

## The inside story on ICFs



**High performance ICF concrete walls provide multiple reasons for a great ROI.**

**Through construction speed, reduced energy and maintenance costs and other benefits no other building system provides the up-front and long term economic advantages of ICFs.**

## Up-Front Financial Benefits

**ICF buildings go up faster, producing tens of thousands of dollars of immediate labor and financing savings.**

ICF walls use one crew and one system to build from the footing to the roofline. Compared to other wall systems, the increased speed of construction of ICF walls, along with improved sub trade efficiencies reduces construction schedules. With faster time to completion, lending costs are reduced and occupancy earnings can start sooner. Plus, the low weight of ICF components can translate into fewer injuries and lower insurance costs.

\* Based on Standard 90.1-2001 by the American Society of Heating, Refrigerating, and Air Conditioning Engineers and the Illuminating Engineering Society of North America.

**ICF buildings' energy efficiency can mean immediate tax and other benefits, plus lower HVAC equipment costs.**

Recently passed Federal legislation gives owners a one-time \$1.80/sq.ft. tax deduction for commercial buildings that are 50% more energy efficient\* **That means potential savings of hundreds of thousands of dollars.** Plus, ICF energy efficiency contributes to LEED® green-building certification. Based on design, using ICFs can contribute up to 17 of the 26 points needed to qualify a building for LEED certification. ICF buildings also need up to 30% less HVAC capacity, with resulting lower equipment costs and ICF buildings can help meet the EPA's Energy Star criteria, adding value to your bottom line.

## Continuing Financial Benefits

**ICF buildings high built-in energy efficiency can significantly reduce operating costs.**

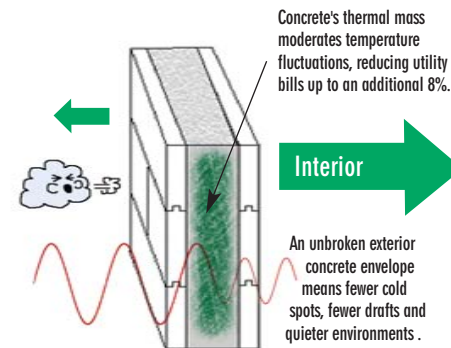
ICF commercial buildings conserve energy and reduce heating and cooling costs by 35-45% in three ways.

**Built-in R-20 insulation:** At about R-20, a typical ICF wall offers 60% more insulation value than a typical stick-built structure. To match the total thermal performance of ICF construction, a conventionally built structure would have to reach an R-40 or greater standard!

**Virtually no air infiltration:** An ICF building's uninterrupted envelope leaves the structure nearly air tight, which reduces the load on HVAC systems and lowers costs by 10-20%.

**Temperature-moderating thermal mass:** Concrete's thermal mass moderates temperature fluctuations, reducing utility bills up to 8%.

To match the total thermal performance of ICF construction, a conventionally built structure would have to reach an R-40 or greater standard! **With ICF, R-40 or greater value and savings are built in.**



**ICF concrete structures save with superior resistance to fires, natural disasters, insects and mold.**

The concrete core in ICF walls resists damage from wind, fire, earthquakes, termites, rot, mold and mildew like no other wall system can. Not only are maintenance and insurance costs lowered, but risks to life and threats to business continuity are greatly diminished, so ICF-built structures hold their value for generations.



Only 1150 man hours were required to install 14,393 sq. ft. of ICF wall area enclosing this 30,400 sq. ft. building.



## Comfort, Health, Safety and Green Benefits

Not only do ICF buildings offer significant up-front and ongoing economic advantages, they are quieter, more comfortable, safer and environmentally considerate. Because sound penetrates ICF walls only 1/8 to 1/4 as much as conventional walls and because an unbroken exterior envelope results in fewer cold spots and drafts, ICF structures provide a more comfortable interior environment. Plus, concrete's strength and durability helps protect occupants from crime and natural forces, ICF structures have health advantages as well. With ICFs, exposure to manufactured wood products is greatly

reduced, thereby minimizing exposure to harmful volatile organic compounds (VOC) and off-gassing, while mold resistance reduces health concerns. ICFs also offer advantages for the environment. This helps to satisfy a growing public appreciation for sustainable architecture. ICF walls use no trees, while concrete is manufactured from abundant natural resources. Concrete can also use fly ash that would otherwise go to landfills. Plus ICF energy efficiency means less energy use, fewer greenhouse gasses and less dependence of overseas fuel sources.

**Up front and long term, inside and out, ICFs are the cutting edge wall system for commercial buildings.**

Structures built with ICFs help you lower your construction and maintenance costs, protect your assets from natural and manmade threats and increase occupant satisfaction. With ICFs, beauty, efficiency and comfort are more than skin deep; they're built into the core. Whether you're planning an office building, hotel, theatre, school, apartment, warehouse or other commercial structure, look into ICFs. **The deeper you look, the more value you'll see.**

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**ICFs are versatile:** From a one-story warehouse to high rise luxury buildings, ICFs fit the bill.



**ICF components are lightweight:** Forms go up faster and with fewer safety concerns as compared to other wall systems.



**ICFs “deaden” sound:** ICF’s concrete and foam are ideally suited for movie theatres.

## ICF Construction saves you up-front and long-term

### Construction Savings

- Reduce required cooling tonnage by up to 30% or more.
- Shorten construction time
- Fit any design with ease
- Reduce worker injuries with lightweight materials
- Lower labor costs with smaller crews

### Long-Term Benefits

- Lower maintenance and lifetime operating costs with higher energy efficiency
- Profit from cleaner, quieter and more comfortable interiors
- Increase longevity and structural integrity
- Enhance security with greater fire resistance and storm safety

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