INSULATING CONCRETE FORMS (ICFs)
ICFs are foam insulation forms for poured concrete walls. ICF forms are not removed and so become part of the permanent structure of the wall system. These forms not only act as insulation and sound barriers but also as a solid structure for the interior drywall and exterior finishes such as brick, siding and stucco. ICF walls have high thermal mass, high R value and allow minimal air infiltration, resulting in lower energy costs. Studies have shown ICF buildings reduce heating and cooling costs by 35-40%. ICF structures can also withstand hurricanes, tornados and fires. For more information about Insulating Concrete Forms, please visit www.forms.org.

ARCHITECTURAL AND DECORATIVE CONCRETE
Concrete is expanding its role as the most versatile construction material. Today, concrete can take on virtually any color, texture or shape at a fraction of the cost of traditional materials and offers superior long-term performance with no off-gassing, much lower maintenance costs and great ease of repair. Pleasing architectural finishes can be built into concrete during construction. This flexibility has increased concrete’s desirability for practical and beautiful exteriors and interiors. Variations in the color and texture of the concrete surfaces are limited only by the imagination of the designer and skill of the concrete craftsman. For more information about architectural and decorative concrete, please visit www.DecorativeArchitecturalConcrete.org

Concrete can be colored, textured, stamped or stained, adding architectural interest at lower cost with less maintenance. Concrete floors also provide enhanced indoor air quality and light reflectivity compared to traditional materials. Insulated concrete provides superior energy efficiency and beautiful finishing choices, with the traditional durability and strength of concrete.

“We have the ability to change the way that a child’s life begins. We have the ability to take them out of an uncomfortable environment and put them into rooms that inspire them.”
Rick Fedrizzi, Founder/President
U.S. Green Building Council

Concrete and Sustainable School Design
An investment that pays off year after year

Photos courtesy of the Tilt-Up Concrete Association

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Concrete can be colored, textured, stained, or stained, adding architectural interest at lower cost with less maintenance. Concrete forms also provide enhanced indoor air quality and light reflectivity compared to traditional materials.
What is a green school?

A green school is a building that provides a healthy environment that is conducive to learning while saving energy, resources and money.

WHY GREEN SCHOOLS

Twenty percent of America goes to school every day (55 million students and 5 million educators). Too many of these schools are inefficient and miss important opportunities to reduce operational costs, foster learning and protect student health. Public and private school officials alike are realizing that going green makes sense. If a green school saves $100,000 per year in operational costs, that may enable the hiring of two additional teachers, buy 200 new computers or purchase 5,000 new textbooks. If all new school construction and school renovations went green starting today, energy savings alone would total $30 billion over the next 10 years. Green schools typically cost less than an additional $3 per square foot to build, an investment that is paid back within a few years of operation. Over the lifetime of the school, the savings keep adding up. By promoting the design and construction of green schools, we can make a tremendous impact on student health, test scores, teacher retention, school operational costs and the environment.

BUILD GREEN WITH CONCRETE

In response to growing environmental and economical forces, owners, developers, architects and engineers are seeking efficient and innovative building solutions that conserve non-renewable resources. Increasingly, concrete is being recognized for its strong environmental benefits in support of creative and effective sustainable development as well as being helpful in achieving “LEED®” for Schools certification. When considering the lifetime environmental impact of a building material—extraction, production, construction, operation, demolition and recycling—there is no better choice than concrete.

Concrete delivers sustainability, durability and value.

- Concrete is durable, with a long service life, so it stands up to the test of time better than any other building material.
- Concrete’s thermal mass reduces temperature swings in buildings and conserves energy.
- Concrete is produced locally from abundant natural resources.
- Recycled materials in concrete reduce embodied CO2 and landfill use.
- Pervious concrete percolates stormwater into soil, recharging aquifers and preventing polluted runoff from overwhelming streams and lakes.
- Use of Tilt-Up (“sandwich” panels) or Insulating Concrete Forms (ICFs) for above-grade wall systems provides for increased R values, reducing heating, cooling and infrastructure costs.
- Concrete construction results in buildings with tight envelopes, resulting in less air infiltration and lower energy costs.
- Concrete’s light color reflects more light at night, reducing the amount of light needed and lowering energy costs.
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In pavement areas, pervious concrete keeps rain and pollutants out of natural waterways.

PHOTO COURTESY OF JIM SCHAFER LOCATION PHOTOGRAPHY

PERVIOUS CONCRETE

Pervious concrete is a mix of coarse aggregates, cement, water and little to no sand. This mixture creates an open-cell structure, allowing rainwater to filter through to the soil while offering the durability and strength of concrete. Pervious concrete has become a perfect match for green schools, allowing rainwater to fill open-cell structures, allowing rainwater to filter through to the soil while offering the durability and strength of concrete. With a long life-span and good reflectivity, concrete parking lots save money up front and over the long term. With no off-gassing, concrete is an interior finish that meets Indoor Air Quality Standards (IAQ).

PHOTO COURTESY: JIM SCHAFER LOCATION PHOTOGRAPHY

CONCRETE PARKING AREAS

Concrete parking areas offer a superior solution for green schools. While its strengths are legionary, environmental concerns and recent asphalt price increases make concrete an even smarter choice. The material is strong and durable, needs much less maintenance, is easy to construct and offers great short and long-term savings. (If an accurate cost comparison to help evaluate parking area options, ask about Concrete Pavement Analyst software.) Concrete’s light-colored surface reduces “heat island” effects and also lowers lighting costs due to its high surface reflectivity. Its cooler surface results in cooler stormwater runoff, which benefits streams and lakes. Concrete parking areas provide the best value and a great return on investment. For more information about pervious concrete parking areas, please visit www.PerviousPavement.org.

PHOTO COURTESY OF JIM SCHAFER LOCATION PHOTOGRAPHY