



U.S. CONCRETE

EF TECHNOLOGY™ – FACT SHEET

- U.S. Concrete and its operating companies reduced potential carbon dioxide emissions by over 328,000 tons in 2006 through their green technology commitment.
- U.S. Concrete is the first national concrete company to make a company-wide commitment to improving the environment through the process coined Environmentally Friendly Technology (*EF Technology*).
- A grassroots evolution, *EF Technology* was developed by U.S. Concrete employees through in-the-field best practices, not from the management group.
- *EF Technology* uses fly ash and slag, (left over material from coal-fired industrial plants or iron mills, respectively) as well as other materials, as a preferred component in the manufacture of concrete, thereby replacing a significant percentage of traditional Portland cement.
- Portland cement is an essential component of concrete and is responsible for 6-8% of human-generated carbon dioxide, the greenhouse gas most attributed as the source of global warming.
- As a general rule, the creation of one ton of cement releases one ton carbon dioxide into the atmosphere.
- Most power plants are required to keep fly ash emissions to less than one percent as fly ash itself is considered a significant pollutant due to the quantities of heavy metals and low concentrations of radioactive compounds in its makeup. However, the captured finely divided siliceous material forms strong slow-hardening cement when mixed with water, making fly ash a beneficial replacement for Portland cement in concrete.
- Fly ash and/or slag can replace up to 50% by weight of Portland cement.
- Concrete obtaining ground granulated slag develops strength over a longer period resulting in reduced permeability and better durability properties.

- By substituting 50% slag and/or fly ash cement for traditional Portland cement, between 100 and 300 pounds of carbon dioxide are saved per cubic yard of concrete.
- Slag cement requires nearly 90% less energy to produce than the equivalent amount of Portland cement, reducing the embodied energy in a cubic yard of concrete by 30-48%.
- The use of *EF Technology* assists in qualifying for *Leadership in Energy and Environmental Design* (LEED) credits increasing the building's environmental performance rating.
- LEED is a system developed by the United States Green Building council to rate a building's environmental performance and has become the principal method by which buildings can achieve green building certification.
- The primary categories for earned LEED credits through the use of EF Technology include:
 - Credit for reduction of heat islands
 - Credit for building reuse
 - Credit for materials recycled content
 - Credit for use of local/regional materials
 - Pervious Concrete

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