



Concrete Delivers  
Sustainability

## Visit these Sustainability Related Web Sites



### Green Concrete

Concrete Solutions for Sustainable Development

[www.GreenConcrete.info](http://www.GreenConcrete.info)



### Pervious Concrete

*When it rains...it drains.*

[www.PerviousPavement.org](http://www.PerviousPavement.org)



### Concrete Parking Delivers



[www.ConcreteParking.org](http://www.ConcreteParking.org)



Tilt-up and ICF

### Concrete Buildings

Concrete Delivers Speed, Durability, Energy Efficiency and More



[www.ConcreteBuildings.org](http://www.ConcreteBuildings.org)

### Green Roof Tops start with Concrete



*Concrete delivers unsurpassed strength, durability and impermeability.*

[www.GreenRoofTops.org](http://www.GreenRoofTops.org)



National Ready Mixed Concrete Association | 900 Spring Street, Silver Spring, MD 20910  
Phone (301) 587-1400 | [www.nrmca.org](http://www.nrmca.org)

Reports, Studies, Fact Sheets,  
Reference Guides and Other Resources

# CONCRETE'S CONTRIBUTION TO SUSTAINABLE DEVELOPMENT



**Most Items are Free**



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# RESOURCES TO SUPPORT SUSTAINABLE DEVELOPMENT

Architects, engineers, developers and owners are seeking efficient and innovative building solutions that conserve non-renewable resources. As sustainability becomes increasingly important, so does the necessity of keeping up with the rapid advancement of building materials and construction practices.

The following technical and informational resources for concrete are available to support sustainable development goals. **Many are available for free or for a nominal cost.**

Make sure your work is enhanced with these valuable and up-to date-materials. Download PDFs at [www.GreenConcrete.info/resources](http://www.GreenConcrete.info/resources). To order printed material, call or e-mail Jacques Jenkins at 888-846-7522, x1165 or [jjenkins@nrmca.org](mailto:jjenkins@nrmca.org).

## Sustainability

**Ready Mixed Concrete Industry's LEED Reference Guide (2.2)** - Developed by the U.S. Green Building Council, the LEED® (Leadership in Energy and Environmental Design) program is designed to promote the construction of high-performance, sustainable buildings. Much new public construction, and more and more private sector construction, is now required to be LEED® Certified. This guide will educate specifiers about the energy saving and pro-environmental benefits of concrete and how it may fit into projects that are to be LEED® Certified. **Free PDF. Book: \$17**

**Concrete CO2 Fact Sheet** - This publication provides an overview of the complexities of climate change and the greenhouse effect and summarizes the concrete industry's efforts to minimize environmental impact related to carbon dioxide emissions. **Free PDF.**

**Crushed Concrete as Aggregate for New Concrete** - This document reports on a study recently conducted at NRMCA's Lab and details how the proper use of crushed returned concrete can save the construction industry \$300 million annually in materials and disposal costs. (from *ConcreteInFocus* magazine) **Free PDF.**

**New Technology-Based Approach to Advance Higher Volume Fly Ash Concrete with Acceptable Performance** - This document reports on an important study co-funded by the U.S. Department of Energy's Combustion Byproducts Recycling Consortium and recently conducted at NRMCA's Lab. **Free PDF.**

**Model Ordinance to Adopt Sustainable Building Standards** - Green or sustainable buildings use key resources like energy, water and land more efficiently than buildings that are just built to code. They also tend to create healthier work, learning and living

environments, with more natural light and better air quality, and typically contribute to improved employee and student health, comfort and productivity. This model is designed to be used by regulatory officials and municipalities interested in supporting sustainable building. **Free PDF.**

## Pervious Concrete

**When it Rains, it Drains** - Pervious concrete as a paving material has generated tremendous interest due to its ability to allow water to flow through itself to recharge groundwater and minimize stormwater runoff. This brochure provides an overview of how pervious concrete helps address these important stormwater management issues, and includes a helpful FAQ section. **Free PDF. Call or e-mail for free hard copies.**

**Pervious Concrete Pavements (w/ PCA)** - This introduction to pervious concrete pavements reviews its applications and engineering properties, including environmental benefits, structural properties and durability. Both hydraulic and structural designs of pervious concrete pavements are discussed, as well as construction techniques. **Content included at [www.PerviousPavement.org](http://www.PerviousPavement.org). Book: \$17**

**Model Stormwater/Pervious Pavement Ordinance** - This model ordinance was developed in consultation with numerous stakeholders, including concrete industry members, civil engineers, environmental advocates and consultants in the field of stormwater management. The model offers local governments a starting point for the development of a stormwater ordinance that includes pervious pavement systems. **Free PDF.**

**Hydraulic Performance Assessment of Pervious Concrete Pavements for Stormwater Management Credit** - This report, prepared by the Stormwater Management Academy at the University of Central Florida, focuses on the stormwater management properties of pervious concrete. **Free PDF.**

**Portland Cement Pervious Pavement Field Performance Investigation on Parking Lot and Roadway Pavements** - This report, funded by the RMC Research & Education Foundation and prepared at Cleveland State University, demonstrates the successful use of pervious concrete in freeze-thaw environments, with little maintenance required. **Free PDF.**

**Construction and Maintenance Assessment of Pervious Concrete Pavements** - This report, prepared by the Stormwater Management Academy at the University of Central Florida, details construction and maintenance issues to ensure maximum performance of pervious concrete. **Free PDF.**

**LEED™ and Pervious Concrete** - An overview of how pervious concrete benefits the environment and how it contributes to specific LEED credits. Includes photos. (LEED 2.2 and LEED 2009 when available) **Soon to be released.**

## Pervious Concrete: Hydrological Design and Resources

**software (w/ PCA)** - A timely update to the useful reference tool on pervious concrete! This CD contains a hydrological analysis program that is intended solely to illustrate the behavior of pervious concrete systems in relatively simple situations. The CD is also filled with technical and promotional resources materials that address specifying, proportioning, production and placement of pervious concrete, including;

### Pervious Concrete Pavements,

P. Tennis, M. Leming, and D. Akers

### Hydrologic Design of Pervious Concrete,

M. Leming, H. R. Malcom and P. Tennis

### Stormwater Management with Pervious Concrete Pavement,

ACPA

RMC Research & Education Foundation Reports

Recommended Specifications for Portland Cement

Pervious Concrete Pavements

Detail Drawings

Hydrological Design References

Promotional Resources

CD: \$27

**Pervious Concrete Research Compilation** - Funded by the RMC Research & Education Foundation, this document compiles reports on significant pervious concrete research projects. It includes abstracts. [Free PDF.](#)

## Parking Lots

**Concrete Delivers brochure – for Owners** - This brochure describes the economic, environmental and aesthetic advantages of concrete parking. It supports the interests of owners and architects with photos and informative text.

[Call or e-mail for free hard copies.](#)

**Concrete Delivers brochure – for Designers/Specifiers** - This brochure is designed to provide architects and engineers with important information about parking areas. It is a condensed summary of engineering best practices for concrete parking areas, including very useful illustrations and tabular data.

[Call or e-mail for free hard copies.](#)

**Concrete Pavement Analyst software** - NRMCA's Concrete Pavement Analyst (CPA) - Version 3, is a powerful concrete parking area design and costing comparison tool that quickly and accurately quantifies the differences between concrete and asphalt pavements. Using ACI and Asphalt Institute recommendations, CPA compares total ownership costs, providing specifiers the information they need to make sound pavement decisions. The Reference Library includes PCA's *Comparison of Six Environmental Impacts of Portland Cement Concrete and Asphalt Cement Concrete Pavements* and *Influence of Pavement Reflectance on Lighting for Parking Lots*.

[Call or email for a free CD.](#)

## Concrete Buildings

**Insulating Concrete Form (ICF) Brochure** - This brochure is designed to inform commercial building owners, lenders, engineers, specifiers and others about the many economic and green benefits of ICF technology. The brochure outlines ICFs' many advantages, with helpful illustrations and appealing photos of projects.

[Call or e-mail for free hard copies.](#)

## Continuing Education

**NRMCA's Continuing Education Series (CES)** has been designed to provide valuable, current and authoritative information on important subjects for architectural, engineering and construction professionals. Course offerings are available on the web and at scheduled seminars throughout the U.S. [For more information, go to \[www.nrmca.org/seminars\]\(http://www.nrmca.org/seminars\)](#)



**PDH**  
Professional  
Development  
Hours



### Current offerings include:

- Building Green with Concrete
- Design of Concrete Parking Lots
- Environmental Benefits of Concrete
- Pervious Concrete – A Stormwater Solution
- Storm-Resistant Concrete Homes and Buildings

[Free hard copies of publications are for architects, engineers and owners only, in limited quantities.](#)



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