

Sustainability Toolkit

Concept Outline

Last Revised March 5, 2010

Sustainability is an overarching term that covers virtually every area and use of manufactured concrete products. Each piece of information outlined here can be used individually on an as-needed basis, or alternatively, collectively as part of a comprehensive plan under Vision 2020 or similar marketing initiative. Users are encouraged to review and become familiar with each component of this toolkit to enable them to choose the most effective resource to advance specific objectives or when addressing different audiences.

The subject areas covered with this toolkit are intended to emphasize both the technical as well as the promotional aspects of a sustainability marketing or communication plan. Toolkits, by their very nature, address a broad range of information in order to maximize their effectiveness. The primary components addressed include:

- Resources – includes the technical and promotional content to be used; components include literature and flyers, presentations, web content, and media resources.
- Education – includes tools to educate the industry internally on the content and messages outlined in the toolkit as well as educational components to transfer knowledge onto designers, specifiers, owners, etc.
- Promotion – outlines initiatives to market the benefits of manufactured concrete products using the content and educational components outlined above.

Anecdotally, the sustainable attributes (low maintenance, robustness, energy efficiency, aesthetics, life cycle, economics and return on investment, internal air quality, acoustics, etc.) of manufactured concrete products is well-recognized and rarely questioned. The key to successfully selling these attributes within a sustainable mindset is in the ability to communicate how manufactured concrete products solve economic, environmental, and social dilemmas, and where appropriate, offer specific solutions to specific needs under sustainability rating systems, local ordinances, building owner objectives, or building code requirements.

The following outlines a general list of topics to include in a Sustainability Toolkit. Items **highlighted** are to be developed or require updating to fit the specific need. A list of additional supplementary information that is related to the general sustainability topic or provides additional background information related to one or more of the core components is provided at the end of this document.

Core Components of Sustainability Toolkit

- General Sustainability Supporting Documentation
 - Resources
 - **CJSI Sustainable Concrete Guide**
 - Solar Reflectance of Concretes for LEED Sustainable Site Credit: Heat Island Effect
 - TMS Sustainability Newsletter (**need link**)
 - CJSI Website: www.sustainableconcrete.org
 - **NCMA Website: www.ncma.org/sustainability**

- Life-Cycle Inventory Report
- Energy Efficiency
 - Resources
 - TEK 6-1B, R-Values for Multi-Wythe Concrete Masonry Walls
 - TEK 6-2B, R-Values and U-Factors for Single Wythe Concrete Masonry Walls
 - Catalog of Concrete Masonry Assemblies – Thermal Performance
 - COMcheck software (free download)
- USGBC LEED Rating System for New Construction
 - Resources
 - TEK 6-6B, Determining the Recycled Content of Concrete Masonry Products
 - TEK 6-9C, Concrete Masonry and Hardscape Products in LEED 2009
 - Manufactured Concrete Products LEED Reference Guide
- International Green Construction Code
 - Resources
 - Integrating Manufactured Concrete Products into IGCC Projects (this information will need to be developed after finalization of the IGCC)
- Education
 - Supplier Content
 - Understanding the Components of the Sustainability Toolkit and their Application
 - Owner/Designer Content
 - AIA/CES Presentation – Thermal Performance
 - AIA/CES Presentation – LEED 2009
- Promotion
 - Flyer – Sustainable Attributes of Manufactured Concrete Products
 - Concrete Masonry in Green Buildings: A Study on Perspectives of Award Winning Architects

Supplemental Components of Sustainability Toolkit

AC	Acoustics
AE	Aesthetics
DU	Durability: impact, fire, weather, maintenance, mold, moisture, termites, etc.
EE	Energy Efficiency
EF	Economic Feasibility
GI	General Info
IAQ	Internal Air Quality
US	Usages

Code	Resource Number	Description
GI	TEK 1-1E	ASTM Specifications for Concrete Masonry Units
GI	TEK 1-2B	Specification for Masonry Structures

GI	TEK 1-4	Glossary of Concrete Masonry Terms
AE	TEK 2-3A	Architectural Concrete Masonry Units
US	TEK 2-4B	Segmental Retaining Wall Units
EE, US	TEK 2-5A	Specifications for Concrete Roof Pavers
GI	TEK 3-1C	All-Weather Concrete Masonry Construction
DU	TEK 3-9A	Strategies for Termite Resistance
US	TEK 3-11	Concrete Masonry Basement Wall Construction
DU	TEK 5-14	Concrete Masonry Hurricane and Tornado Shelters
AS, US	TEK 5-15	Details for Half-High Concrete Masonry Units
EE	TEK 6-3	Shifting Peak Energy Loads With Concrete Masonry Construction
EE	TEK 6-4A	Energy Code Compliance Using COMCheck
EE	TEK 6-5A	Passive Solar Design Strategies
EE	TEK 6-11	Insulating Concrete Masonry Walls
EE	TEK 6-12C	International Energy Conservation Code and Concrete Masonry
IAQ	TEK 6-15A	Radon-Resistant Concrete Masonry Foundation Walls
DU	TEK 7-2	Balanced Design Fire Protection
DU	TEK 8-1A	Maintenance of Concrete Masonry Walls
US	TEK 11-9A	Articulated Concrete Block for Erosion Control
AC	TEK 13-1B	Sound Transmission Class Ratings for Concrete Masonry Walls
AC	TEK 13-2A	Noise Control with Concrete Masonry
AC	TEK 13-3A	Concrete Masonry Highway Sound Barriers
AC	TEK 13-4	Outside-Inside Transmission Class of CM Walls
DU	TEK 14-10B	Impact Resistance of CM Correctional Facilities
US	TEK 14-16B	Concrete Masonry Fence Design
DU	TEK 14-21	Blast and Bullet Resistant Concrete Masonry Buildings
US	TEK 15-8	Guide to Segmental Retaining Walls
GI	TEK 18-3B	Concrete Masonry Inspection
GI	TEK 18-11	Inspection Guide for Segmental Retaining Walls
DU	TEK 19-2A	Design for Dry Single-Wythe Concrete Masonry Walls
AE, US	TB17A	ResTEK 3
DU, IAQ	TR104	Building Radon Resistant Foundations
GI	TR159	Inspection Guide for SRWs
DU	TR214	Are You Building A School or A Liability?
DU	TR216	Sustainable Concrete Masonry
GI	TR217	CodeMaster Special Inspection for Masonry
DU	TR221	Storm Resistant Concrete Masonry Homes & Buildings
DU	VT36	Fire Test Video
DU	VT37	Are You Making An Educated Investment?
EF		Fire Safe Construction Cost Comparison Study
DU		Concrete Masonry Framed Homes Create A Lasting Impression
DU		Beautiful Homes Built to Last

IAQ, DU	August 2003	CM Designs – August 2003 – MOLD
IAQ, DU	January 2003	CM Designs – January 2003 – The Mold Solution
DU	August 2004	CM Profiles – Safe Room Importance Grows Near Schools
DU	CM-472, 2001	CM Profiles – Fire Safety Solutions
DU, EE	January 2004	CM Profiles – Sweet Home Alabama
Du, EE	July 2004	CM Profiles – Designing Outside the Box
DU, EE	CM-483, 2002	CM Profiles – Concrete Masonry Receives Warm Embrace
EE	CM-471, 2000	CM Profiles – Concrete Masonry Homes-The Energy Advantage
EE	CM-475, 2001	CM Profiles – A High Performance School In Panther County
IAQ, DU	January 2003	CM Profiles – Mold and Mildew: The Concrete Masonry Advantage
EF	CM-464, 2000	CM Profiles – AutoZone Finds Concrete Masonry the Most Efficient Building Material
EF, DU	CM-467, 2000	CM Profiles – Concrete Masonry Interior Partition Walls: An Educated Construction Choice
US	CM-479, 2002	CM Profiles – ACBs Keep Pace with a Changing Community
US, EF	September 2004	CM Profiles – Design Challenges Solved with Landscape Products
US	CM-480, 2002	CM Profiles – SRWs Effectively Manage the Kerr Lake Shoreline
US	CM-457	CM Profiles – Unit Concrete Pavers in Urban Streetscapes
US, EF	CM-459	CM Profiles – A New Take on Residential Decks