



**COMPILATION OF REGULATIONS, STANDARDS,
GUIDELINES, WEBSITES AND OTHER REFERENCES
PERTINENT TO COAL COMBUSTION PRODUCTS**

Compiled by:

**American Coal Ash Association
15200 E. Girard Ave., Suite 3050
Aurora, Colorado 80014-3988
(720) 870-7897 Fax: (720) 870-7889
www.ACAA-USA.org**

(Revised February 12, 2007)



Dear Reader:

The American Coal Ash Association (ACAA) is a not-for-profit industry association which makes information available to industry and the general public concerning the use of coal combustion products (CCPs). This includes fly ash, bottom ash, boiler slag and residues from air emission control systems like flue gas desulfurization materials. ACAA's membership consists of U.S and non-U.S. CCP producers, non-utility producers, marketers, and organizations and individuals with commercial, academic, research and other interests in the management of CCPs.

ACAA's mission is to advance the management and use CCPs in ways that are environmentally responsible, technically sound and commercially competitive. ACAA and its members do this through public and private sector partnerships, technical assistance, education, publications, meetings and workshops. ACAA works closely with the US Environmental Protection Agency, the Federal Highway Administration, the Department of Energy, the US Department of Agriculture, the Utility Solid Waste Activities Group and the Electric Power Research Institute. Together, these organizations sponsor the Coal Combustion Products Partnership – C²P². (<http://www.epa.gov/epaoswer/osw/consERVE/c2p2/>). C²P² helps promote the beneficial use of coal combustion products and the environmental benefits that result from their use.

This publication is a dynamic document that lists CCP related regulations, standards, guidelines, websites, and other sources of information pertaining to CCPs in construction and other activities. **This is not a complete listing!** As the first issue, it is intended to stimulate feedback so that future revisions will be more inclusive. However, the information contained within should help the reader find answers to questions concerning applications, techniques, guidance, engineering recommendations and regulatory considerations.

We hope that you find this information useful. It will be updated periodically as new information is added or changed. This document is also available to ACAA members in the Members area of the ACAA website: www.aaa-usa.org.



David C. Goss
Executive Director
American Coal Ash Association

We encourage anyone who finds an error or sees the need to add other references, to contact ACAA by email at info@aaa-usa.org or call (720-870-7897).

February 12, 2007

American Coal Ash Association
15200 E. Girard Ave., Suite 3050
Aurora, Colorado 80014-3988
(720) 870-7897 Fax: (720) 870-7889
www.ACAA-USA.org



**COMPILATION OF REGULATIONS, STANDARDS, GUIDELINES, WEBSITES AND OTHER
REFERENCES PERTINENT TO COAL COMBUSTION PRODUCTS (REVISED 2/12/07)**

Table of Contents

Page

1... Associations & Affiliates

- American Association of State Highway and Transportation Officials (AASHTO)
- American Coal Ash Association (ACAA)
- American Concrete Institute (ACI)
- American Society for Testing and Materials Standards (ASTM)
- American Society of Civil Engineers (ASCE)
- Association of Wall and Ceiling Contractors of British Columbia
- Cement Association of Canada
- Environmental Council of Concrete Organizations (ECCO)
- Green Guide for Health Care (GGHC)
- Materials Research Society (MRS)
- National Institute of Building Sciences (NIBS)
- National Lime Association (NLA)
- National Ready Mix Concrete Association (NRMCA)
- National Recycling Coalition (NRC)
- National Research Council of the National Academies (NRC)
- Northeast Recycling Council (NERC)
- Portland Cement Association (PCA)
- Recycled Materials Resource Center (RMRC)
- Research Triangle Institute (RTI)
- Transportation Research Board of the National Academies (TRB)

19... Government, Federal

- Federal Aviation Administration (FAA)
- Federal Highway Administration (FHWA)
- National Energy Technology Laboratories (NETL)
- Office of the Federal Environmental Executive (OFEE)
- US Air Force (USAF)
- US Army Corps of Engineers (COE)
- US Code, Congress of the United States
- US Department of Agriculture (USDA)
- US Department of Energy (DOE)
- US Environmental Protection Agency (EPA)
- US Geological Survey (USGS)

28... Government, Foreign

- CAN-MET Materials Technology Laboratory (Canada)

28... Government, States/U.S. Territories

- California
- Florida
- Illinois
- Iowa
- Maryland
- Massachusetts
- Minnesota
- Missouri
- Montana
- Nebraska
- North Carolina
- Ohio
- Oklahoma
- Pennsylvania
- Puerto Rico
- South Carolina
- Texas
- Virginia
- Washington
- Wisconsin

44... Industry, Private

- American Electric Power Company
- Boral Material Technologies Inc.
- Electric Power Research Institute
- Headwaters Resources
- Radian International LLC
- RMT, Inc.
- US Gypsum Corporation
- We Energies

46... Publications

- Building Green. Com
- Concrete Construction
- Concrete International
- Concrete Products
- Green Building Press
- Journal of Materials in Civil Engineering
- Journal of Solid Waste Technology and Management
- Roskill Information Services

48... Universities, Private

- Clemson University
- Cornell University Law School

Associations, etc.

American Association of State Highway and Transportation Officials

- Title: Section 308. Cement-Treated Base Course
Reference: **Division 300, Section 308.02-03**
Content Summary: Fly ash in mixes of Portland or blended hydraulic cement and soil or soil-aggregate on a graded foundation.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\C%20-%20Base%20Courses\300.pdf>
- Title: Section 401. Plant Mix Pavements- General
Reference: **Division 400, Section 401.02**
Content Summary: The use of fly ash in Plant Mix Pavements.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\D%20-%20Flexible%20Pavements\400.pdf>
- Title: Section 501. Portland Cement Concrete Pavement
Reference: **Division 500, Section 501.02**
Content Summary: The use of fly ash in Portland Cement Concrete.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\E%20-%20Rigid%20Pavements\500.pdf>
- Title: Section 551. Concrete Pavement Jacking
Reference: **Division 550, Section 551.02**
Content Summary: The use of fly ash to inject under low areas of pavement.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\F%20-%20Rehabilitation%20of%20Portland%20Cement%20Concrete%20Pavement\550.pdf>
- Title: Section 601. Concrete and Incidental Construction
Reference: **Division 600, section 601.02**
Content Summary: Up to 15% of cement may be replaced by fly ash.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\G%20-%20Miscellaneous%20Construction\600.pdf>
- Title: Section 714. Miscellaneous Requirements
Reference: **Division 700, Section 714.11**
Content Summary: Fly ash in hydraulic cement.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\AAASHTO\Standard%20Specifications%20and%20Supplements\H%20-%20Materials%20Requirements\700.pdf>
- Title: Guide for Design of Pavement Structures, 1993
Reference: **GDPS-4**
Content Summary: Provides approaches to pavement design including design and management principles, procedures for new construction or reconstruction, procedures for rehabilitation of existing pavements. Provides material on overlay design methodology
Website: https://bookstore.transportation.org/item_details.aspx?ID=374

Title: Standard Specifications 1998: Blended Hydraulic Cement
Reference: **M 240-97**
Content Summary: Specifications for fly ash in blended hydraulic cement.
Website: <http://www.transportation.org/?siteid=56&pageid=841>

Title: Standard Specifications 1998: Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
Reference: **M 295-98**
Content Summary: Specifications for fly ash as an admixture in concrete.
Website: <http://www.transportation.org/?siteid=56&pageid=829>

Title: Guidelines and Guide Specifications for Using Pozzolanic Stabilized Mixture (Base Course of Subbase) and Fly Ash for In-Place Subgrade Soil Modifications, 1990
Reference: **TF28-1**
Content Summary: Guidelines for the use of fly ash for in-place subgrade soil modification, and general contract specifications for acceptance of fly ash by a state highway agency.
Website: https://bookstore.transportation.org/item_details.aspx?ID=171

American Coal Ash Association

Title: ACAA Pavement Manual, Recommended Practice: Coal Fly Ash in Pozzolanic Stabilized Mixtures for Flexible Pavement Systems
Reference: **1991**
Content Summary: Manual relating to soil cement and pavement base, provides guidelines for pavement materials selection and proportioning, thickness, and construction.
Website: <http://www.acaa-usa.org/store-books.htm>

Title: Soil and Pavement Base Stabilization with Self-Cementing Coal Fly Ash
Reference: **1999**
Content Summary: Manual provides design information on the use of self-cementing coal fly ash as the sole stabilizing agent for a wide variety of stabilization applications.
Website: <http://www.acaa-usa.org/store-books.htm>

American Concrete Institute

Title: Precast Concrete Products using Industrial By-Products
Reference: **101-M22, May-June 2004**
Content Summary: Guide establishes the use of high volumes of CCPs in precast molded concrete
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=101-m22&ID=13115>

Title: Guide to Durable Concrete
Reference: **201.2R-01 - Committee 201**
Content Summary: Guide details the recommended requirements for individual components of concrete, quality considerations for concrete mixtures, construction procedures, and influences of the exposure environment, all important considerations to ensure concrete durability.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=201&ID=10785>

Title: Guide to Mass Concrete
Reference: **207.1R-05 - Committee 207**
Content Summary: Guide discusses materials and concrete mixture proportioning, properties, construction methods, and equipment.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=207&ID=15134>

Title: Roller Compacted Mass Concrete
 Reference: **207.5R-99 - Committee 207**
 Content Summary: Guide details the use of fly ash in roller compacted concrete.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=207&ID=10233>

Title: Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass
 Reference: **211.1-02 - Committee 211**
 Content Summary: Guide to methods for selecting and adjusting proportions for normal weight concrete.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=211&ID=5092>

Title: Standard Practice for Selecting Proportions for Structural Lightweight Concrete
 Reference: **211.2-04 - Committee 211**
 Content Summary: Guide discusses two methods for proportioning and adjusting proportions of structural grade concrete containing lightweight aggregates.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=211&ID=5093>

Title: Guide for Selecting Proportions for No-Slump Concrete
 Reference: **211.3R-02 - Committee 211**
 Content Summary: Guide details procedure for proportioning concretes having slumps in the range of zero to 3 inch and consistencies below this range, for aggregates up to 1 inch
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=211&ID=12238>

Title: Guide for Selecting Proportions for High-Strength Concrete with Portland Cement and
 Reference: **211.4R-93 - Committee 211**
 Content Summary: Guide provides method for selecting mixture proportions for high-strength concrete and optimizing these mixture proportions on the bases of trial batches.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=211&ID=5095>

Title: Controlled Low-Strength Materials
 Reference: **229R-99 - Committee 229**
 Content Summary: Guide provides information on applications, material properties, mix proportioning, construction and quality-control procedures.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=229&ID=10235>

Title: Report on Soil Cement
 Reference: **230.1R-90 - Committee 230**
 Content Summary: Report of the use of fly ash as a cementitious material in making soil cement.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=230&ID=5120>

Title: Use of Raw or Processed Natural Pozzolans in Concrete
 Reference: **232.1R-00 - Committee 232**
 Content Summary: Guide discusses the use of raw or processed natural pozzolans in concrete and provides an overview of the properties of natural pozzolans and their proper use in the production of hydraulic-cement concrete.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=232&ID=10268>

Title: Use of Fly Ash in Concrete
 Reference: **232.2R-03 - Committee 232**
 Content Summary: Guide provides an overview of the origin and properties of fly ash, its effect on the properties of hydraulic cement concrete, and the proper selection and use of fly ash in the production of hydraulic cement concrete and concrete products.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=232&ID=13073>

Title: Specifications for Structural Concrete
 Reference: **301-05 - Committee 301**
 Content Summary: Specifications for materials and proportioning of concrete; reinforcing and prestressing steels; production, placing, finishing, and curing of concrete; and formwork design and construction.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=301&ID=5125>

Title: Building Code Requirements for Structural Concrete and Commentary
 Reference: **318-05 - Committee 318**
 Content Summary: Requirements for the design and construction of structural concrete used in buildings and where applicable in non building structures.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=318&ID=5152>

Title: Guide for Cast-in-Place Low-Density Concrete
 Reference: **523.1R-92 - Committee 523**
 Content Summary: Guide provides information on materials, properties, design, and proper handling of cast-in-place concretes having oven-dry unit weights of 50 pcf or less.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=523&ID=5226>

Title: Guide for Precast Cellular Concrete Floor, Roof, and Wall Units
 Reference: **523.2R-96 - Committee 523**
 Content Summary: Guide provides information on materials, fabrication, properties, design, and handling of precast concrete floor, roof, and wall units having oven-dry unit weights of 50 pcf (800 kg/m³) or less.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=523&ID=5227>

Title: Guide for Cellular Concretes Above 50 pcf and for Aggregate Concrete Above 50 pcf with Compression Strength Less Than 2500 psi
 Reference: **523.3R-93 - Committee 523**
 Content Summary: Guide provides information on materials, fabrication, properties, design, and handling of cellular concretes.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=523&ID=5228>

Title: Mineral Admixtures
 Reference: **C-22 - Technical Documents**
 Content Summary: Document discusses the technicalities of using mineral admixtures in concrete, including CCPs.
 Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=ash&ID=5264>

Title: Chemical Admixtures
Reference: **C-23 - Technical Documents**
Content Summary: Document discusses the technicalities of using chemical admixtures in concrete, including CCPs.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=ash&ID=5265>

Title: Durable Concrete
Reference: **C-24 - Materials Journal**
Content Summary: Document discusses the technicalities of creating durable concrete, including the use of CCPs.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=ash&ID=5266>

Title: Greener Concrete Using Recycled Materials, 2002
Reference: **CI2407Naik**
Content Summary: Use of CCPs and other recycled materials in concrete.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=foundry+sand&ID=12132>

Title: Precast Concrete Products Using Industrial By-Products, 2004
Reference: **Doc 101-M22**
Content Summary: Establishing the use of high volumes of fly ash, bottom ash, and used foundry sand in the manufacture of precast molded concrete products such as wet-cast concrete bricks and paving stones.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=foundry+sand&ID=13115>

Title: Cementitious Materials for Concrete
Reference: **E3-01 - Committee E-701**
Content Summary: Guide discusses the manufacture, specification, and testing of Portland cement, fly ash and other pozzolans, ground-granulated blast-furnace slag, and silica fume.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=ash&ID=11749>

Title: ACI Manual of Concrete Practice
Reference: **MCP05PACK**
Content Summary: ACI's Manual of Concrete Practice (MCP) is the most comprehensive concrete reference set available. It contains all of the widely used ACI concrete and masonry code requirements, specifications, guides and reports.
Website: <http://www.concrete.org/PUBS/newpubs/mcp05.htm>

Title: Durability of CLSM with Used Foundry Sand, Bottom Ash, and Fly Ash in Cold Regions,
Reference: **SP200-20**
Content Summary: Fly ash and bottom ash in CLSM.
Website: <http://www.concrete.org/PUBS/JOURNALS/AbstractDetails.asp?srctype=ALL&keywords=foundry+sand&ID=10587>

American Society for Testing and Materials Standards

- Title: Standard Test Method for Length Change of Hydraulic Cement Mortars Exposed to a Sulfate Solution
Reference: **C1012-04, Volume 04.01**
Content Summary: Covers the determination of length change of mortar bars immersed in a sulfate
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C1012.htm?L+mystore+wayq62
- Title: Standard Performance Specification for Hydraulic Cement
Reference: **C1157-03, Volume 04.01**
Content Summary: Covers hydraulic cements for both general and special applications. This is a specification giving performance requirements. There are no restrictions on the composition of the cement or its constituents.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C1157.htm?L+mystore+wayq62
- Title: Standard Specification for Application of Gypsum Sheathing
Reference: **C1280-04, Volume 04.01**
Content Summary: Covers the minimum requirements for and methods of application of gypsum sheathing for use as a substrate for exterior wall cladding.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C1280.htm?L+mystore+wayq62
- Title: Standard Specification for Gypsum Board
Reference: **C1396-06, Volume 04.01**
Content Summary: Covers specifications and application procedures for gypsum board, including the use of synthetic gypsum.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C1396C1396M.htm?L+mystore+wayq6211
- Title: Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert
Reference: **C14-05a, Volume 04.05**
Content Summary: Covers nonreinforced concrete pipe intended to be used for the conveyance of sewage, industrial wastes, storm water, and for the construction of culverts.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C14.htm?L+mystore+wayq6211
- Title: Standard Practice for Portland Cement
Reference: **C150-05, Volume 04.01**
Content Summary: Specification covers eight types of Portland cement, each mixed to fulfill certain
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C150.htm?L+mystore+wayq621
- Title: Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolan for Use in Portland-Cement Concrete
Reference: **C311-05, Volume 04.02**
Content Summary: Covers procedures for sampling and testing fly ash and raw or calcined pozzolans for use in Portland-cement concrete.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C311.htm?L+mystore+wayq621

Title: Standard Specification for Lightweight Aggregates for Structural Concrete
 Reference: **C330-05, Volume 04.02**
 Content Summary: Covers lightweight aggregates intended for use in structural concrete in which prime considerations are reducing the density while maintaining the compressive strength of the concrete.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C330.htm?L+mystore+wayq621

Title: Standard Specification for Lightweight Aggregates for Concrete Masonry Units
 Reference: **C331-05, Volume 04.02**
 Content Summary: Covers lightweight aggregates intended for use in concrete masonry units when a prime consideration is to reduce the density of the units.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C331.htm?L+mystore+wayq621

Title: Standard Specification for Lightweight Aggregates for Insulating Concrete
 Reference: **C332-99, Volume 04.02**
 Content Summary: Covers lightweight aggregates intended for use in concrete not exposed to the weather, in which the prime consideration is the thermal insulating property of the
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C332.htm?L+mystore+wayq621

Title: Standard Specification for Fly Ash and Other Pozzolans for Use with Lime for Soil Stabilization
 Reference: **C593-05, Volume 04.01**
 Content Summary: Covers the qualification of fly ash and other pozzolans for use with lime in plastic, nonplastic mixtures and other mixtures that affect lime pozzolanic reaction required by soil stabilization. Evaluation of pozzolans containing available lime, such as Class C fly ash, is given consideration. Pozzolans covered include artificial pozzolans such as fly ash, and natural pozzolans, such as diatomite and pumicite, in either raw or
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C593.htm?L+mystore+wayq621

Title: Standard Specification for Blended Hydraulic Cement
 Reference: **C595-05, Volume 04.01**
 Content Summary: Pertains to five classes of blended hydraulic cements for both general and special applications, using slag or pozzolan, or both, with Portland cement or Portland cement clinker or slag with lime.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C595.htm?L+mystore+wayq621

Title: Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
 Reference: **C618-05, Volume 04.02**
 Content Summary: Covers coal fly ash and raw or calcined natural pozzolan for use in concrete.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C618.htm?L+mystore+wayq621

Title: Standard Specification for Application and Finishing of Gypsum Board
 Reference: **C840-06, Volume 04.01**
 Content Summary: Covers the minimum requirements for the methods of application and finishing of gypsum board, including related items and accessories.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C840.htm?L+mystore+wayq621

Title: Standard Specification for Application of Gypsum Base to Receive Gypsum Veneer
Reference: **C844-04, Volume 04.01**
Content Summary: Covers the minimum requirements for, and methods of, application of gypsum veneer base for gypsum veneer plasters.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C844.htm?L+mystore+wayq621

Title: Standard Specification for Expansive Hydraulic Cement
Reference: **C845-04, Vol. 04.01**
Content Summary: This specification covers hydraulic cements that expand during the early hardening period after setting.
Website: <http://www.astm.org/cgi-bin/SoftCart.exe/STORE/filtrexx40.cgi?U+mystore+dwhm4489+>

Title: Standard Practice for Proportioning Grout Mixtures for Preplaced-Aggregate Concrete
Reference: **C938-02, Volume 04.02**
Content Summary: Describes the laboratory procedure for selecting proportions for grout mixtures required in the production of preplaced-aggregate (PA) concrete.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/C938.htm?L+mystore+wayq621

Title: Standard Test Method for Sulfate Sulfur in Ash from Coal and Coke
Reference: **D1757-03, Volume 05.06**
Content Summary: Pertains to the determination of sulfate sulfur in coal or coke ash.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D1757.htm?L+mystore+wayq62

Title: Standard Test Method for Fusibility of Coal and Coke Ash
Reference: **D1857-04, Volume 05.06**
Content Summary: Covers the observation of the temperatures at which triangular pyramids (cones) prepared from coal and coke ash attain and pass through certain defined stages of fusing and flow when heated at a specified rate in controlled, mildly reducing, and where desired, oxidizing atmospheres.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D1857.htm?L+mystore+wayq62

Title: Standard Specification for Mineral Filler for Bituminous Paving Mixtures
Reference: **D242-04, Volume 04.03**
Content Summary: Covers mineral filler added as a separate ingredient for use in bituminous paving
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D242.htm?L+mystore+wayq621

Title: Standard Test Method for Lime Content of Uncured Soil-Lime Mixtures
Reference: **D3155-98 (2006) Volume 04.08**
Content Summary: This test method covers the determination of the lime content of soil-lime mixtures sampled from a project under construction or at the pug-mill, or both.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D3155.htm?L+mystore+wayq62

Title: Standard Test Method for Major and Minor Elements in Combustion Residues from Coal Utilization Processes
Reference: **D3682-06, Volume 05.06**
Content Summary: Covers the analysis of the commonly determined major and minor elements in combustion residues from coal utilization processes.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D3682.htm?L+mystore+wayq62

Title: Standard Test Method for Trace Elements in Coal and Coke Ash by Atomic Absorption
Reference: **D3683-04, Volume 05.06**
Content Summary: Describes a procedure for the determination of beryllium, chromium, copper, manganese, nickel, lead, vanadium, and zinc in coal ash or coke ash.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D3683.htm?L+mystore+wayq62

Title: Standard Test Method for Major and Minor Elements in Coal and Coke Ash by X-ray Fluorescence
Reference: **D4326-04, Volume 05.06**
Content Summary: Covers the analysis of the commonly determined major and minor elements in ash from coal or coke using X-ray fluorescence (XRF) techniques.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D4326.htm?L+mystore+wayq62

Title: Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders
Reference: **D4832-02 Volume 04.08**
Content Summary: This test method covers procedures for the preparation, curing, transporting and testing of cylindrical test specimens of controlled low strength material (CLSM) for the determination of compressive strength.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D4832.htm?L+mystore+wayq62

Title: Standard Test Method for Sulfur in Ash from Coal, Coke, and Residues from Coal Combustion Using High-Temperature Tube Furnace Combustion Method with Infrared Absorption
Reference: **D5016-03, Volume 05.06**
Content Summary: Describes a procedure using a high-temperature tube furnace and infrared detection for the rapid determination of sulfur in ash from coal and coke.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D5016.htm?L+mystore+wayq62

Title: Standard Practice for Characterizing Fly Ash for Use in Soil Stabilization
Reference: **D5239-04, Volume 04.08**
Content Summary: Covers procedures for characterizing fly ash to be used in soil stabilization. This practice lists representative test methods for determining the chemical, physical, and cementitious properties of fly ash.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D5239.htm?L+mystore+wayq62

Title: Standard Specification for Pozzolonic Blended Materials in Construction Applications
Reference: **D5370-06, Volume 11.04**
Content Summary: Covers pozzolanic blended material for use in construction applications where the properties normally attributed to finely divided mineral admixtures may be desired.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D5370.htm?L+mystore+wayq62

Title: Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain
 Reference: **D5435-03, Volume 04.08**
 Content Summary: Covers the determination of quantity (Q) and intensity (I) results for several elements in soils, spoils, fly-ash, and other soil substitutes to ascertain their suitability for the growth of vegetation and possible adverse effects of metals on the food chain.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D5435.htm?L+mystore+wayq62

Title: Standard Test Methods for Freezing and Thawing Compacted Soil-Cement Mixtures
 Reference: **D560-03 Volume 04.08**
 Content Summary: These test methods cover procedures for determining the soil-cement losses, water content changes, and volume changes (swell and shrinkage) produced by repeated freezing and thawing of hardened soil-cement specimens. The specimens are compacted in a mold, before cement hydration, to maximum density at optimum water content using the compaction procedure described in Test Methods D 558.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D560.htm?E+mystore

Title: Standard Guide for Characterization of Coal Fly Ash and Clean Coal Combustion Fly Ash for Potential Uses
 Reference: **D5759-05, Volume 11.04**
 Content Summary: Recommends standards for the characterization of fly ash from the combustion of coal, fly ash from coal combusted in the presence of alkaline materials, and fly ash from combusted coal in which the flue gases have been treated with alkaline materials in the presence of the fly ash.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D5759.htm?L+mystore+wayq62

Title: Standard Test Method for Unit Weight, Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low Strength Material (CLSM)
 Reference: **D6023-02 Volume 04.09**
 Content Summary: This test method explains determination of the mass per cubic foot (cubic meter) of freshly mixed Controlled Low Strength Material (CLSM) and gives formulas for calculating the yield, cement content, and the air content of the CLSM. This test method is based on Test Method C138 for Concrete.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6023.htm?L+mystore+wayq62

Title: Standard Test Method for Ball Drop on Controlled Low Strength Material (CLSM) to Determine Suitability for Load Application
 Reference: **D6024-02 Volume 04.09**
 Content Summary: This specification explains the determination of the ability of Controlled Low Strength Material (CLSM) to withstand loading by repeatedly dropping a metal weight onto the
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6024.htm?L+mystore+wayq62

Title: Standard Test Method for Determination of Total Combustible, and Carbonate Carbon in Solid Residues from Coal and Coke
 Reference: **D6316-04, Volume 05.06**
 Content Summary: Covers the determination of total, combustible, and carbonate carbon remaining in the solid byproducts of combustion from boiler furnaces and similar reactors, including ash, fly ash, char, slag, and similar materials.
 Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6316.htm?L+mystore+wayq62

Title: Standard Test Method for Determination of Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma-Atomic Emission Spectrometry

Reference: **D6349-01, Volume 05.06**

Content Summary: Covers a procedure for the analysis of the commonly determined major and minor elements in coal, coke, and solid residues from combustion of coal and coke. These residues may be laboratory ash, bottom ash, fly ash, flue gas desulfurization sludge, and other combustion process residues.

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6349.htm?L+mystore+wayq62

Title: Test Method for Determination of Trace Elements in Coal, Coke, and Combustion Residues from Coal Utilization Processes by Inductively Coupled Plasma Atomic Emission, Inductively Coupled Plasma Mass, & Graphite Furnace Atomic Absorption

Reference: **D6357-04, Volume 05.06**

Content Summary: Pertains to the determination of antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, vanadium, and zinc in coal and coke. These test methods can also be used for the analysis of residues from coal

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6357.htm?L+mystore+wayq62

Title: Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Acid Extraction or Wet Oxidation/Cold Vapor Atomic Absorption

Reference: **D6414-06, Volume 05.06**

Content Summary: Cover procedures to determine the total mercury content in a sample of coal or coal combustion residue.

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6414.htm?L+mystore+wayq62

Title: Standard Test Method for Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis

Reference: **D6722-06, Volume 05.06**

Content Summary: Cover procedures to determine the total mercury content in a sample of coal or coal combustion residue.

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6722.htm?L+mystore+wayq62

Title: Standard Practice for Production of Coal, Coke, and Coal Combustion Samples for Interlaboratory Studies

Reference: **D6796-02, Volume 05.06**

Content Summary: Describes the essential activities that are required to produce samples for interlaboratory studies.

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/D6796.htm?L+mystore+wayq62

Title: Standard Practice for Processing Mixtures of Lime, Fly Ash, and Heavy Metal Wastes in Structural Fills and Other Construction Applications

Reference: **E1266-05, Volume 11.04**

Content Summary: Provides descriptions and references of existing test methods and commercial practices relating to the processing of lime, fly ash, and heavy metal wastes in construction applications.

Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E1266.htm?L+mystore+wayq6211

- Title: Standard Guide for Use of Coal Combustion Products for Solidification/Stabilization of Inorganic Wastes
Reference: **E2060-00, Volume 11.05**
Content Summary: Covers methods for selection and application of coal combustion products (CCPs) for use in the chemical stabilization of trace elements in wastes and wastewater. Chemical stabilization may be accompanied by solidification of the waste treated.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2060.htm?L+mystore+wayq6211
- Title: Standard Terminology for Coal Combustion Products
Reference: **E2201-02, Volume 11.05**
Content Summary: Defines terms used in the production, management and use of coal combustion products (CCPs).
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2201.htm?L+mystore+wayq6211
- Title: Standard Guide for Use of Coal Combustion Products (CCPs) for Surface Mine Reclamation: Re-contouring and Highwall Reclamation
Reference: **E2243-02, Volume 11.05**
Content Summary: Covers the use of coal combustion products (CCPs) for surface coal mine reclamation applications, as in beneficial use for reestablishing land contours, highwall reclamation, and other reclamation activities requiring fills or soil replacement.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2243.htm?L+mystore+wayq6211
- Title: Standard Guide for Design and Construction of Coal Ash Structural Fills
Reference: **E2277-03, Volume 11.05**
Content Summary: Covers procedures for the design and construction of engineered structural fills using coal fly ash, bottom ash, or ponded ash.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2277.htm?L+mystore+wayq6211
- Title: Standard Guide for Use of Coal Combustion Products (CCPs) for Surface Mine Reclamation: Revegetation and Mitigation of Acid Mine Drainage
Reference: **E2278-04, Volume 11.05**
Content Summary: Covers the beneficial use of coal combustion products (CCPs) for abatement of acid mine drainage and revegetation for surface mine reclamation applications related to area mining, contour mining, and mountaintop removal mining. It does not apply to underground mine reclamation applications.
Website: http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/REDLINE_PAGES/E2278.htm?L+mystore+wayq6211

American Society of Civil Engineers

- Title: Utilization of Waste Materials in Civil Engineering Construction
Reference: **ASCE, 0-87262-907-4**
Content Summary: This proceeding consists of papers that discuss policy issues, current practices, performance requirements, engineering characteristics, and the potential uses of a wide variety of waste materials in geotechnical systems, highway pavements, and
Website: <http://www.pubs.asce.org/WWWdisplaybn.cgi?0872629074>

Assoc. of Wall and Ceiling Contractors of British Columbia

- Title: Wall and Ceiling Standards
Reference: **Sect. 9.6**
Content Summary: Canadian standards for constructing walls and ceilings with synthetic gypsum.
Website: <http://www.awccbc.org/man/toc.htm>

Cement Association of Canada

Title: Concrete and LEED Canada - New Construction 1.0
Reference:
Content Summary: Document references relevant Canadian legislation, standards, and government programs for use of CCPs in Canadian construction products.
Website <http://www.cement.ca/cement.nsf/ep/C894EE9B092C543A85256E6F006D7347?openDocument>

Environmental Council of Concrete Organizations

Title: Reclaimed Industrial Byproducts Key to Concrete of the Future
Reference: **1998**
Content Summary: Adding value and strength to concrete with ccp admixtures.
Website <http://www.p2pays.org/ref/14/13605.pdf>

Green Guide for Health Care

Title: Green Guide for Health Care- A Best Practices Guide for Healthy and Sustainable Building Design, Construction, and Operations
Reference: **Version 2.1, Sept 2005, Ch. 9, Sec 4.2**
Content Summary: A best practices guide for healthy and sustainable building design, construction, and operations - use of CCPs in health care buildings.
Website <http://www.gghc.org/>

Materials Research Society

Title: Fly Ash and Coal Conversion By-Products: Characterization, Utilization, and Disposal VI
Reference: **June 1990, ISBN: 1558990666**
Content Summary: Book discusses by-products of coal combustion and conversion, residues from advanced SO2 control, resource recovery, ash beneficiation, and the use of modern materials characterization tools in understanding structure, properties and reactions during utilization or disposal.
Website http://books.kelkoo.co.uk/b/a/cpc_5101_ps_6177949_gs_16272122.html

National Lime Association

Title: Lime-Treated Soil Construction Manual: Lime Stabilization and Lime Modification
Reference: **Bulletin 326**
Content Summary: This manual focuses on the construction aspects of treating soil with lime. It is written for highway pavement applications because most lime for soil treatment is used in highway construction, for example in soil drying, temporary modification, and
Website <http://www.lime.org/Construct104.pdf>

National Ready Mixed Concrete Association

Title: Compilation of ASTM Standards Relating to Concrete
Reference:
Content Summary: Contains 43 ASTM specifications, practices, and test methods relating to cement, fly ash, slag, silica fume, admixtures, aggregates, and concrete.
Website <http://my.nrmca.org/source/orders/index.cfm>
Title: Specifying Concrete for Durability
Reference:
Content Summary: Specifications for making durable concrete including with CCPs.
Website http://www.nrmca.org/research/performance%20%20specifications%20article%20for%20infocus%20_2_.pdf

Title: Freeze-Thaw Resistance of Pervious Concrete
Reference: **May-04**
Content Summary: Manual detailing recommendations for pervious concrete projects in freeze thaw
Website: <http://www.nrmca.org/greenconcrete/nrmca%20-%20freeze%20thaw%20resistance%20of%20pervious%20concrete.pdf>

National Recycling Coalition Inc.

Title: Buy Recycled Coal Fly Ash
Reference:
Content Summary: Discusses the history and uses of coal fly ash, and the benefits of buying recycled.
Website: <http://www.p2pays.org/ref/03/02935.pdf>

National Research Council

Title: Managing Coal Combustion Residues in Mines
Reference: **ISBN: 0309100496**
Content Summary: Book discusses the use of CCPs in mines.
Website: <http://www.nap.edu/catalog/11592.html>

Northeast Recycling Council

Title: Current Uses and Evaluation of Recycled Materials in Highway Construction: Overview of the Northeastern States
Reference: **Apr-93**
Content Summary: This report includes: -the types of recycled materials currently used in highway construction, their applications, and annual quantities used-the state experiences in the use of recycled materials from technical, economic, and environmental viewpoints, and the materials and application which appear favorable and are to be projected for future construction-the materials and uses mandated by state laws, and-the types of recycled materials that are in a process covered by patents.
Website: <http://www.p2pays.org/ref/24/23544.pdf>
Title: NERC Contact Information
Reference: **Nov-05**
Content Summary: Contact information for various recycled materials points of contact in Northeastern
Website: <http://www.nerc.org/recycling/contact-ny.html>

Portland Cement Association

Title: Design and Control of Concrete Mixtures, 2002
Reference: **Code: EB001**
Content Summary: Definitive reference on concrete technology covers fundamentals and detailed information on freshly mixed and hardened concrete.
Website: <http://www.cement.org/bookstore/profile.asp?itemid=EB001>
Title: Soil-Cement Construction Handbook
Reference: **Code: EB003**
Content Summary: Describes construction operations using mixed-in-place and central-plant-mixed techniques. Includes construction of roads, shoulders, parking and storage areas; recycling of flexible pavements and cement-modified soils.
Website: <http://www.cement.org/BOOKSTORE/profile.asp?store=&id=157>

Title: Cementitious Grouts and Grouting, 1990
 Reference: **Code: EB111**
 Content Summary: Fundamental review of cementitious grouts and grouting practices. Discusses ingredients, properties, proportioning, mixing, testing, and placing of grouts for more
 Website: <http://www.cement.org/bookstore/profile.asp?itemid=EB111>

Title: Guide Specification for High Performance Concrete for Bridges, 2005
 Reference: **Code: EB233**
 Content Summary: This guide specification is intended to serve as a guide for developing specifications for all high performance concretes supplied for highway bridges, whether produced by a ready mix supplier, a general contractor, or in a permanent plant of a precast
 Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=14&catID=&id=>

Title: An Engineer's Guide to: Building Green with Concrete, 2005
 Reference: **Code: IS312**
 Content Summary: LEED the way to green building design with concrete. This bulletin describes how concrete contributes to obtain the Leadership in Energy and Environmental Design (LEED) Green Building certification.
 Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=8&catID=&id=>

Title: Production of Roller-Compacted Concrete
 Reference: **Code: IS332**
 Content Summary: Explains to a concrete producer the materials and laboratory testing necessary to produce a quality roller-compacted concrete (RCC) mix for pavement applications and looks at a number of alternative mix design procedures and types of batching
 Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=4&catID=&id=>

Title: Fly Ash, Slag, Silica Fume, and Natural Pozzolans, 2002
 Reference: **Code: IS531**
 Content Summary: Introduces the different types of supplementary cementitious materials: fly ash, slag, silica fume, metakaolin, calcined clay, and calcined shale. Specifications and classes as well as effects of supplementary cementitious materials on freshly mixed and hardened concrete are discussed.
 Website: <http://www.cement.org/bookstore/profile.asp?itemid=IS531>

Title: Fly Ash as Raw Material in Cement Manufacture: A Selected Bibliography, 2003
 Reference: **Code: LB09**
 Content Summary: Focuses on the use of fly ash as a secondary raw material in the cement manufacturing process.
 Website: <http://www.cement.org/bookstore/profile.asp?itemid=LB09>

Title: Fly Ash Aggregate Lightweight Concrete, 1969
 Reference: **Code: RD003**
 Content Summary: Describes a comprehensive laboratory investigation concerning the physical properties of structural lightweight concretes containing four commercially available fly
 Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=3&catID=&id=>

Title: Mercury and Lead Content in Raw Materials, 2006
 Reference: **Code: SN2888**
 Content Summary: Provide information on levels of mercury and lead in raw materials entering the Portland cement manufacturing process.
 Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=5&catID=&id=>

- Title: Fly Ash in Cement and Concrete. 1987
Reference: **Code: SP040**
Content Summary: Comprehensive review of research on the characterization of fly ashes for use with Portland cement in concrete, the chemistry and physical aspects of test methods, ASTM standard specifications, and factors affecting strength development and
Website: <http://www.cement.org/bookstore/profile.asp?store=&pagenum=1&pos=2&catID=&id=>
- Title: Concrete Construction Engineering Handbook
Reference: **ISBN: 0849326664**
Content Summary: This handbook discusses concrete materials, structural design, and concrete construction in the areas of cast-in-place concrete, prestressed concrete, post-tensioned concrete, architectural concrete, masonry, bridges, fiber-reinforced concrete,
Website: <http://www.cement.org/BOOKSTORE/profile.asp?store=&id=323>
- Title: HPC Bridge Views
Reference: **Issue Nos. 1-38**
Content Summary: The first 38 issues of HPC Bridge Views, with several references to the use of fly ash.
Website: <http://www.cement.org/bookstore/profile.asp?itemid=SP397>
- Title: Diagnosis and Control of Alkali-Aggregate Reactions in Concrete
Reference: **PCA R&D Serial No. 2071b ISBN 0-89312-146-0 © 2007 Portland Cement Association**
Content Summary: This publication addresses alkali-silica reactivity which has been recognized as a potential source of distress in concrete. Reactivity is potentially harmful only when it produces significant expansion. To reduce ASR potential requires understanding the ASR mechanism; properly using tests to identify potentially reactive aggregates; and, if needed, taking steps to minimize the potential for expansion and related cracking.
Website: http://www.cement.org/bookstore/results_quicksearch.asp
- Title: Guide Specification for Concrete Subject to Alkali-Silica Reactions
Reference: **Portland Cement Association R&D Serial Number 2001b**
Content Summary: This specification is intended for use primarily by owners, transportation engineers, and structural engineers to provide safeguards against the occurrence of ASR failures.
Website: http://www.cement.org/bookstore/results_quicksearch.asp

Recycled Materials Resource Center

- Title: A Review of Water Movement in the Highway Environment- Implications for Recycled Materials Use
Reference: **Feb-02**
Content Summary: A review of water movement in the highway environment and how the use of recycled materials affects it.
Website: <http://www.rmrc.unh.edu/Research/Rprojects/Project7/review/watermovement.pdf>

Research Triangle Institute

- Title: Fabric Filters, 1998
Reference: **Chapter 5**
Content Summary: Discusses the potential of using fly ash in fabric air filters.
Website: <http://www.p2pays.org/ref/10/09848.pdf>

Transportation Research Board

- Title: Perspectives for Constructive Reuse of High-Volume Waste Streams, 1997
Reference: **ISBN: 0309061598**
Content Summary: Discusses liability issues of reusing industrial wastes.
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=577394>
- Title: Perspectives on Liability for Constructive Reuse of High-Volume Waste Streams, 1997
Reference: **ISBN: 0309061598**
Content Summary: Many DOTs, including the Indiana DOT (INDOT), have developed special provisions, specifications, and protocols for reusing high-volume waste streams, such as CCPs.
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=577394>
- Title: Field Evaluation of Construction Alternatives for Roadways Over Soft Subgrade
Reference: **ISBN: 0309077117**
Content Summary: Industrial by-products including foundry slag, foundry sand, bottom ash, and fly ash were used as subbase layer materials.
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=723726>
- Title: Development of Methodology to Include Structural Contribution of Alternative Working Platforms in Pavement Structure, 2005
Reference: **ISBN: 0309094100**
Content Summary: Resilient modulus obtained from large-scale model experiments conducted on several working platform materials (e.g., breaker run stone, Grade 2 gravel, foundry slag, foundry sand, and bottom ash) was used in the analysis.
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=781053>
- Title: Equivalency of Crushed Rock and Three Industrial By-Products Used for Working Platforms During Pavement Construction, 2004
Reference: **ISBN: 0309094690**
Content Summary: A study was conducted to define an equivalency criterion for five materials used for working platforms during pavement construction on a poor subgrade: conventional crushed rock (referred to as breaker run) and four alternatives (Grade 2 gravel, foundry slag, bottom ash, and foundry sand).
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=746430>
- Title: Use of Recycled and Waste Materials in Indiana, 2004
Reference: **ISBN: 0309094690**
Content Summary: This study consolidates results of research on geotechnical applications of coal combustion by-products, foundry sand, tire shreds, and crushed glass. Project case histories and revised construction specifications based on post construction
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=746432>
- Title: Lime-Fly Ash-Stabilized Bases and Subbases (1976)
Reference: **NCHRP 20-5 Topic 606, 1976**
Content Summary: Book discusses mixture properties of lime-fly ash-mixtures (LFA) as well as pavement behavior and performance, selection of mixture proportions, construction procedures, applications and limitations.
Website: <http://pubsindex.trb.org/document/view/default.asp?lbid=65606>

- Title: Environmental Impact of Construction and Repair Materials on Surface and Ground Waters, 2001
- Reference: **NCHRP Report 448**
- Content Summary: This report summarizes the research conducted in NCHRP Project 25-09 to develop a new testing technology to realistically estimate how conventional, recycled, or waste highway construction and repair materials may affect surface and ground waters in environments surrounding highway rights-of-way.
- Website http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_448.pdf
- Title: Use of Fly Ash in Concrete (1986)
- Reference: **NCHRP Synthesis Report #127**
- Content Summary: Book summarizes available information concerning the use of fly ash in hydraulic-cement concrete, and attempts to establish consensus concerning a number of applications relating to highway construction.
- Website http://www.trb.org/news/blurb_detail.asp?id=3430
- Title: Recycling and Use of Waste Materials and By-Products in Highway Construction
- Reference: **NCHRP Synthesis Report #199**
- Content Summary: Information is provided on the technical, economic, and environmental aspects (including legislative and regulatory considerations) of recycling and using waste materials and by-products in highway construction.
- Website http://trb.org/news/blurb_detail.asp?id=3358
- Title: Concrete 2002
- Reference: **Transportation Research Record #1798**
- Content Summary: Book tracks studies on fatigue damage in roller-compacted pavement foundation with recycled aggregate and waste plastic strips, the influence of key parameters on quality of dry-mix shotcrete, alkali-silica reactivity resistance of high-volume fly ash cementitious systems, and heat removal from mass concrete footing.
- Website http://www.trb.org/news/blurb_detail.asp?ID=1304

Government, Federal

Federal Aviation Administration

Title: Standards for Construction
Reference: **AC 150/5370-10A**
Content Summary: Standards for fly ash use in certain airport-related concrete products.
Website: http://www.airweb.faa.gov/Regulatory_and_Guidance_Library%5CrgAdvisoryCircular.nsf/0/57626166BEE8AA17862570A7007149BA?OpenDocument

Title: Standards for Construction
Reference: **Specification P-401**
Content Summary: Standards for the use of CCPs in various airport construction projects.
Website: http://www.faa.gov/airports_airtraffic/airports/construction/engineering_briefs/media/EB_59a.pdf

Title: Standards for Construction
Reference: **Specification P-501**
Content Summary: Standards for the use of ash in various airport construction projects.
Website: <http://sftp.cee.uiuc.edu/research/ceat/Publications/TechNotes/TN20%20FAA%20Concrete%20Materials%20Specs.pdf>

Federal Environmental Executive

Title: Greening the Government Through Waste Prevention, Recycling, and Federal
Reference: **EO 13101402(C), 502(C)**
Content Summary: A guide to implementing Executive Order 13101.
Website: <http://www.ofee.gov/eo/greening.pdf>

Federal Highway Administration

Title: Ohio Specifications- 203 Roadway Excavation and Embankment
Reference: **203.02 Definitions, N. Recycled Materials**
Content Summary: Use of foundry sand in roadway embankments in Ohio.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Ohio\Standard%20Specifications%20and%20Supplements\B%20-%20Earthwork\203.pdf> -
[xml=http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c302d4feaf8322f1d4c521491518/te](http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c302d4feaf8322f1d4c521491518/te)

Title: FHWA Materials Notebook (1998)
Reference: **Ch 6 - Specifications**
Content Summary: Working tool that provides a readily available compilation of current FHWA policy and guidance on materials.
Website: <http://www.fhwa.dot.gov/pavement/materials/matnote.cfm>

Title: The Use of Fly Ash in Highway Construction, U.S. 84/98 Adams County, Final Report
Reference: **Demonstration Project 59, May 2000**
Content Summary: This performance indicates that a LFA stabilized granular material is a viable option for replacement of a bituminous material in base course construction.
Website: <http://www.mdot.state.ms.us/research/pdf/DemoPr59.pdf>

Title: Transportation Applications of Recycled Concrete Aggregate (2004)
Reference: **FHWA State of the Practice National Review**
Content Summary: Captures the most advanced uses of recycled concrete aggregate (RCA) for transportation uses in the United States.
Website: <http://www.rmrc.unh.edu/Resources/PandD/RCARReport/RCAREPORT.pdf>

Title: Fly Ash Facts for Highway Engineers
Reference: **FHWA-IF-03-019**
Content Summary: Book detailing the use of fly ash in highway construction
Website: <http://www.fhwa.dot.gov/pavement/recycling/fafacts.pdf>

Title: Fly Ash as a Construction Material
Reference: **FHWA-IP-76-16PB-259302**
Content Summary: List of publications including those involving fly ash.
Website: http://www.fhwa.dot.gov/engineering/geotech/library_listing.cfm

Title: Soil Stabilization in Pavement Structures
Reference: **FHWA-IP-80-2PB83-186403**
Content Summary: Publications on the use of ccps as soil stabilizers.
Website: http://www.fhwa.dot.gov/engineering/geotech/library_arc.cfm?pub_number=79

Title: Kiln Dust-Fly Ash Systems for Highway Bases and Subbases
Reference: **FHWA-RD-82-167**
Content Summary: Guide detailing the use of fly ash in highway bases and subbases.
Website: <http://www.amazon.com/exec/obidos/tg/detail/-/B0006YBXDI?v=glance>

Title: User Guidelines for Waste and Byproduct Materials in Pavement Construction
Reference: **FHWA-RD-97-148 - Turner Fairbanks Highway Research Center, Federal Highway Research Center, Recycled Materials Research Center**
Content Summary: Online manual for CCP use in pavement construction.
Website: <http://www.rmrc.unh.edu/Partners/UserGuide/begin.htm>

Title: Fly Ash
Reference: **Materials Group - Infrastructure**
Content Summary: Report discusses specifications and classifications of fly ash and mix designs.
Website: <http://www.fhwa.dot.gov/infrastructure/materialsgrp/flyash.htm>

Title: Recycled Roadways
Reference: **Public Roads Jan/Feb 2005, Vol 68, No 4**
Content Summary: Discusses use of recycled materials in roadway construction.
Website: <http://www.tfhrc.gov/pubrds/05jan/02.htm>

Title: The Use of Recycled Materials in Highway Construction
Reference: **Public Roads Mag., Autumn 1994, Vol. 58, No. 2**
Content Summary: Article summarizes current research on those waste materials that have shown promise as a substitute for conventional materials.
Website: <http://www.tfhrc.gov/pubrds/fall94/p94au32.htmor>

Title: National Research Projects on Recycling in Highway Construction, 2000
Reference: **Public Roads Vol 64, No 1**
Content Summary: Describes several recently completed or ongoing research projects pertaining to recycling in highway construction.
Website: <http://www.tfhr.gov/pubrds/julaug00/recycnat.htm>

Title: Utah Specifications- Grouted Riprap
Reference: **Section 02374**
Content Summary: The use of coal ash in grouted riprap in Utah.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Utah\Standard%20Specifications%20and%20Supplements\Division%2002%20-%20Site%20Construction\02374-GroutedRiprap.pdf>

Title: Utah Specifications- Portland Cement Concrete
Reference: **Section 03055**
Content Summary: The use of coal ash in Portland Cement Concrete in Utah.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Utah\Standard%20Specifications%20and%20Supplements\Division%2003%20-%20Concrete\03055-PortlandCementConcrete.pdf>

Title: Utah Specifications- Flowable Fill
Reference: **Section 03575**
Content Summary: The use of coal ash in flowable fill in Utah.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Utah\Standard%20Specifications%20and%20Supplements\Division%2003%20-%20Concrete\03575-FlowableFill.pdf>

Title: Maine Specifications- Structural Concrete Related Material
Reference: **Section 701**
Content Summary: The use of coal fly ash in roadway construction in Maine.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Maine\Standard%20Specifications%20and%20Supplements\G%20-%20Materials\700.pdf> -
[xml=http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c3048d6463d21657563562609174.xml](http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c3048d6463d21657563562609174.xml)

Title: Maine Specifications- Aggregates
Reference: **Section 703**
Content Summary: The use of coal fly ash as an aggregate in Maine.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Maine\Standard%20Specifications%20and%20Supplements\G%20-%20Materials\703.pdf> -
[xml=http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c3048d6463d21657563562609174.xml](http://fhwapap04.fhwa.dot.gov/nhswp/newDir8c3048d6463d21657563562609174.xml)

Title: Indiana Specifications- Materials Details, PCC Materials, 2006
Reference: **Section 900-901**
Content Summary: The use of coal ash in highway construction in Indiana.
Website: <http://fhwapap04.fhwa.dot.gov/nhswp/servlet/Content?loc=D:\apps\nhsw\nhswp\agency\Indiana\Standard%20Specifications%20and%20Supplements\0900%20-%20Materials%20Details\9-2006.pdf>

Title: Use of Coal Ash In Embankments and Bases
Reference: **T5080.9, 5/16/88**
Content Summary: Technical advisory that sets forth guidance and recommendations relating to the use of coal ash in bases and embankments.
Website: <http://www.fhwa.dot.gov/legregs/directives/techadv/t508009.htm>

Title: National Highway Specifications
Reference: **Website**
Content Summary: Specifications search for all states highway construction specifications and AASHTO.
Website <http://fhwapap04.fhwa.dot.gov/nhswp/>

National Energy Technology Laboratory

Title: EW&R Coal Utilization By-Products
Reference: **Website**
Content Summary: Current Regulations Governing Coal Combustion By-Products - Database of State Regulations on CCBs.
Website http://www.netl.doe.gov/technologies/coalpower/ewr/coal_utilization_byproducts/states/select_state.html

U.S. Geological Survey

Title: Coal Combustion Products - 2000
Reference: **Minerals Yearbook Kalyoncu, Rustu**
Content Summary: Basic information regarding CCPs and production and use statistics.
Website <http://minerals.usgs.gov/minerals/pubs/commodity/coal/874400.pdf>

US Air Force

Title: Sustainable Facility Guide
Reference: **Final 3/31/00**
Content Summary: Discussion of the benefits of building green and creating facilities that use land wisely, use energy water and materials efficiently, enhance human health and well being, are economical to operate, and promote recycling.
Website <http://www.p2pays.org/ref/22/21465.pdf>

US Army Corps of Engineers

Title: Standard Practice for Concrete Pavements (1984)
Reference: **ARMY TM 5-822-7AIR FORCE AFM 88-6, Chap. 8**
Content Summary: Guide for the use of ash in concrete pavement.
Website <http://www.usace.army.mil/inet/usace-docs/armytm/tm5-822-7/entire.pdf>

Title: Investigation and Selection of Materials (2001)
Reference: **EM 1110-2-2000**
Content Summary: Report details the materials needed to manufacture concrete with qualities meeting the structural and durability requirements. Materials involved include cementitious materials, fine aggregate, coarse aggregate, water for mixing and curing, and
Website <http://www.usace.army.mil/usace-docs/eng-manuals/em1110-2-2000/entire.pdf>

Title: Controlled Low Strength Material with Coal-Combustion Ash and Other Recycled Materials, 1996
Reference: **Engineer Technical 1110-3-496**
Content Summary: Use of CCPs in controlled low-strength material.
Website <http://www.usace.army.mil/publications/eng-tech-ltrs/et1110-3-496/entire.pdf>

Title: Use of Waste Materials in Pavement Construction, 1999
Reference: **Engineer Technical 1110-3-503**
Content Summary: Use of CCPs in pavement.
Website <http://www.usace.army.mil/publications/eng-tech-ltrs/et1110-3-503/entire.pdf>
[Appendix B: http://www.usace.army.mil/publications/eng-tech-ltrs/et1110-3-503/a-](http://www.usace.army.mil/publications/eng-tech-ltrs/et1110-3-503/a-)

Title: The Environmental Assessment and Management (TEAM) Guide, 2001
Reference: **USACERL TR-98/DRAFT**
Content Summary: This guide combines Code of Federal Regulations and management practices into checklists that show legal requirements and the specific operations or items to review. It also includes component-specific manuals detailing regulations and policies.
Website: <http://www.p2pays.org/ref/23/22828.pdf>

US Code - Congress of the United States

Title: The Public Health and Welfare: Solid Waste Disposal, Federal Responsibilities
Reference: **Sec. 600242 USC 6962 Resource Conservation and Recovery Act**
Content Summary: Federal guidelines for waste disposal.
Website: http://www.access.gpo.gov/uscode/title42/chapter82_.html

US Department of Agriculture

Title: Illinois Urban Manual: Instructions for Use of Construction Specification 31
Reference: **522, 531, 532, 533 - Natural Resources Conservation Service**
Content Summary: Manual details the types of concrete construction entailed in NRCS operations where high material quality is not negotiable.
Website: <http://www.il.nrcs.usda.gov/technical/engineer/urban/contents.html>

Title: Natural Resources Conservation Service: Conservation Practice Standard - Irrigation Water Conveyance Ditch and Canal Lining, Plain Concrete
Reference: **Code 428A**
Content Summary: Fly ash can be used to replace up to 15 percent (%) of the cement, by weight when other pozzolans are not used.
Website: <http://efotg.nrcs.usda.gov/references/public/AL/tg428a.pdf>

Title: Natural Resources Conservation Service: Conservation Practice Standard -Heavy Use Area Protection
Reference: **Code 561**
Content Summary: Soil cement, roller compacted concrete, and coal combustion by-products (flue gas desulphurization sludge and fly ash) may be used as surface material if designed and installed to withstand the anticipated loads and surface abrasion.
Website: <http://efotg.nrcs.usda.gov/references/public/NM/561.pdf>

Title: Beneficial Co-Utilization of Agricultural, Municipal and Industrial By-Products (1998)
Reference: **ISBN: 0792351894**
Content Summary: Proceedings of the Beltsville Symposium XXII held on May 4-8, 1997, at the Beltsville Agricultural Research Center, Beltsville, MD. One report specifically addresses the uses of CCPs.
Website: <http://www.amazon.co.uk/gp/product/0792351894/026-9370591-3363642?v=glance&n=266239>

Title: Illinois Urban Manual: Concrete for Major Structures
Reference: **Spec 31 - Natural Resources Conservation Service**
Content Summary: Specifications for the use of CCPs in concrete structures.
Website: <http://www.il.nrcs.usda.gov/technical/engineer/urban/constspec/urb031cs.html>

Title: Illinois Urban Manual: Structure Concrete
Reference: **Spec 32 - Natural Resources Conservation Service**
Content Summary: Specifications for the use of CCPs in structure concrete.
Website: <http://www.il.nrcs.usda.gov/technical/engineer/urban/constspec/urb032cs.html>

Title: Manual for Applying Fluidized Bed Combustion Residue to Agricultural Lands
Reference: **Stout, 1988, R.F. Korcak, Ch.6**
Content Summary: Article details the properties of CCPs and their agricultural applications.
Website: <http://www.ars.usda.gov/is/np/agbyproducts/agbychap6.pdf>

US Department of Energy

Title: Advanced Technologies for the Control of Sulfur Dioxide Emissions from Coal-Fired
Reference: **Topical Report No 12, June 1999**
Content Summary: This topical report discusses three completed clean coal technology projects that successfully demonstrated SO₂ emissions reductions via innovative FGD processes. The effects on the resulting CCPs are discussed.
Website: <http://www.p2pays.org/ref/16/15927.pdf>

US Environmental Protection Agency

Title: Comprehensive Procurement Guideline and Final Recovered Materials Advisory
Reference:
Content Summary: Designates thirteen new items that are or can be made with recovered materials.
Website: <http://www.p2pays.org/ref/08/07281.pdf>

Title: RCRA Orientation Manual
Reference:
Content Summary: The Resource Conservation and Recovery Act was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several amendments, the Act as it stands today governs the management of solid and hazardous waste and underground storage tanks. The US EPA published this guide to educate and inform the public about the broad requirements of RCRA's regulatory
Website: <http://www.p2pays.org/ref/03/02076.pdf>

Title: Region 5 Solid Waste Program
Reference:
Content Summary: The Solid Waste Program in EPA's Region 5 includes recycling of foundry sand.
Website: <http://www.epa.gov/region5/solidwaste/>

Title: RMAN For Items Designated in the Comprehensive Procurement Guideline-- Supporting Analysis
Reference: **Apr-95**
Content Summary: Recommendations for building insulation products and cement and concrete containing fly ash.
Website: <http://www.p2pays.org/ref/05/04230.pdf>

Title: Evaluation of Water Quality Conditions Associated with the Use of Coal Combustion Products for Highway Embankments
Reference: **Case Study 09, December 2003**
Content Summary: The water quality data collected to date indicate that the use of fly ash for highway embankments can adequately protect ground water quality.
Website: <http://www.epa.gov/epaoswer/osw/conserves/c2p2/cases/highway.pdf>

Title: Fly Ash for Highway Construction and Site Development
Reference: **Case Study 10**
Content Summary: Case study of the use of fly ash for structural fills, base course construction, subgrade improvements, backfills, grouting and coal mine applications.
Website: <http://www.epa.gov/epaoswer/osw/conserves/c2p2/cases/highway2.pdf> - [search=%22pennsylvania%20Highway%20Embankment%20Construction%20Report](http://www.epa.gov/epaoswer/osw/conserves/c2p2/cases/highway2.pdf)

Title: Fly Ash Subgrade Stabilization and PPC Optimization Washburn Municipal Airport
Reference: **Case Study 2, December 2003**
Content Summary: Design and construction, including fly ash sub-grade stabilization, a drainage/bond breaking interlayer, and optimized Portland-pozzolan concrete pavement, employing 2 locally available sources of fly ash, each suitable for its particular purpose, is
Website: <http://www.epa.gov/epaoswer/osw/conserva/c2p2/cases/airport.pdf>

Title: Buy-Recycled Series: Construction Products
Reference: **Comprehensive Procurement Guidelines**
Content Summary: Fact sheet for the use of recycled products in construction.
Website: <http://www.epa.gov/cpg/pdf/construct.pdf>

Title: Buy-Recycled Series: Landscaping Products
Reference: **Comprehensive Procurement Guidelines**
Content Summary: Fact sheet for the use of recycled products in landscaping.
Website: <http://www.epa.gov/cpg/pdf/landscape.pdf>

Title: Buy-Recycled Series: Miscellaneous
Reference: **Comprehensive Procurement Guidelines**
Content Summary: Fact sheet for the use of recycled products in miscellaneous industries.
Website: <http://www.epa.gov/cpg/pdf/miscell.pdf>

Title: Buy-Recycled Series: Transportation Products
Reference: **Comprehensive Procurement Guidelines**
Content Summary: Fact sheet for the use of recycled products in the transportation industry.
Website: <http://www.epa.gov/cpg/pdf/transport.pdf>

Title: Comprehensive Procurement Guidelines Fact sheet 2004
Reference: **Comprehensive Procurement Guidelines**
Content Summary: Fact sheet that provides a basic overview of procurement guidelines.
Website: <http://www.epa.gov/cpg/factshts.htm>

Title: Solid Waste Disposal Act
Reference: **Comprehensive Procurement Guidelines - Section 6002Q:\COMPIENVIR2\RCRA**
Content Summary: Regulations on the disposal of solid wastes.
Website: <http://www.epa.gov/cpg/pdf/rcra-6002.pdf>

Title: Construction Materials
Reference: **CPG**
Content Summary: More simplified layout of specifications for use of recycled materials in construction.
Website: <http://www.eh.doe.gov/p2/epp/propcon.htm>

Title: Flowable Fill
Reference: **CPG**
Content Summary: Flowable fill can help put significant quantities of coal fly ash and spent foundry sand, two types of recovered materials, back to good use.
Website: <http://www.epa.gov/cpg/products/flow-fil.htm> - recommended

Title: So, You want to do business with the Federal Government? Here's how: US EPA's Comprehensive Procurement Guideline

Reference: **Dana Arnold**

Content Summary: Explains in layman's terms the EPA's CPG basic concepts.

Website: <http://www.p2pays.org/ref/15/14159.pdf>

Title: US EPA Site Visit Report Coal Combustion Waste Minefill Management Practices -
Draft Final Oct 2, 2002

Reference: **Draft Final Oct 2, 2002**

Content Summary: Some use of CCPs in minefill management in New York.

Website: <http://www.epa.gov/epaoswer/other/fossil/sites/ny-visit.pdf>

Title: The Green Rider

Reference: **Edition date: May 4, 1999**

Content Summary: Provides information on the EPA's programs that promote environmentally and economically sound building practices and energy efficiency.

Website: <http://www.p2pays.org/ref/05/04334.pdf>

Title: Emergency Planning and Community Right-To-Know Act- Section 313: Guidance for Reporting Toxic Chemicals: Mercury and Mercury Compounds Category

Reference: **EPA 260-B-01-004**

Content Summary: Report on the mercury content in coal and coal combustion products.

Website: <http://www.p2pays.org/ref/19/18133.pdf>

Title: Report to Congress: Wastes from the Combustion of Fossil Fuels, Volume 2 - Methods, Findings, and Recommendations

Reference: **EPA 530-R-99-010**

Content Summary: Provides a detailed and comprehensive study on the sources and quantities of certain large-volume wastes generated primarily from the combustion of coal or other fossil fuels, potential human health and environmental impacts posed by the management of these wastes, alternatives to current practices, and costs of such alternatives.

Website: <http://www.p2pays.org/ref/01/00136.pdf>

Title: Environmental Fact Sheet: EPA Guideline for Purchasing Cement and Concrete Containing Fly Ash

Reference: **EPA/530-SW-91-0866**

Content Summary: To increase the use of cement and concrete containing fly ash from coal combustion within both government and private sectors, EPA issued a guideline for purchasing cement containing fly ash. It requires all federal agencies and all state and local government agencies and contractors that use federal funds to purchase cement and concrete to implement a preference program favoring the purchase of cement and concrete containing coal fly ash.

Website: <http://www.p2pays.org/ref/01/00530.pdf>

Title: Resources about Buying Recycled Products

Reference: **EPA530-B-98-007**

Content Summary: Information about buying recycled products including coal ash.

Website: <http://www.p2pays.org/ref/02/01887.pdf>

Title: Catalog of Hazardous and Solid Waste Publications, Twelfth Edition

Reference: **EPA530-B-99-001**

Content Summary: This catalog lists the most popular hazardous and solid waste documents released by the US EPA's Office of Solid Waste.

Website: <http://www.p2pays.org/ref/01/00695.pdf>

Title: Construction Products Containing Recovered Materials
Reference: **EPA530-B-99-017**
Content Summary: This list of manufacturers and suppliers of construction products containing recovered materials was prepared to facilitate implementation of the US EPA's CPG and to assist customers interested in purchasing and using products containing recovered
Website: <http://www.p2pays.org/ref/05/04217.pdf>

Title: Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts, 2005
Reference: **EPA-530-K-05-002**
Content Summary: A guide to the benefits and impacts of using coal ash in highway construction.
Website: [http://www.epa.gov/epaoswer/osw/conserves/c2p2/pubs/greenbk508.pdf - search=%22specifications%20embankments%20coal%20ash%22](http://www.epa.gov/epaoswer/osw/conserves/c2p2/pubs/greenbk508.pdf-search=%22specifications%20embankments%20coal%20ash%22)

Title: Background Document for the Final Comprehensive Procurement Guideline III and Final Recovered Materials Advisory Notice III; Appendices I-V
Reference: **EPA530-R-00-002a**
Content Summary: Basic information regarding CCPs, discussion of RCRA Section 6002 Requirements, and Executive Order 13101 regarding environmentally preferable products and waste
Website: <http://www.p2pays.org/ref/08/07282.pdf>

Title: Waste Reduction Activities of Selected WasteWi\$e Partners: Electric Power Industry,
Reference: **EPA530-R-97-017**
Content Summary: This report highlights some of the most effective and innovative solid waste reduction activities implemented by the industry. While EPA considers coal ash to be an industrial waste as opposed to municipal solid waste, this report also documents ways utility partners are reducing coal ash.
Website: <http://www.p2pays.org/ref/02/01876.pdf>

Title: Comprehensive Guideline for Procurement of Products Containing Recovered Materials and Issuance of a Draft Recovered Materials Advisory Notice; Proposed Rule and Notice, 1994 and Final Rule
Reference: **Federal Register 40 CFR Part 247**
Content Summary: Regulations on procurement of recovered materials and how they are to be used.
Website: <http://www.p2pays.org/ref/24/23576.pdf> <http://www.p2pays.org/ref/17/16738.pdf>

Title: Regulatory Determination on Wastes from the Combustion of Fossil Fuels; Final Rule
Reference: **Federal Register 40 CFR Part 261**
Content Summary: Regulatory determinations on the management and use of coal combustion products.
Website: <http://www.blm.gov/nhp/news/regulatory/3100/40CFR261.html>

Title: Emergency Planning and Community Right-To-Know Act- Section 313: Draft Guidance for Reporting Releases and Other Waste Management Activities of Toxic Chemicals: Lead and Lead Compounds
Reference: **Sep-01**
Content Summary: Discussion of lead in coal combustion products.
Website: <http://www.p2pays.org/ref/19/18156.pdf>

Title: C2P2 - Coal Combustion Products Partnership
Reference: **Website**
Content Summary: Website containing links to basic information, standards, and guidelines for using CCPs in an environmentally friendly manner.
Website: <http://www.epa.gov/epaoswer/osw/conserves/c2p2/index.htm>

Government, Foreign

Materials Technology Laboratory (Canada)

Title: Use of Fly Ash and Slag in Concrete: A Best Practice Guide (Jan 2005)
Reference: **MTL 2004-16 (TR-R)**
Content Summary: Document provides basic knowledge in the use of SCMs in concrete, and the impact of SCM use on construction in Canada.
Website: <http://scm-ac.gc.ca/docs/bestpractices.pdf>

Government, Local

City of Columbus (Ohio) Public Service Department - Transportation Division

Title: Soil Stabilization
Reference: **Supplemental Specification 1503, COC-SS-1503, July 8, 2002**
Content Summary: Outlines the requirements for constructing a stabilized soil structure by uniformly mixing an approved chemical stabilizer, such as lime, Quicklime, Fly Ash, and/or cement with the soil and compacting the resulting mixture.
Website: <http://pubserv.ci.columbus.oh.us/transportation/SupSpecs/1503.pdf>

King County (Washington)

Title: Fly Ash in Concrete
Reference: **Environmental Purchasing Bulletin #63**
Content Summary: Discusses the use of fly ash in various types of concrete including specifications as applied in King County, State of Washington.
Website: <http://www.metrokc.gov/procure/green/bul63.htm>

Government, States

Arkansas

- Title: 2003 Standard Specifications for Highway Construction
- Reference: **Arkansas Highway and Transportation Department Publications: 2003 Standard Specifications for Highway Construction**
- Content Summary: Arkansas' 2003 Standard Specifications for Highway Construction breaks out work requirements for Highway Construction including General Provisions, Site Preparation and Earthwork, Bases and Granular Surfaces, Asphalt Pavements, Rigid Pavement, Incidental Construction, Traffic Control Facilities, and Structures.
- Website: http://www.arkansashighways.com/Contract/progcon/general/STDSPECS_2003.HTM
- Title: QUALIFIED PRODUCTS LIST (1-24-07)
- Reference: **Arkansas Highway and Transportation Department Publications: QUALIFIED PRODUCTS LIST**
- Content Summary: This publication is issued by the Materials Division for use by Arkansas Highway and Transportation Department personnel. Its purpose is to make available a list of qualified products for use on Department projects.
- Website: http://www.arkansashighways.com/Material/JANUARY%202007_01-24-07.pdf

California

- Title: Life-Cycle Environmental and Economic Assessment of Using Recycled Materials for Asphalt Pavements
- Reference: **University of California Technical Report, September 2003**
- Content Summary: This research quantifies the environmental and economic costs and benefits of recycling asphalt pavements, and using secondary materials for their construction. The impacts are traced through the related life-cycles and supply chains for material and energy inputs, water consumption, hazardous and non-hazardous waste generation, toxic discharges, and greenhouse gas as well as particulate matter
- Website: <http://www.uctc.net/papers/683.pdf>

Florida

- Title: Stabilization of Marginal Soils Using Recycled Materials
- Reference: **DOT 4/11/2006**
- Content Summary: Florida Department of Transportation has released a report that examines various recycled materials such as scrap tires, plastics, ash, slag, and construction debris that can be used to stabilize marginal soils in Florida.
- Website: http://www.dot.state.fl.us/research-center/Completed_Proj/Summary_SMO/FDOT_BD544_04_rpt.pdf
- Title: Review of Florida Regulations, Standards, and Practices Related to the Use of Coal Combustion Products
- Reference: **DOT T. Buckley, D. Pflughoeft-Hassett 04-2006**
- Content Summary: Review of regulations for using CCPs in Florida.
- Website: <http://www.undeerc.org/carrc/Assets/TB-FLStateReviewFinal.pdf>

Illinois

- Title: Pavement Technology Advisory- Subgrade Modification and Stabilization
- Reference: **DOT Bureau of Materials and Physical Research, Design, Construction and Materials PTA-D7**
- Content Summary: Discusses subgrade stability as a function of the soil's strength and its behavior under repeated loading.
- Website: <http://www.dot.state.il.us/materials/research/pdf/ptad7.pdf>

Title: Alternative Materials for Subgrade Modification, Final Report, 2001
Reference: **DOT Physical Research Report 138**
Content Summary: This study examines the laboratory and field performance of two alternative materials used for modification of unstable subgrade soils. One of these materials is class c fly ash. The report includes mix design procedures and specifications.
Website: <http://www.dot.il.gov/materials/research/pdf/138.pdf>

Title: Utilization of Recycled Materials in Illinois Highway Construction, 2002
Reference: **DOT Physical Research Report No. 142**
Content Summary: This report reviews current usage of various recycled materials, as well as discusses reclaimed materials not currently being utilized by the Department.
Website: <http://www.dot.state.il.us/materials/research/pdf/142.pdf>

Title: Environmental Safety: Environmental Protection Act
Reference: **General Assembly 415 ILCS 5/**
Content Summary: Regulations on the use of coal ash in Illinois in an environmentally friendly manner.
Website: <http://www.ilga.gov/legislation/ilcs/ilcs5.asp?ActID=1585&ChapAct=415%2F&ChapterID=36&ChapterName=ENVIRONMENTAL+SAFETY&ActName=Environmental+Protection+Act%2E>

Title: Fired Bricks from Fly Ash
Reference: **State Geological Survey**
Content Summary: A three year study has been conducted by the ISGS staff to determine the optimal formulation of bricks made using coal fly ash.
Website: http://www.isgs.uiuc.edu/isgshome/assets/flyash_brick.pdf

Iowa

Title: Fly Ash Soil Stabilization for Non-Uniform Subgrade Soils, Volume I: Engineering Properties and Construction Guidelines
Reference: **5/10/2005 - Center for Transportation Research and Education - University, Iowa**
Content Summary: Report that examines fly ash engineering properties of mixtures of five different soil types and several different fly ash sources, including hydrated and conditioned fly
Website: http://www.ctre.iastate.edu/reports/tr461_vol1.pdf

Title: Fly Ash Soil Stabilization for Non-Uniform Subgrade Soils, Volume II: Influence of Subgrade Non-Uniformity on PCC Pavement Performance
Reference: **5/10/2005 - Center for Transportation Research and Education - University, Iowa**
Content Summary: Report that examines the influence of non-uniform subgrade support on pavement responses (stress and deflection) that affect pavement performance.
Website: http://www.ctre.iastate.edu/reports/tr461_vol2.pdf

Title: Iowa Land Recycling Program and Response Action Standards
Reference: **Administrative Code Chapter 137**
Content Summary: The rules in this chapter of the code establish the policy and procedures for the voluntary enrollment of contaminated property in the "land recycling program" established under chapter 455H. These rules also establish the response action standards which participants must meet in order to qualify for a no further action certificate and the statutory protections and immunities which follow from it.
Website: <http://www.iowadnr.com/land/consites/documents/chap137.pdf>
<http://www.iowadnr.com/land/consites/lrp/conLRP.html>

Title: Land Recycling and Remediation Standards
Reference: **Administrative Code Chapter 455H**
Content Summary: Standards in Iowa for land recycling and remediation.
Website: <http://www.legis.state.ia.us/IACODE/2003/455H/>

Title: Beneficial Use Determinations: Solid By-Products as Resources and Alternative Cover Material
Reference: **Department of Environmental Protection Ch 108**
Content Summary: Establishes rules for determining when a solid by-product is a resource and not a solid waste in Iowa.
Website: <http://www.legis.state.ia.us/Rules/Current/iac/567iac/567108/567108.pdf>

Title: Inspection and Acceptance of Fly Ash For Use in Portland Cement Concrete, Bases and Subbases, 2002
Reference: **DOT Matls. IM 491.17**
Content Summary: Acceptance of fly ash will be on the basis of approved sources and upon satisfactory test results on samples obtained at the project site. Approval will require identification of the specific sources of the coal from which the ash is derived. Approval is based upon fly ash produced when the power plant is utilizing specific materials, equipment, and processes. Any change in materials, equipment, and processes will void any source approval and require that a new approval be sought.
Website: http://www.erl.dot.state.ia.us/Oct_2003/IM/content/491.17.pdf

Title: Mix Design Development for Pervious Concrete in Cold Weather Climates
Reference: **Report 2006-01 - Center for Transportation Research and Education, Univ. of Iowa**
Content Summary: Document provides guidelines for mixing concrete for cold weather climates.
Website: http://www.ctre.iastate.edu/reports/mix_design_pervious.pdf

Title: Beneficial Reuse of Solid Wastes, 2003
Reference: **Waste Reduction Center IAC 567-108**
Content Summary: Discusses beneficial reuse options for coal combustion products and other recycled materials.
Website: http://www.iwrc.org/regsums/RegReports/SOW_Beneficial%20Reuse%20of%20Solid%20Wastes.doc

Maryland

Title: Book of Standards for Highway and Incidental Structures
Reference:
Content Summary: This book of standards for Maryland provides engineers and contractors with a complete and up-to-date catalog of standards for highways, incidental structures, and traffic control applications by and for the Maryland State Highway administration.
Website: <http://www.sha.state.md.us/BusinessWithSHA/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp>

Title: The Maryland Coal Combustion By-Product / Acid Mine Drainage Partnership
Reference: **Department of Natural Resources 1999 International Ash Utilization Symposium, Center for Applied Energy Research, U of KY, Paper # 75**
Content Summary: This paper traces the history of the Maryland CCB/AMD Partnership and presents an overview of its current planned activities. Details regarding the specific studies and experiments conducted by the partnership and related work by the Power Plant Research Program are presented in various papers at this and other conferences.
Website: <http://www.flyash.info/1999/econom/petz2.pdf>

Title: Maryland Power Plant Research Program Promotes the Beneficial Use of CCPs as a Means to Protect Maryland's Natural Resources

Reference: **Department of Natural Resources 1999 International Ash Utilization Symposium, Center for Applied Energy Research, U of KY, Paper # 87**

Content Summary: PPRP has undertaken an initiative to promote beneficial use of the 1.2 million tons generated annually at Maryland's power plants. PPRP activities include disseminating information on the availability, quality, and potential environmental effects of CCPs, field studies to determine the environmental effects of high volume CCP uses being implemented in Maryland, and a field demonstration to determine the technical and economic feasibility of a beneficial CCP use application considered to be viable in

Website <http://www.flyash.info/1999/econom/hodge2.pdf>

Title: Standard Specifications for Construction and Materials: Production Plants

Reference: **DOT State Highway Administration Section 915**

Content Summary: Specifies the power plant production tolerances for blended hydraulic cement of fly ash.

Website <http://www.sha.state.md.us/businesswithsha/bizStdsSpecs/desManualStdPub/publicationonline/ohd/PDFS/Trsec03.pdf>

Title: Standard Specifications for Construction and Materials: Flowable Backfill for Utility Cuts

Reference: **Section 314 DOT State Highway Administration**

Content Summary: This specification provides guidelines for mixing flowable backfill with a mixture of fly ash, cement, and water that must be certified by the manufacturer.

Website <http://www.sha.state.md.us/businesswithsha/bizStdsSpecs/desManualStdPub/publicationonline/ohd/PDFS/Trsec03.pdf>

Title: Standard Specifications for Construction and Materials: Lightweight Superstructure

Reference: **Section 425 DOT State Highway Administration**

Content Summary: This specification allows for the substitution of fly ash for Portland cement in lightweight superstructure concrete.

Website <http://www.sha.state.md.us/businesswithsha/bizStdsSpecs/desManualStdPub/publicationonline/ohd/PDFS/Trsec03.pdf>

Title: Standard Specifications for Construction and Materials: Portland Cement and Related Products

Reference: **Section 902 DOT State Highway Administration**

Content Summary: This specification allows for the use of fly ash in Portland cement as a natural pozzolan substitute.

Website <http://www.sha.state.md.us/businesswithsha/bizStdsSpecs/desManualStdPub/publicationonline/ohd/PDFS/Trsec03.pdf>

Massachusetts

Title: Development of Synthetic Lightweight Aggregate for Construction Material, 2001

Reference: **University of Massachusetts Chelsea Center for Recycling and Economic Development Technical Report # 35**

Content Summary: The SLA is produced by melt compounding high concentrations of fly ash from coal into various thermoplastics. The aggregates are manufactured through a thermal process using plastic to encapsulate and bind fly ash particles.

Website <http://www.p2pays.org/ref/18/17799.pdf>

Minnesota

Title: Solid Waste Utilization- Standing Beneficial Use Determinations

Reference: **Pollution Control Agency**

Content Summary: Regulations on the use of ash in concrete and cement in Minnesota.

Website <http://www.pca.state.mn.us/waste/swutil-sbud.html>

Title: Beneficial Use of Solid Waste
Reference: **Rule 7035.2860**
Content Summary: Regulations on the use of ash in concrete and cement in Minnesota.
Website: http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=RULE_CHAP_SEC&year=current§ion=7035.2860

Title: Minnesota Building Materials Database: A Tool for Selecting Sustainable Materials- Below Grade Walls- Concrete, 2003
Reference: **University of Minnesota Below Grade (A20)**
Content Summary: Specifications for using CCPs in concrete walls in Minnesota.
Website: http://www.buildingmaterials.umn.edu/03300_concrete_source.html

Title: State Regulation of Fly Ash Use in Subbase Stabilization and Fill for Highway Construction in the Minnesota Region
Reference: **University of Minnesota Final Report April 2005**
Content Summary: Discusses the regulations on using coal fly ash in subbase stabilization and fill for highway construction in Minnesota based on various case studies and experimental data. This report also includes a comparative summary of state guidelines and rules for coal ash and a compilation of comprehensive guidelines and rules for each state.
Website: <http://www.mrr.dot.state.mn.us/research/ICTGI/Recycled%20Material/FlyAshStateRegsFinalTask1.pdf>

Title: Nonhazardous Industrial Waste Report
Reference: **Waste Management Board Oct-87**
Content Summary: Evaluates and makes recommendations regarding the management of nonhazardous industrial waste in Minnesota.
Website: <http://www.p2pays.org/ref/23/22464.pdf>

Missouri

Title: Rules of Department of Natural Resources - Solid Waste Management: General
Reference: **Department of Natural Resources Division 80, Ch 2**
Content Summary: Guidance for the use/disposal of utility wastes in Missouri.
Website: <http://www.sos.mo.gov/adrules/csr/current/10csr/10c80-2a.pdf>

Title: Fly Ash Treated Subgrade
Reference: **DOT Item MO-155**
Content Summary: The addition of self-cementing fly ash, mixing and compacting the material to the required density to develop a stabilized subgrade section. This item applies to natural ground or fill and shall be constructed as specified herein and in conformity with the typical sections, lines and grades as shown on the plans or as established by the
Website: modot.org/doc/othertransportation/Construction_Observation_Program-Required_Tests_and_Certifications.doc

Montana

Title: Taxation - Energy-Related and Ecological Tax Incentives - Recycling of Material
Reference: **Code, Title 15, Ch 32, Part 6**
Content Summary: Discusses tax deductions for the use of recycled materials in Montana.
Website: http://data.opi.mt.gov/bills/mca_toc/15_32_6.htm

Nebraska

Title: Pollution Prevention Assessment- ABC City Power Plant
Reference: **University of Nebraska-Lincoln Ethan Joy**
Content Summary: Discussion of fly ash landfill problems with considerable wind erosion and dust problems downwind. Windbreaks around the landfill area reduce the particle pollution in the surrounding areas.
Website: <http://www.p2pays.org/ref/12/11230.pdf>

North Carolina

Title: Fly Ash in Transportation
Reference: **Department of Natural Resources DOT Vol 4, No 1, Spring 1996**
Content Summary: Discusses the present and future uses of fly ash in transportation construction in NC.
Website: <http://www.p2pays.org/ref/39/38781.pdf>

Title: Framework for Recycling of Wastes in Construction, 2003
Reference: **ISSN: 0733-9372 - University of North Carolina**
Content Summary: Waste and recycled materials (WRM) that are used in structural systems are required to satisfy material strength, durability, and leachability requirements. These materials exhibit a wide variety of characteristics, owing to the diversity of industrial processes that produce them. Several laboratory-based investigations have been conducted to assess the pollution potential and load-bearing capacity of materials such as petroleum-contaminated soils, coal combustion ash, flue-gas desulphurization
Website: http://www.osti.gov/energycitations/product.biblio.jsp?osti_id=20406822

Title: Division of Pollution Prevention and Environmental Assistance
Reference: **NC Department of Natural Resources Website**
Content Summary: Search function that covers multiple sites and returns documents that do not result from generic search engines.
Website: <http://www.p2pays.org>

Title: Artificial Lightweight Aggregate Manufacturing Process from Coal Fly Ash (Kobe Steel,
Reference: **North Carolina Department of Environment & Natural Resources**
Content Summary: Waste treatment technology in Japan recycling.
Website: <http://www.p2pays.org/ref/26/japan/Waste-165.html>

North Dakota

Title: Ash Utilization for Soil Stabilization, Filler Materials and Other Engineering Uses
Reference: **Department of Health Guideline 11**
Content Summary: Projects such as road stabilization, underground mine stabilization, controlled low strength flowable fill, and other uses have been reviewed and approved by the Department based on an evaluation of the material's engineering and environmental
Website: <http://www.health.state.nd.us/WM/PDF%20documents/Ash%20Utilization%20For%20Soil%20Stabilization%20For%20Filler%20Materials%20And%20Other%20Engineering%20Uses.PDF>

Title: Engineering and Environmental Specifications of State Agencies For Utilization and Disposal of Coal Combustion Products: Volume 1 - DOT Specifications
Reference: **Energy & Environmental Research Center Project 02-CBRC-W122005-EERC-07-04 - University of North Dakota**
Content Summary: State by state comparison of DOT specifications governing the use of CCPs.
Website: <http://www.undeerc.org/carrc/Assets/Vol1DOT.pdf>

Title: Engineering and Environmental Specifications of State Agencies For Utilization and Disposal of Coal Combustion Products: Volume 2 - Environmental Regulations
Reference: **Energy & Environmental Research Center Project 02-CBRC-W122005-EERC-07-05 - University of North Dakota**
Content Summary: State by state comparison of environmental regulations governing the use of CCPs.
Website: http://www.ri.nrcce.wvu.edu/programs/cbrc/reports/02-CBRC-W12_2.pdf

Ohio

Title: Embankment Construction Using Recycled Materials, 2005
Reference: **DOT Supplemental Specification 871**
Content Summary: Constructing embankments with recycled materials, including coal combustion
Website: http://www.dot.state.oh.us/construction/oca/Specs/SSandPN2005/871_04152005%20for%202005.PDF

Title: Market Opportunities for Utilization of Ohio FGD and Other CCPs- Volumes 1,2 and Appendices
Reference: **May-2000, University, The Ohio State**
Content Summary: Huge reference source for FGD, CCPs and foundry sand.
Website: http://ccpohio.eng.ohio-state.edu/ccpohio/Marketing/market_report.htm

Oklahoma

Title: Soil Stabilization Mix Design Procedure, 10/20/2006
Reference: **OHD L-50**
Content Summary: Soil Stabilization mix designs.
Website: <http://www.okladot.state.ok.us/materials/pdfs-ohdl/ohdl50.pdf>

Pennsylvania

Title: Coal Ash Beneficial Use at Mine Sites in Pennsylvania
Reference: **Department of Environmental Protection**
Content Summary: Report discusses mine reclamation projects in PA and details procedures and
Website: <http://www.mcrcc.osmre.gov/PDF/Forums/CCB6/3-2.pdf>

Title: Coal Ash Beneficial Use in Mine Reclamation and Mine Drainage Remediation in Pennsylvania
Reference: **Department of Environmental Protection**
Content Summary: Report Discusses the practice of using CCPs in mining operations.
Website: http://www.dep.state.pa.us/dep/deputate/minres/bmr/beneficial_use/Index.htm

Title: Pennsylvania's Regulatory Requirements for Use of Coal Combustion Ash At Coal Mining Operations
Reference: **Department of Environmental Protection**
Content Summary: Document discussing the regulations for the use of CCPs in mining operations in PA.
Website: <http://www.mcrcc.osmre.gov/PDF/Forums/CCB/3-3.pdf>

Title: Beneficial Use of Residual waste from burning of a mixture of coal ash and waste carpet scrap for anti-skid material 1998
Reference: **Department of Environmental Protection 2540-FM-LRWM0421, No. WMGR050**
Content Summary: Approves the beneficial use of a mixture of 75% coal ash and 25% ash material from the incineration of waste carpet scraps for use as an antiskid material.
Website: http://www.depweb.state.pa.us/landrecwaste/lib/landrecwaste/residual_waste/gp/wmg

Title: Beneficial use of bottom ash for antiskid material 1999
Reference: **Department of Environmental Protection 2540-FM-LRWM0421, No. WMGR059**
Content Summary: Approves the beneficial use of bottom ash derived from the combustion of coal and tire derived material for use as anti-skid material,
Website: http://www.depweb.state.pa.us/landrecwaste/lib/landrecwaste/residual_waste/gp/wmg

Title: Management of Fill
Reference: **Department of Environmental Protection 258-2182-773, April 2004**
Content Summary: This policy provides DEP's procedures for determining whether material is clean fill or regulated fill.
Website: <http://164.156.71.80/VWRQ.asp?docid=2087d8407c0e0000000005db000005db&cont ext=2&backlink=WXOD.aspx%3ffs%3d2087d8407c0e0000800005da000005da%26f>

Title: Residual Waste Fact Sheets: Coal Ash and Dredge Settlement in Mine Reclamation
Reference: **Department of Environmental Protection 4800-FS-DEP3077**
Content Summary: Currently under revision... Check back later.
Website: <http://164.156.71.80/VWRQ.asp?docid=0442d740780d0000000009700000097&cont ext=2&backlink=WXOD.aspx%3ffs%3d0442d740780d00008000009600000096%26f>

Title: Beneficial use of Blended dredge materials with fly ash, foundry sand, etc for construction road materials, aggregate.
Reference: **Department of Environmental Protection No. WMGR093**
Content Summary: Regulations on processing by blending only of dewatered dredge waste with other waste-derived materials including fly ash, to produce uniformly mixed dredge-derived material for beneficial use.
Website: http://www.depweb.state.pa.us/landrecwaste/lib/landrecwaste/residual_waste/gp/wmg

Title: Beneficial use of Bottom Ash for use in construction, anti-skid, mine reclamation
Reference: **Department of Environmental Protection No. WMGR105**
Content Summary: Approval is granted to the limited beneficial use of bottom ash generated from the burning as a fuel of a mixture of coal, bark, wood, and pulp and paper sludge in a circulating fluidized bed boiler, for use as construction material, anti-skid, and in reclamation of active and abandoned mines.
Website: http://www.depweb.state.pa.us/landrecwaste/lib/landrecwaste/residual_waste/gp/wmg

Title: Aggregate
Reference: **DOT 408/2000, Section 703**
Content Summary: Regulations on the use of fly ash as fine aggregate and bottom ash as anti-skid
Website: <ftp://ftp.dot.state.pa.us/public/Bureaus/design/Pub408/Change9/Pub408Change9/Section700/Section703.pdf>

Title: Pozzolans
Reference: **DOT 408/2000, Section 724**
Content Summary: Regulations on the use of fly ash as a natural pozzolan with lime and with cement
Website: <ftp://ftp.dot.state.pa.us/public/Bureaus/design/Pub408/Change9/Pub408Change9/Section700/Section724.pdf>

Title: Cement Concrete
Reference: **DOT C-408M/96-170, Section 704**
Content Summary: Regulations on the use of fly ash in cement concrete.
Website: <http://www.dot.state.pa.us/penndot/reginfo.nsf/4cce9e303b1bd5af8525677e003c4e3d/4b2968ea61df4ff8852567a2004b0a55?OpenDocument>

Title: Cement Concrete - Supplementing the Specifications
Reference: **DOT C-408M/96-170, Section 704**
Content Summary: Regulations on the use of fly ash as a natural pozzolan in Portland cement.
Website <http://www.dot.state.pa.us/Pennidot/reginfo.nsf/881e0810cd7af591852566ac006162eb/e6f783a231dd3c7e852567a100731129?OpenDocument>

Title: Flowable Backfill (Section 220)
Reference: **Pennsylvania Department of Transportation Specifications 408/2000, Section 220**
Content Summary: Regulations on the use of bottom and fly ash as admixtures in flowable fill in the state of Pennsylvania.
Website <ftp://ftp.dot.state.pa.us/public/Bureaus/design/Pub408/Change9/INSIDECOVERPAGE>.

Title: Amending the Act Entitled "An Act Providing for the Planning and Regulation of Solid Waste Storage, Collection, Transportation, Processing, Treatment, and Disposal..."
Reference: **The General Assembly No. 1995 Session of 1987, Printer's No. 2560**
Content Summary: An act discussing classification and use of coal ash in Pennsylvania.
Website <http://www.legis.state.pa.us/cfdocs/legis/PN/public/BtCheck.cfm?txtType=HTM&sessYr=1987&sessInd=0&billBody=H&billTyp=B&billNbr=1995&pn=2560>

Title: Beneficial Use of Coal Ash: Use of coal ash as structural fill
Reference: **The Penn. Code § 287.661.**
Content Summary: Regulations on the beneficial use of fly ash in structural fill in Pennsylvania.
Website <http://www.pacode.com/secure/data/025/chapter287/s287.661.html>

Title: Beneficial Use of Coal Ash: Use of coal ash as soil substitute or soil additive
Reference: **The Penn. Code § 287.662.**
Content Summary: Regulations on the use of coal ash as a soil substitute or soil additive in Pennsylvania.
Website <http://www.pacode.com/secure/data/025/chapter287/s287.662.html>

Title: Beneficial Use of Coal Ash: Beneficial use of coal ash at coal mining activity sites as coal mining activities are defined in § 86.1.
Reference: **The Penn. Code § 287.663.**
Content Summary: Regulations on the beneficial use of coal ash at coal mining activity sites in
Website <http://www.pacode.com/secure/data/025/chapter287/s287.663.html>

Title: Beneficial Use of Coal Ash: Coal ash beneficial use at abandoned coal and abandoned noncoal surface mine sites
Reference: **The Penn. Code § 287.664.**
Content Summary: Regulations on the use of coal ash beneficial use at abandoned coal and abandoned noncoal surface mine sites in Pennsylvania.
Website <http://www.pacode.com/secure/data/025/chapter287/s287.664.html>

Title: Beneficial Use of Coal Ash: Other beneficial uses of coal ash
Reference: **The Penn. Code § 287.665.**
Content Summary: Regulations on the uses of coal ash apart from in structural fill, soil substitute, or soil additive in Pennsylvania.
Website <http://www.pacode.com/secure/data/025/chapter287/s287.665.html>

Title: Requests for Information
Reference: **The Penn. Code § 287.666.**
Content Summary: Requires that anyone that is conducting or proposing to use coal ash must have proper documentation and information to prove they are in accordance with regulations.
Website: <http://www.pacode.com/secure/data/025/chapter287/s287.666.html>

Title: Storage and Containment of Coal Ash
Reference: **The Penn. Code § 299.153**
Content Summary: Regulations for storage and containment of coal ash in Pennsylvania.
Website: <http://www.pacode.com/secure/data/025/chapter299/s299.153.html>

Title: Residual Waste Management
Reference: **The Penn. Code Article IX.**
Content Summary: Section of the PA Code that regulates the use and disposal of CCPs.
Website: http://www.pacode.com/secure/data/025/articleIX_toc.html

Puerto Rico

Title: Industrial Ecology Approach to Management of Fly Ash from Fluidized Bed Combustion: Production of Slow-Release Fertilizer and Soil Conditioner
Reference: **2006, M.C. Munozm, University of Puerto Rico at Mayaguez**
Content Summary: A study on the use of fly ash generated by a fluidized bed coal combustion power plant for agricultural purposes, specifically in tropical areas.
Website:

Title: Possible Applications for Circulating Fluidized Bed Coal Combustion By-Products From the Guayama AES Power Plant
Reference: **March 2006, Dr. M. Pando and Dr. S. Hwang, University of Puerto Rico at Mayaguez**
Content Summary: Report identifies possible applications for circulating fluidized bed (CFB) coal combustion by-products and provides recommendations for carrying out feasibility studies for selected applications.
Website:

South Carolina

Title: Approval Policy for Fly Ash for Portland Cement Concrete
Reference: **DOT Approval Policy 3**
Content Summary: Acceptance of fly ash for use in Department of Transportation work.
Website: <http://www.dot.state.sc.us/doing/ConstructionDocs/pdfs/Materials/policy3.pdf>

Texas

Title: Coal Combustion Products: Year of the Recycled Roadway Materials
Reference: **DOT**
Content Summary: CCP informational document from Texas DOT.
Website: ftp://ftp.dot.state.tx.us/pub/txdot-info/gsd/pdf/yrr_nov.pdf

Title: Cold Processed - Recycled Paving Material for Use as Aggregate Base Course - Statewide Use
Reference: **DOT 1993 Special Specification 3157**
Content Summary: Discusses the use of bottom and fly ash in cold processed recycled pavement material for use as aggregate base course in Texas.
Website: <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/1993/spec/es3157.pdf>

Title: Fly Ash
 Reference: **DOT DMS 4610**
 Content Summary: Specifications for Raised Pavement Markings, delineation and sign posts, steel strand, and mechanical couplers in Texas.
 Website: <http://www.dot.state.tx.us/business/dms.htm>

Title: Fly Ash for Soil Treatment
 Reference: **DOT DMS 4615**
 Content Summary: Specifications for using fly ash in soil treatment in Texas.
 Website: <http://www.dot.state.tx.us/business/dms.htm>

Title: Chemical Admixtures for Concrete
 Reference: **DOT DMS 4640**
 Content Summary: Specifications for Raised Pavement Markings, delineation and sign posts, steel strand, and mechanical couplers in Texas.
 Website: <http://www.dot.state.tx.us/business/dms.htm>

Title: Fly Ash
 Reference: **DOT DMS 8900**
 Content Summary: Specifications for fly ash in traffic materials in Texas.
 Website: <http://www.dot.state.tx.us/business/dms.htm>

Title: 1993 Specifications: Lime-Fly Ash (LFA) or Fly Ash (FA) Treatment for Materials in
 Reference: **DOT Item 2028**
 Content Summary: Specifications for LFA and fly ash treatment for materials in place in Texas.
 Website: <http://www.dot.state.tx.us/DES/specs/1993/93stsp1.htm> - 2028

Title: 2004 TX DOT Specifications Using Recycled Materials: Fly Ash or Lime-Fly Ash Treatment (Road-Mixed)
 Reference: **DOT Item 265**
 Content Summary: Regulations on fly ash or lime fly ash treatment in roadways.
 Website: <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s265.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Hot-Mix Cold-Laid Asphalt Concrete Pavement
 Reference: **DOT Item 334**
 Content Summary: Regulations on the use of fly ash as mineral filler in hot-mix cold-laid asphalt concrete pavement.
 Website: <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s334.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Dense-Graded Hot-Mix Asphalt
 Reference: **DOT Item 340**
 Content Summary: Regulations on the methods of using fly ash as mineral filler in dense-graded hot-mix
 Website: <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s340.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Dense-Graded Hot-Mix Asphalt
 Reference: **DOT Item 341**
 Content Summary: Regulations of using fly ash as mineral filler in dense-graded hot-mix asphalt.
 Website: <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s341.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Performance-Designed
Reference: **DOT Item 344**
Content Summary: Regulations on the use of fly ash as mineral filler in performance-designed mixtures.
Website <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s344.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Stone-Matrix Asphalt
Reference: **DOT Item 346**
Content Summary: Regulations on the use of fly ash as mineral filler in stone-matrix asphalt.
Website <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s346.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Flowable Backfill
Reference: **DOT Item 401**
Content Summary: Regulations on the use of fly ash in flowable fill.
Website <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s401.pdf>

Title: 2004 TxDOT Specifications Using Recycled Materials: Hydraulic Cement Concrete
Reference: **DOT Item 421**
Content Summary: Regulations on the use of classes C and F, and ultra-fine fly ash in hydraulic cement concrete.
Website <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/cserve/specs/2004/standard/s421.pdf>

Title: Guidelines for Modification and Stabilization of Soils and Base for Use in Pavement Structures
Reference: **DOT Sep-05**
Content Summary: Discusses use of asphalt, cement, fly ash, and lime as additive in subgrade, select fill, and base materials.
Website <ftp://ftp.dot.state.tx.us/pub/txdot-info/cmd/tech/stabilization.pdf>

Title: Review of Texas Regulations, Standards, and Practices Related to the Use of Coal Combustion Products
Reference: **DOT T. Buckley, D. Pflughoeft-Hassett 11-2004**
Content Summary: Review of regulations for using CCPs in Texas.
Website <http://www.undeerc.org/carrc/Assets/TXStateReviewFinalReport.pdf>

Title: Recycled Material Statutes: Use of Fly Ash and Bottom Ash for Road Construction
Reference: **DOT Transportation Code Ch 223.046**
Content Summary: Guide for the use of CCPs for road construction in Texas.
Website <http://www.capitol.state.tx.us/statutes/docs/TN/content/htm/tn.006.00.000223.00.htm>

Virginia

Title: The Potential for Beneficial Reuse of Coal Fly Ash in Southwest Virginia Mining Environments -University, Virginia Virginia State
Reference: **460-134, Jan 2002**
Content Summary: Report provides an overview of coal fly ash and its beneficial reuse potential in Appalachian coal mining environments.
Website <http://www.ext.vt.edu/pubs/mines/460-134/460-134.html>

Title: Regulation Governing Management of Coal Combustion By-Products
Reference: **Administrative Code 9 VAC 20-85**
Content Summary: Regulations on the uses of CCPs in Virginia.
Website <http://leg1.state.va.us/000/reg/TOC09020.HTM - C0085or>
<http://www.deq.state.va.us/waste/wastereq85.html>

Title: State Authority on the Regulation of CCPs
Reference: **Code 10.1-1402(11) and 10.1-1408**
Content Summary: Provides for the use of coal combustion by-products and establishes appropriate standards for siting, design, construction, operation, and administrative procedures pertaining to their use, reuse, or reclamation.
Website <http://www.townhall.virginia.gov/chapter/ViewChapter.cfm?Vac=210&Chapter=85or>
<http://leg1.state.va.us/000/src.htm>

Title: Coal Combustion By-Product Site Notification
Reference: **Department of Environmental Quality**
Content Summary: Any owner or operator who proposes to use, reuse, or reclaim coal combustion products by applying or placing them on the land in a manner other than addressed in 9 VAC 20-80-150 or 9 VAC 20-80-160 of the Virginia Solid Waste Management Regulations must apply for a permit.
Website <http://www.deq.state.va.us/waste/wastepermit13.html>

Title: Cogeneration of Steam and Electric Power: Pollution Prevention Opportunities and Options, 1994
Reference: **Department of Environmental Quality Report 49-1**
Content Summary: This manual was developed by the IMPP project team as a tool for both state agency and industry personnel. It is a guide for regulators, cogeneration power plant planners, independent power plant planners and others to assist them in identifying pollution prevention opportunities and options in connection with power generation by
Website <http://www.p2pays.org/ref/15/14372.pdf>

Title: Use of Coal Combustion Products in Virginia
Reference: **Division of Mineral Resources Sweet, Palmer C.**
Content Summary: Discussion of the production and uses by several companies of coal combustion products in Virginia.
Website <http://www.flyash.org/2001/ashpdf/014.pdf>

Title: City of Virginia Beach Amendments to Virginia Department of Roads and Bridge Specifications
Reference: **DOT Jul-03**
Content Summary: In drainage structures, fly ash shall have no specific requirements for fineness, loss of ignition, or reactivity. The inclusion of fly ash will not be permitted in concrete mixtures used in bridge deck overlays or deck patching operations.
Website http://www.vbgov.com/dept/ptulity/vgn_files/HorizontalConstruction-DivisionII-VIII.pdf

Title: Specifications - Special Provisions for Low Permeability Concretes
Reference: **DOT S217A0B-1103, Section 217.02, P. R-152, July 2005**
Content Summary: Virginia DOT revisions to specifications regarding the use of fly ash in low permeability concretes. Class F shall be between 20 and 25 percent by mass of the cementitious material. No more than 15 percent of the Portland cement of a standard mixture may be replaced.
Website <http://www.vdot.virginia.gov/business/const/resources/02rv.pdf>

Title: Road and Bridge Specifications 2002: Mineral Filler
Reference: **DOT Section 201**
Content Summary: Regulations on using inorganic material such as lime or fly ash in soil or asphalt to produce a desired effect.
Website: <http://www.vdot.virginia.gov/business/const/resources/02bk.pdf>

Title: Manual of Instructions - Materials Division -Chapter 2 - Methods and Frequencies of
Reference: **DOT Section 204, July 2006**
Content Summary: Fly ash may be accepted in any job by means of a letter from the Fly Ash Marketing Company certifying it meets specification requirements, as outlined in the Road and Bridge Specifications.
Website: <http://www.vdot.virginia.gov/business/resources/bu-mat-MOI-2.pdf>

Title: Road and Bridge Specifications 2002: Hydraulic Cement Concrete
Reference: **DOT Section 217**
Content Summary: Regulations on the use of fly ash as the cementitious admixture in hydraulic cement.
Website: <http://www.vdot.virginia.gov/business/const/resources/02bk.pdf>

Title: Road and Bridge Specifications 2002: Fly Ash
Reference: **DOT Section 241**
Content Summary: This specification covers fly ash used as an additive in hydraulic cement concrete or as a soil stabilizer.
Website: <http://www.vdot.virginia.gov/business/const/resources/02bk.pdf>

Title: Road and Bridge Specifications 2002: Lime Stabilization
Reference: **DOT Section 306**
Content Summary: Regulations for stabilized roadbed material and constructing one or more courses of pavement structure using a mixture of soil or approved aggregates, lime or lime and fly ash, and water.
Website: <http://www.vdot.virginia.gov/business/const/resources/02bk.pdf>

Title: Manual of Instructions - Materials Division -Chapter 4 - Sampling and Control of Hydraulic Cement Concrete
Reference: **DOT Section 405-406, July 2006**
Content Summary: Concrete mix design using fly ash as an additive.
Website: <http://www.vdot.virginia.gov/business/resources/bu-mat-MOI-4.pdf>

Title: Road and Bridge Specifications 2002: Widening, Repairing, and Reconstructing Existing Structures
Reference: **DOT Section 412**
Content Summary: Regulations on the use of fly ash in Shotcrete in reconstruction of existing structures.
Website: <http://www.vdot.virginia.gov/business/const/resources/02bk.pdf>

Title: Manual of Instructions - Materials Division -Chapter 6 - Pavement Design and
Reference: **DOT Section 601, July 2006**
Content Summary: Regulations on the use of fly ash in base course to provide sufficient stability, cohesion, and strength to provide added resistance to loading.
Website: <http://www.vdot.virginia.gov/business/resources/bu-mat-MOI-6.pdf>

Title: Specifications -Special Provisions for Flowable Backfill
Reference: **S302A0B-0702, Division III, II. Materials, P. R-184, July 2005**
Content Summary: Virginia DOT special provision regarding the use of fly ash in flowable backfill. Fly ash shall have no specific requirements for fineness, loss of ignition, or reactivity.
Website: <http://www.vdot.virginia.gov/business/const/resources/02rv.pdf>

Title: Specifications -Special Provisions for Stone Matrix Asphalt
Reference: **S315C4B-0105, Division III, II. Materials, P. R-208, July 2005**
Content Summary: Virginia DOT special provision for stone matrix asphalt prohibits the use of any fly ash.
Website: <http://www.vdot.virginia.gov/business/const/resources/02rv.pdf>

Wisconsin

Title: General Solid Waste Management Requirements
Reference: **Department of Natural Resources Chapter NR 500**
Content Summary: General requirements for CCP use and disposal.
Website: <http://www.legis.state.wi.us/rsb/code/nr/nr500.pdf>

Title: Landspreading of Solid Waste
Reference: **Department of Natural Resources Chapter NR 518**
Content Summary: WI regulations on the landspreading on CCPs.
Website: <http://www.legis.state.wi.us/rsb/code/nr/nr518.pdf>

Title: Solid Waste Management Fees and Financial Responsibility Requirements
Reference: **Department of Natural Resources Chapter NR 520**
Content Summary: WI regulations on the fees and financial requirements associated with CCP
Website: <http://www.legis.state.wi.us/rsb/code/nr/nr520.pdf>

Title: Beneficial Use of Industrial Byproducts
Reference: **Department of Natural Resources Chapter NR 538**
Content Summary: WI regulations on the beneficial use of CCPs.
Website: <http://www.legis.state.wi.us/rsb/code/nr/nr538.pdf>

Title: Grant of Exemption for the Beneficial Use of Certain Industrial Byproducts in Controlled Low-Strength Materials
Reference: **Department of Natural Resources Letter, August 20,1999**
Content Summary: This exemption allows members of the Wisconsin Ready Mixed Concrete Association to beneficially use foundry system sand and coal ash as components in CLSM, that is to be used as a confined geotechnical fill within the right of way of federal, state or municipal roadways, for the following purposes: paved roadway subbase fill; utility trench backfill; bridge abutment and retaining wall backfill; in the abandonment of sewers, tanks, vaults, or tunnels, and for slabjacking.
Website: <http://www.dnr.state.wi.us/org/aw/wm/solid/beneficial/WisreadyMixConAss-clsmfinalexemp.pdf>

Title: Grant of Exemption for the Beneficial Use of Self-Cementing Coal Fly Ash in Soil and Pavement Base Stabilization
Reference: **Department of Natural Resources Letter, July 1, 2003**
Content Summary: This exemption allows for class C fly ash to be used in the construction of new streets, on undeveloped residential areas, without further approval from the Department so long as the conditions for these uses are met. For new street projects that use more than 500 cubic yards, the Department must be notified of the project and concurrence
Website: <http://www.dnr.state.wi.us/org/aw/wm/solid/beneficial/ashsoilstabilization41.pdf>

- Title: Beneficial Use of Industrial Byproducts- 1999 Usage Summary
Reference: **Department of Natural Resources Mar-01**
Content Summary: This report is intended to provide a summary of information regarding the beneficial use of industrial byproducts during calendar year 1999 as reported under the requirements specified in Chapter NR 538 of the Wisconsin Administrative Code. This summary also estimates the total statewide amount of industrial byproducts
Website <http://www2.dnr.state.wi.us/org/aw/wm/publications/beneficial/beneficialuse99reportupdate.pdf>
- Title: Beneficial Use of Industrial Byproducts- 2000 Usage Summary
Reference: **Department of Natural Resources Sep-02**
Content Summary: This report is intended to provide a summary of information regarding the beneficial use of industrial byproducts during calendar year 2000 as reported under the requirements specified in Chapter NR 538 of the Wisconsin Administrative Code. This summary also estimates the total statewide amount of industrial byproducts
Website <http://www.dnr.wisconsin.gov/org/aw/wm/publications/beneficial/beneficialuse2000rep>
- Title: Using Recovered Materials in Highway Construction
Reference: **DOT Wisconsin Transportation Bulletin No. 20**
Content Summary: The use of coal ash in highway construction in Wisconsin.
Website http://epdfiles.engr.wisc.edu/pdf_web_files/tic/bulletins/Bltn_020_Recycle.pdf
- Title: Industry's Hidden Assets
Reference: **Wisconsin Department of Natural Resources - Wisconsin Natural Resources Magazine, October 2000**
Content Summary: The by-products of the processes used to generate electricity, make paper, and produce metal castings are really resources in disguise.
Website <http://www.wnrmag.com/stories/2000/oct00/reuse.htm>

Industry, Private

American Electric Power Company

Title: Rockport Plant
Reference: **Case Study 9610**
Content Summary: Instead of land filling the coal ash produced at an electric power plant, the utility sells it as an ingredient of cement, and for other secondary uses, thus avoiding 95% of previous disposal costs and generating a significant new stream of income for the
Website: <http://www.p2pays.org/ref/06/05017.htm>

Austin Energy

Title: Austin Energy Green Building Program - Sustainable Building Sourcebook Information on 50+ Green Building Topics
Reference: **Chapter: Materials - Sustainable Building Sourcebook: Materials - Fly Ash Concrete 2006**
Content Summary: Guidelines for the use of fly ash in sustainable building projects.
Website: <http://www.austinenenergy.com/Energy%20Efficiency/Programs/Green%20Building/Sourcebook/flyashConcrete.htm>

Boral Material Technologies Inc.

Title: Boral Fly Ash
Reference: **Division 3: Concrete Materials and Methods 3050**
Content Summary: Product description for Boral fly ash including basic applications and characteristics.
Website: <http://www.boralmti.com/TechSheets/FA%20Tech.pdf>
Title: Fly Ash Product Guide Specification
Reference: **Section 03050**
Content Summary: Guide to specifications for Boral Fly Ash Class F and Boral Fly Ash Class C for concrete according to CSI format.
Website: <http://www.boralmti.com/TechSheets/FlyAshGS.pdf>

Headwaters Resources

Title: Proportioning Fly Ash Concrete Mixes
Reference: **Bulletin Number 4**
Content Summary: Proportioning fly ash concrete mixtures is only slightly more complicated than proportioning plain cement mixtures. The same solid volume proportioning techniques described in ACI 211 are employed as are used with conventional concrete mixtures.
Website: http://www.aggregateresearch.com/caf/flyash/TB.4_Proportioning_Fly_Ash_Concrete_Mixes.pdf

Radian International LLC

Title: Affirmative Procurement Plan for Peterson Air Force Base, 1998
Reference: **RCN 655-311-07-02, Contract F41624-94-D-8136, D.O. #0003**
Content Summary: The use of coal combustion products in the construction of Peterson Air Force Base.
Website: <http://www.p2pays.org/ref/23/22933.pdf>

RMT, Inc.

Title: Beneficial Use of Industrial By-Products- Identification and Review of Material Specifications, Performance Standards, and Technical Guidance

Reference: **Dec-03**

Content Summary: Identifies and summarizes existing performance standards, material specifications, and technical guidance for the beneficial use of industrial by-products.

Website: http://www.byproductsummit.com/midwest/summit/rmt_rpt.pdf

We Energies

Title: Coal Combustion Products Utilization Handbook

Reference:

Content Summary: Handbook provides practical, technical and regulatory compliance information to the users of We Energies' coal combustion products.

Website: http://www.we-energies.com/environmental/ccp_handbook_preface.pdf

Publications

AIA

Title: Green Product Evaluation Necessitates Making Trade-offs (US Gypsum)
Reference: **AIA/Architectural Record Continuing Educational Series - Special Advertising Section - Richard C. Master**
Content Summary: This article will attempt to clarify some of the issues relative to green product selections and design specifications as they relate to walls, ceilings and substrates.
Website: <http://archrecord.construction.com/resources/conteduc/archives/0205usg-1.asp>

Amazon.com.uk

Title: The Properties and Use of Coal Fly Ash (2001)
Reference: **ISBN: 0727730150, Sear, L.**
Content Summary: This book draws together a large quantity of research that has been carried out on pulverised fuel ash (PFA) over the past 30 years. Fuel ash and fly ash are produced as waste from burning coal (or waste materials) and have many uses within the construction industry such as in concrete land reclamation, treating oil and sewage wastes, bricks and blocks and grouting voids in the ground. In addition to covering the potential uses of PFA it provides an overview of the benefits of use. Fly Ash: Properties and usage is the most up-to-date resource for the construction engineer, client,
Website: <http://www.amazon.co.uk/gp/product/0727730150/026-9370591-3363642?v=glance&n=266239>

BuildingGreen.com

Title: Cement and Concrete: Environmental Considerations
Reference: **Environmental Building News, March/April 1993, Vol 2, No 2**
Content Summary: Environmental considerations for ccps in concrete and cement.
Website: <http://www.buildinggreen.com/auth/article.cfm?fileName=020201b.xml>

Concrete Construction

Title: Pervious Concrete Mixes: The Right Ingredients and Proportions Are Critical to Success
Reference: **Apr-06**
Content Summary: Article discusses the appropriate ingredients and proportions for pervious concrete
Website: <http://www.concreteconstructiononline.com/industry-news.asp?sectionID=718&articleID=283260>

Title: Fly Ash
Reference: **Apr-85**
Content Summary: Article details typical proportions of Portland cement and fly ash for concrete containing fly ash.
Website: <http://www.concreteconstructiononline.com/industry-news.asp?sectionID=718&articleID=246597>

Concrete International

Title: Making Concrete "Greener" with Fly Ash
Reference: **May 1999V.M.Malhotra**
Content Summary: Article discusses how supplementing green cementing materials can reduce greenhouse gas emissions into the environment.
Website: http://www.concreteinternational.com/pages/featured_article.asp?FromSearch=True&keywords=making+concrete+%22greener%22&srctype=ALL&ID=248

Concrete Products

Title: EPA Cites Recovery Potential in Flowable Fill
Reference: **1-Nov-98**
Content Summary: Discusses the use of CCPs in flowable fill.
Website: http://concreteproducts.com/mag/concrete_epa_cites_recovery/

eCampus.com

Title: Fly Ash in Concrete: Production, Properties, and Uses (1997)
Reference: **ISBN: 9056995804, R.C. Joshi, R.P. Lohtia**
Content Summary: Details the use of fly ash in construction in Europe. Overseas Publishers Association
Website: <http://www.ecampus.com/book/9056995804>

Green Building Press

Title: Making Better Concrete: Guidelines to Using Fly Ash for Higher Quality, Eco-Friendly Structures
Reference: **ISBN: 0-976-4911-0-9**
Content Summary: Making Better Concrete is written by a practicing structural engineer after using and learning about fly ash concrete from the academic experts, concrete suppliers, engineers and architects who have studied, developed and used it. This isn't just for people who want to "build green" this is for people who want to build better concrete.
Website: <http://www.aaa-usa.org/store-books.htm>

Journal of Materials in Civil Engineering

Title: Properties of Field Manufactured Cast-Concrete Products Utilizing Recycled Materials
Reference: **Vol 15, Issue 4, July/Aug 2003**
Content Summary: This investigation was performed to develop technology for manufacturing cast-concrete products using Class F fly ash, coal-combustion bottom ash, and used
Website: <http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=JMCEE7000015000004000400000001&idtype=cvips&gifs=yes>

Roskill Information Services

Title: The Economics of Gypsum and Anhydrite (March 2004)
Reference: **ISBN 0862148871**
Content Summary: The economics of using gypsum (London, UK).
Website: <http://doc.tms.org/servlet/ProductCatalog?itemid=ROS-61>

The Journal of Solid Waste Technology and Management

Title: Engineering Properties of Mixtures of Fly Ash and Waste Foundry Sand
Reference: **Vol 28, No. 4, Nov 2002**
Content Summary: The purpose of this paper is to present values of engineering properties of co-mixtures of fly ash and Waste Foundry Sand (WFS), which are presently used as fill or flowable
Website: <http://www2.widener.edu/~sxw0004/abstract22.html - anchor302026>

Whole Building Design Guide

Title: Federal Green Construction Guide for Specifiers: Gypsum Board
Reference: **9250**
Content Summary: Guidelines and requirements for using recycled materials in gypsum board.
Website: http://www.wbdg.org/design/greenspec_msl.php?s=09250

University, Private

Cornell Law School - Legal Information Institute

Title: Solid Waste Disposal
Reference: **42 USC 6941 Solid Waste Disposal**
Content Summary: The objectives of this subchapter are to assist in developing and encouraging methods for the disposal of solid waste which are environmentally sound and which maximize the utilization of valuable resources including energy and materials which are recoverable from solid waste and to encourage resource conservation.
Website: http://www.law.cornell.edu/uscode/html/uscode42/usc_sec_42_00006941----000-

University, Clemson

Title: Using Solid Wastes in Highway Construction
Reference: **David Manugian**
Content Summary: Discusses the use of coal ash and other recycled materials in highway construction.
Website: <http://www.p2pays.org/ref/39/38457.pdf>