2007

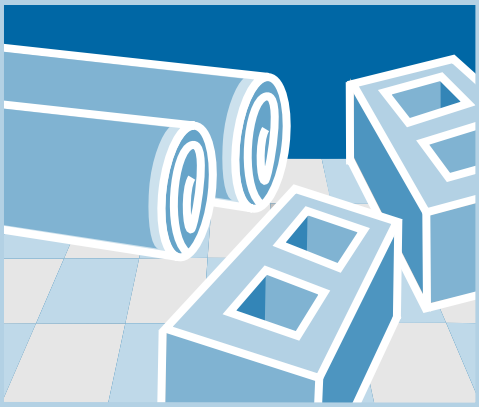
CPG

COMPREHENSIVE PROCUREMENT GUIDELINES

Buy-Recycled Series

CONSTRUCTION PRODUCTS

CONSTRUCTION



Buying recycled products...

...conserves natural resources

...saves energy

...reduces solid waste

...reduces air and water pollutants

...reduces greenhouse gases

...creates new jobs

Construction project managers across America are learning that recycled-content construction products are cost-effective, reliable, easy to obtain, and environmentally friendly. Whether you are erecting a new building or constructing a new highway, high-quality recycled-content products can help you get your project off to a great start!

To make it easier to buy recycled, the U.S. Environmental Protection Agency (EPA) periodically updates the Comprehensive Procurement Guidelines (CPG). Through the CPG, EPA designates items that must contain recycled materials when purchased with appropriated federal funds by federal, state, and local agencies, or by government contractors. Several construction products are among these items. EPA's research shows that the items designated in the CPG are of high quality, widely available, and cost-competitive with virgin products. EPA also issues nonregulatory companion guidance—the Recovered Materials Advisory Notice (RMAN)—that recommends levels of recycled content for these items.

Why Buy Recycled?

Recycling is more than just dropping off your cans, bottles, and newspapers at the curb or at a local collection facility. Diverting recyclables from the waste stream is only the first of three steps in the recycling process. The second step occurs when companies use these recyclables to manufacture new products. The third step comes when you purchase products made from recovered materials.

Buying recycled products results in many environmental benefits. It supports local recycling programs by creating markets for the collected materials that are processed and used to manufacture new products. This creates jobs and helps strengthen the economy; conserves natural resources; saves energy; and reduces solid waste, air and water pollutants, and greenhouse gases that contribute to global warming.

EPA

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What Is CPG?

The Resource Conservation and Recovery Act (RCRA) requires procuring agencies to buy recycled-content products designated by EPA in the CPG. Issued in May 1995, the first CPG designated 19 new products (including carpet, floor tiles, and laminated paperboard) and incorporated five previously designated items (including building insulation and cement and concrete) in eight product categories. The first CPG update (CPG II) was published in November 1997 and designated an additional 12 items, including shower and restroom dividers/partitions and reprocessed and consolidated latex paint. A second CPG update (CPG III) was published in January 2000 and designated an additional 18 items, including carpet cushion, flowable fill, and railroad grade crossing surfaces. The third CPG update (CPG IV), published in April 2004, designated seven new products, including modular threshold ramps, nonpressure pipe, and roofing materials. It also revised the designation for three items, including cement and concrete, polyester carpet, and railroad grade crossing surfaces. The fourth CPG update (CPG V), published in September 2007, designated one new item and revised another designation, but did not designate any new construction products. For more information, visit **<www.epa.gov/epaoswer/non-hw/procure/about.htm>**.

Procuring agencies include all federal agencies, and any state or local government agencies or government contractors that use appropriated federal funds to purchase the designated items. If your agency spends more than $10,000 per year on a product designated in the CPG, you are required to purchase it with the highest recycled-content level practicable. The CPG also applies to lease contracts covering designated items. Executive Order (E.O.) 13423 and the Federal Acquisition Regulation also call for an increase in the federal government's use of recycled-content and environmentally preferable products.

Once any new items are designated in a published CPG update, an agency has 1 year to develop an affirmative procurement program (or revise an existing one) to include these new items. In previous years, agencies have had to revise their affirmative procurement programs to incorporate buy-recycled requirements for items such as construction board, thermal insulation, floor tiles, carpet, shower and restroom dividers/partitions, reprocessed and consolidated paint, carpet cushion, flowable fill, and railroad grade crossing surfaces. Agencies must have revised their affirmative procurement programs to include the new items designated under CPG IV by April 30, 2005. This effort might have involved reviewing specifications for these products and eliminating provisions that pose barriers to purchasing them with recycled content (such as aesthetic requirements unrelated to product performance). Since CPG V designates no new construction products, agencies are not required to revise this portion of their affirmative procurement program.

The CPG acknowledges that specific circumstances might arise that preclude the purchase of products made with recovered materials. Your agency may purchase designated items that do not contain recovered materials if it determines that: 1) the price of a given designated item made with recovered materials is unreasonably high; 2) there is inadequate competition (not enough sources of supply); 3) unusual and unreasonable delays would result from obtaining the item; or 4) the recycled-content item does not meet the agency's reasonable performance specifications.

Key Terms

Before purchasing construction products containing recovered materials, you might need to review certain key terms:

- **Cenospheres:** Additives similar to coal fly ash and ground granulated blast furnace (GGBF)slag. Cenospheres occur naturally in fly ash, the largest byproduct of coal-fired power plants. They are microscopic spheres made of silica and alumina and are filled with air or other gases.
- **Coal fly ash:** A byproduct of coal burning at electric utility plants. It is called "fly" ash because it is transported from the combustion chamber by exhaust gases.
- **Consolidated paint:** Post-consumer latex paint with similar characteristics (such as type, color family, and finish) that is consolidated at the point of collection. The post-consumer paints are blended together and repackaged, usually with few or no new ingredients added to improve the performance of the resulting paint.
- **Flowable fill:** A wet, flowable slurry made up of coal fly ash, water, a coarse aggregate (such as foundry sand), and a portland cement that is used as an economical fill or backfill material. It can take the place of concrete, compacted soils, or sand commonly used to fill around pipes or void areas.
- **Foundry sand:** Clean, high-quality silica sand or lake sand from both ferrous and nonferrous metal castings.
- **GGBF slag:** A byproduct of iron blast furnaces. The slag is ground into granules finer than portland cement and can be used as an ingredient in concrete.
- **Laminated paperboard:** Boards made from one or more plies of kraft paper bonded together and used for decorative, structural, or insulating purpose.
- **Modular threshold ramps:** Devices used to modify door thresholds and other small rises, particularly with regard to improving access for people with disabilities. Threshold ramps can be made of recovered steel, aluminum, or rubber.
- **Nonpressure pipe:** Pipe used for drainage and as conduit in construction, communications, municipal, industrial, agricultural, and mining applications. Most nonpressure pipe is made with polyvinyl chloride (PVC) and high-density polyethylene (HDPE).
- **Reprocessed paint:** Post-consumer latex paint that has been sorted by a variety of characteristics that are dictated by the recycler. In general, the paint is sorted by type (i.e., interior versus exterior), by light and dark colors, and by finish (i.e., high-gloss versus flat). The reprocessor adds raw materials to meet the performance and color requirements expected or required by the end user.
- **Rock wool:** A composition of fibers manufactured from slag or natural rock and used in building insulation.
- **Silica fume:** A waste material recovered from alloyed metal production. It is the solid waste collected on filters of electric arc furnace stacks. A grain of sand is about 1,000 times larger than a silica fume particle.
- **Structural fiberboard:** Panel made from wood, cane, or paper fibers matted together and used for sheathing, structural, and insulating purposes.

How Do I Purchase Recycled-Content Construction Products?

EPA issues purchasing guidance in RMANs, which are designed to make it as easy as possible to buy the designated items. The RMANs recommend recycled-content levels to look for when purchasing construction products, as shown in the table below. Following the RMANs' recommended levels will help ensure your affirmative procurement program and standards meet the buy-recycled requirements. The RMANs also provide other purchasing guidance. Please refer to **<www.epa.gov/cpg/products.htm>** for more information on individual products.

Rather than specifying just one level of recycled content, the RMANs recommend ranges that reflect actual market conditions. The recommendations are based on market research identifying recycled-content products that are commercially available, competitively priced, and meet buyers' quality standards.

Access EPA's online recycled-content products database by going to **<www.epa.gov/cpg>** and selecting "Supplier Database." See the last section of this resource guide for other helpful resources.

EPA's Recommended Content Levels for Construction Products

CONSTRUCTION PRODUCT	MATERIAL RECOVERED	POST-CONSUMER RECOVERED CONTENT	TOTAL RECOVERED CONTENT
Rock Wool Insulation[1]	Slag	—	75%
Fiberglass Insulation[1]	Glass Cullet	—	20–25%
Cellulose Insulation (loose-fill and spray-on)[1]	Post-consumer Paper	75%	75%
Perlite Composite Board Insulation[1]	Post-consumer Paper	23%	23%
Plastic, Non-woven Batt Insulation[1]	Recovered and/or Post-consumer Plastics	—	100%
Plastic Rigid Foam, Polyisocyanurate/ Polyurethane: Rigid Foam Insulation[1]	Recovered Material	—	9%
Foam-in-Place Insulation[1]	Recovered Material	—	5%
Glass Fiber Reinforced Insulation[1]	Recovered Material	—	6%
Phenolic Rigid Foam Insulation[1]	Recovered Material	—	5%
Structural Fiberboard[1]	Recovered Material	—	80–100%
Laminated Paperboard[1]	Post-consumer Paper	100%	100%

CONSTRUCTION PRODUCT	MATERIAL RECOVERED	POST-CONSUMER RECOVERED CONTENT	TOTAL RECOVERED CONTENT
Cement and Concrete[2]	Coal Fly Ash GGBF Slag Cenospheres Silica Fume	See Endnote 2 See Endnote 2	See Endnote 2 See Endnote 2 Minimum of 10% (by volume) 5–10% of cementitious material (dry weight basis)
Polyester Carpet Face Fiber[1,3]	Polyethylene Terephthalate Resin	25–100%	25–100%
Patio Blocks[1]	Rubber or Rubber Blends Plastic or Plastic Blends	90–100% —	— 90–100%
Floor Tiles (Heavy Duty/ Commercial Use)[1]	Rubber Plastic	90–100% —	— 90–100
Shower and Restroom Dividers/Partitions[1]	Plastic Steel	20–100% 16% 67%	20–100% 25–30% 100%
Latex Paint:[1] **– Consolidated**[5] **– Reprocessed**[6] **– White, Off-White, Pastel Colors** **– Grey, Brown, Earthtones, and Other Dark Colors**	 Recovered Material Recovered Material Recovered Material	 100% 20% 50–99%	 100% 20% 50–99%
Carpet Cushion:[1] **– Bonded Polyurethane** **– Jute** **– Synthetic Fibers** **– Rubber**	 Old Carpet Cushion Burlap Carpet Fabrication Scrap Tire Rubber	 15–50% 40% — 60–90%	 15–50% 40% 100% 60–90%
Flowable Fill Containing Coal Fly Ash and/or Ferrous Foundry Sands[7]	Coal Fly Ash Ferrous Foundry Sands	See Endnote 7	See Endnote 7

CONSTRUCTION PRODUCT	MATERIAL RECOVERED	POST-CONSUMER RECOVERED CONTENT	TOTAL RECOVERED CONTENT
Railroad Grade Crossing Surfaces:			
– Concreate	Coal Fly Ash[8]	—	15–20%
– Rubber	Tire Rubber	—	85–95%
– Steel[4]	Steel[4]	16% 67%	25–30% 100%
–Wood[10]	Wood or Wood Composite	90–97%	90–97%
– Plastic[11]	Plastic or Plastic Composite	85–95%	100%
Modular Threshold Ramps	Steel[12]	16–67%	25–100%
	Aluminum	—	10%
	Rubber	100%	100%
Nonpressure Pipe	Steel[4]	16% 67%	25–30% 100%
	Plastic – HDPE	100%	100%
	– PVC	5–15%	25–100%
	Cement	See Endnote 2	See Endnote 2
Roofing Materials	Steel[4]	16% 67%	25–30% 100%
	Aluminum	20–95%	20–95%
	Fiber (felt) or Fiber Composite	50–100%	50–100%
	Rubber	12–100%	100%
	Plastic or Plastic/ Rubber Composite	100%	100%
	Wood/Plastic Composite	—	100%
	Cement	See Endnote 2	See Endnote 2

[1] EPA's recommendations do not preclude procuring agencies from purchasing construction products manufactured using other materials. EPA simply recommends that procuring agencies, when purchasing construction products designated in the procurement guidelines, purchase these products containing recovered materials.

[2] EPA recommends that procuring agencies prepare or revise their procurement programs for cement and concrete or for construction projects involving cement and concrete to allow the use of coal fly ash, GGBF slag, cenospheres, or silica fume, as appropriate. EPA does not recommend that procuring agencies favor one recovered material over the other. Rather, EPA recommends that procuring agencies consider the use of all of these recovered materials and choose the one (or the mixture of them) that meets their performance requirements, consistent with availability and price considerations. EPA also recommends that procuring agencies specifically include provisions in all construction contracts to allow for the use, as optional or alternate materials, of cement or concrete which contains coal fly ash, GGBF slag, cenospheres, or silica fume, where appropriate. Due to variations in cement, strength requirements, costs, and construction practices, EPA is not recommending recovered materials content levels for cement or concrete containing coal fly ash, GGBF slag, cenospheres, or silica fume. Additional information can be found in the RMAN at <**www.epa.gov/cpg/pdf/rmanal4.pdf>**.

[3] EPA recommends that procuring agencies establish minimum content standards for use in purchasing polyester carpet for moderate-wear applications. This recommendation does not include polyester carpet for use in heavy- or severe-wear applications.

[4] The recommended recovered materials content level for steel in this table reflects the fact that the designated items can be made from steel manufactured from either a Basic Oxygen Furnace (BOF) or an Electric Arc Furnace (EAF). Steel from the BOF process contains 25–30 percent total recovered materials, of which 16 percent is post-consumer steel. Steel from the EAF process contains a total of 100 percent recovered steel, of which 67 percent is post-consumer.

[5] Consolidated latex paint used for covering graffiti, where color and consistency of performance are not primary concerns.

[6] Reprocessed latex paint used for interior and exterior architectural applications such as wallboard, ceilings, and trim; gutterboards; and concrete, stucco, masonry, wood, and metal surfaces.

[7] EPA recommends that procuring agencies use flowable fill containing coal fly ash and/or ferrous foundry sands for backfill and other fill applications. EPA further recommends that procuring agencies include provisions in all construction contracts involving backfill or other fill applications to allow for the use of flowable fill containing coal fly ash and/or ferrous foundry sands, where appropriate. The specific percentage of coal fly ash or ferrous foundry sands used in flowable fill depends on the specifics of the job, including the type of coal fly ash used (Class C or Class F); the strength, set time, and flowability needed; and bleeding and shrinkage. Therefore, EPA is not recommending specific coal fly ash or ferrous foundry sands content levels for procuring agencies to use in establishing minimum content standards for flowable fill. However additional information regarding typical proportions used in flowable fills, as well as specifications and recommended test methods, are provided by EPA and can be found in the Consolidated RMAN for the CPG. An electronic version of this document can be viewed at **<www.epa.gov/cpg/pdf/rmanal4.pdf>**.

[8] Coal fly ash can be used as an ingredient of concrete slabs, pavements, or controlled density fill product, depending on the type of concrete crossing system installed. Higher percentages of coal fly ash can be used in the concrete mixture; the higher percentages help to produce a more workable and durable product but can prolong the curing process.

[9] The recommended recovered materials content levels for rubber railroad grade crossing surfaces are based on the weight of the raw materials, exclusive of any additives such as binders.

[10] Railroad grade crossing surfaces made from recovered wood also may contain other recovered materials such as plastics. The percentages of these materials contained in the product also would count toward the recovered materials content level of the item.

[11] Railroad grade crossing surfaces made from recovered plastics also may contain other recovered materials such as auto shredder residue, which contains a mix of materials. The percentages of these materials contained in the product also would count toward the recovered materials content level of the item.

[12] The recommended recovered materials content levels for steel in this table reflect the fact that the designated item may contain steel manufactured in either a BOF or an EAF, or a combination of both. Steel from the BOF process contains 25–30 percent total recovered steel, of which 16 percent is post-consumer. Steel from the EAF process contains 100 percent total recovered steel, of which 67 percent is post-consumer. According to industry sources, modular threshold ramps containing a combination of BOF and EAF steel would contain 25–85 percent total recovered steel, of which 16–67 percent would be post-consumer. Since there is no way of knowing which type of steel was used in the manufacture of the item, the post-consumer and total recovered material content ranges in this table encompass the whole range of possibilities, i.e., the use of EAF steel only, BOF steel only, or a combination of the two.

How Can I Get More Information?

This resource guide and the following resources on buying recycled-content products can be accessed on the Internet.

Information Available From EPA

- **The CPG: <www.epa.gov/cpg>**. This site describes EPA's effort to facilitate the procurement of products containing recovered materials, including information on CPG and RMANs, and an online database of manufacturers and suppliers of designated items.

- **EPA CPG Program: <www.epa.gov/cpg/pdf/cpg-fs.pdf>**. This resource guide provides general information about the CPG and the development of affirmative procurement programs.

- **Environmentally Preferable Purchasing (EPP): <www.epa.gov/epp>**. EPA's EPP program encourages and assists federal agencies in purchasing environmentally preferable products and services. The site explains EPA's proposed guiding principles for including environmental performance in purchasing decision-making, and includes case studies of successful pilot projects in both the public and private sectors.

- **Jobs Through Recycling: <www.epa.gov/jtr>**. EPA's Jobs Through Recycling program stimulates economic growth and recycling market development by assisting businesses and supporting a network of state and regional recycling contacts. This Web site provides information on financing and technical assistance for recycling businesses, as well as other market development tools.

- **Municipal Solid Waste: <www.epa.gov/msw>**. This site includes information on recycling, source reduction, and reuse. It contains state municipal solid waste data and the latest facts and figures on waste generation and disposal.

- **WasteWise: <www.epa.gov/wastewise>**. WasteWise is a free, voluntary EPA program through which organizations eliminate costly municipal solid waste, benefitting their bottom line and the environment. The program provides hands-on assistance to members to help them purchase or manufacture recycled-content products, prevent waste, and recycle solid waste materials.

- ***Federal Register* (FR): <www.epa.gov/cpg/backgrnd.htm>** and **<www.epa.gov/epaoswer/non-hw/procure/about.htm>**. Notices promulgating CPG I (60 FR 21370) and RMAN I (60 FR 21386), May 1, 1995. FR notices promulgating CPG II (62 FR 60961) and RMAN II (62 FR 60975), November 13, 1997. FR notices promulgating CPG III (65 FR 3070) and RMAN III (65 FR 3082), January 19, 2000. FR notices promulgating CPG IV (69 FR 24028) and RMAN IV (69 FR 24039), April 30, 2004. FR notices promulgating CPG V (72 FR 52475) and RMAN V (72 FR 52561), September 14, 2007.

Other Government Sources

- **Federal Highway Administration (FHWA): <www.fhwa.dot.gov>**. With assistance from the American Coal Ash Association, Inc., FHWA published Fly Ash Facts for Highway Engineers (FHWA-SA-94-081), August 1995. It also maintains a database of state specifications for using coal fly ash and GGBF slag.

- **U.S. General Services Administration (GSA) Environmental Products Overview: <www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8207&channelPage=/ep/channel/gsaOverview.jsp&channelId=-12972>**. GSA offers a variety of environmental products and services to its federal customers to assist them in their efforts to comply with procurement responsibilities outlined in federal environmental laws and regulations. This overview contains information about environmentally oriented products and services in the Federal Supply Service Supply System. To access GSA Advantage!, GSA's Internet-based ordering system, and order any GSA product, visit **<www.gsaadvantage.gov>**.

  - **Environmental Products Guide: <www.gsa.gov/Portal/gsa/ep/home.do?tabId=2>**. This guide is designed to help procurement officials identify environmentally preferable products and services. It features nearly 3,000 items, including many recycled-content products.

- **Office of the Federal Environmental Executive (OFEE): <www.ofee.gov>**. OFEE's mission is to advocate, coordinate, and assist environmental efforts of the federal community in waste prevention, recycling, affirmative procurement of CPG items, and the acquisition of recycled and environmentally preferable products and services.
  - **Greening the Government: A Guide to Implementing Executive Order (E.O.) 13101: <www.ofee.gov/eo/greening.pdf>**. This guide provides detailed information on the requirements of E.O. 13101, which established a process for amending the CPG and issuing RMANs. E.O. 13101 preceded E.O. 13423 and established many requirements and definitions that are still in effect. Updated in February 2001, the E.O. is available from OFEE at **<www.ofee.gov>**.
  - **Executive Order 13423: Strengthening Federal Environmental, Energy, and Transportation Management: <http://ofee.gov/eo/eo13423_main.asp>**. Published in January 2007, this Order replaced E.O. 13101 and requires federal agencies to purchase green products and services, including recycled-content products, energy- and water-efficient products, biobased products, and environmentally preferable products and services. Although E.O. 13423 revoked E.O. 13101, EPA continues to follow certain procedures of E.O. 13101 since they are consistent with the requirements of RCRA 6002 (e).
  - **Federal Green Purchasing Program: <www.ofee.gov/gp/gp.asp>**. This program assists federal agencies to promote the acquisition of recycled-content, environmentally preferable, and biobased products; non-ozone depleting substances; and products containing alternatives to certain priority chemicals. The program also assists agencies to implement energy-related purchasing requirements, including the purchase of alternative fuel vehicles and alternative fuels. Training tools and other green purchasing guidance are available.
- **Department of Energy (DOE) Building Technologies Program: <www.eere.energy.gov/buildings/>**. DOE's Building Technologies Program works in partnership with states, industry, and manufacturers to improve the energy efficiency of our nation's buildings.
- **U.S. Army Corps of Engineers (USACE): <www.usace.army.mil>**. USACE has specifications for cement containing coal fly ash.
- **Federal Trade Commission: <www.ftc.gov/bcp/grnrule/guides980427.htm>**. The Federal Trade Commission issued Guides for the Use of Environmental Marketing Claims in May 1998.
- **California Recycled-Content Product Database: <www.ciwmb.ca.gov/RCP>**. This site contains information on reasons for buying recycled-content products and how to procure them, and provides access to a database with information on products, as well as manufacturers, distributors, reprocessors, mills, and convertors across the country who procure or produce these products.
- **King County Recycled Product Procurement Program: <www.metrokc.gov/procure/green/>**. This site describes the tools and techniques developed by King County, Washington, agencies for purchasing recycled products.

Additional Sources

- **National Center for Appropriate Technology, Center for Resourceful Building Technology: <www.crbt.ncat.org/>**. This site offers resources, tools, links to articles and publications, and community success stories on topics related to green building elements of design, construction, and maintenance. Includes examples.
- **The American Association of State Highway and Transportation Officials (AASHTO): <http://downloads.transportation.org/aashto_catalog.pdf>**. AASHTO publishes concrete and cement-mixing specifications, which are listed in a resource guide and in RMAN I. The AASHTO Publications Catalog provides information on all AASHTO publications.
- **American Concrete Institute (ACI): <www.concrete.org>**. ACI publishes a standard for concrete containing GGBF slag and offers several relevant publications.
- **American Society for Testing and Materials (ASTM): <www.astm.org>**. ASTM publishes standards for mixing cement and concrete.
- **Buy Recycled Business Alliance: <www.nrcrecycle.org>**. The Alliance includes over 3,200 companies and organizations committed to increasing the use of recycled-content products and materials in their day-to-day operations. The Alliance offers educational materials, a quarterly newsletter, and product-specific

guides. Publications include fact sheets on insulation and coal fly ash, and Building for Tomorrow: Buy Recycled Guidebook for the Commercial Construction Industry. Public purchasing entities can join free of charge.

- **The Recycled Materials Resource Center (RMRC): <www.rmrc.unh.edu>**. RMRC is a national center created to promote the wise use of recycled materials (pavements, secondary waste, byproduct materials) in the highway environment. The Center is a partnership with FHWA.

- **Directory of Recycled-Content Building and Construction Products: <www.cwc.org>**.This regional directory includes 500 construction and building products manufactured partially or totally from recycled materials.

- **Building Green, Inc: <www.buildinggreen.com>**. This independent publishing company produces Environmental Building News, a monthly newsletter on environmentally responsible design and construction that includes articles on new products and materials, technologies, and construction methods.

- **Environmental Resource Guide: <www.aia.org>**. Published by the American Institute of Architects, this 1,100-page guide presents comprehensive lifecycle information on building materials and applications, including products and recyclability.

- **National Institute of Governmental Purchasing (NIGP): <www.nigp.com>**. NIGP maintains a library of product specifications and sample bid documents for both virgin- and recycled-content products, including concrete. It also offers procurement training workshops for members.

- **Official Recycled Products Guide: <www.dep.state.pa.us/wm_apps/recycledproducts/>**. This directory lists more than 5,000 manufacturers and distributors of recycled-content products.

- **Recycled Plastic Products Source Book: <www.americanplasticscouncil.org>**. This booklet lists more than 1,400 plastic products from approximately 300 manufacturers.

- **Resource Guide to Recycled-Content Construction Products: <www.ciwmb.ca.gov/Trashcutters/Winners/1998/LACandD.htm>**. This recycled-content construction products list is available from the Los Angeles Integrated Solid Waste Management Office.

- **Recycling Data Network Information Services: <www.recyclingdata.com/contents.htm>**. This commercial Web site provides access, on a subscription basis, to a recycled-content products database of over 4,500 listings in 700 product classifications. It also provides a reference library and a newsletter. Managed by the publisher of the Official Recycled Products Guide, the product database is considered to be the largest of its kind.

- **Oikos Green Building Source: <www.oikos.com>**. This site contains a catalog of books, videos, and software for sustainable construction; a searchable database of companies that feature products with environmental attributes; and links to other green building sites.

- **Sustainable Building Sources: <www.greenbuilder.com/general/buildingsources.html>**. This site contains green building news articles, conference announcements, links to other green building sites, and the Sustainable Building Sourcebook.