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May 1, 1995

Part VI

Environmental Protection Agency

Recovered Materials Advisory Notice

ENVIRONMENTAL PROTECTION AGENCY

[SWH–FRL–5198–8]

Recovered Materials Advisory Notice

AGENCY: Environmental Protection Agency.

ACTION: Notice of availability of final document.

SUMMARY: On April 20, 1994, the Environmental Protection Agency issued a notice of the availability of the draft Recovered Materials Advisory Notice (RMAN). The draft RMAN included EPA's recommendations for purchasing items that are or can be produced with recovered materials that were proposed for designation under the Federal government's recycled content products preference program (see 59 FR 18892). Today, EPA is providing notice that a final Recovered Materials Advisory Notice and supporting materials are available. This action will promote recycling by using government purchasing to expand markets for recovered materials. Section 6002 of the Resource Conservation and Recovery Act requires EPA to designate items that are or can be made with recovered materials and provide recommendations for the procurement of these items. EPA previously designated five items and combined the designations and recommendations in item-specific procurement guidelines.

Executive Order 12873, "Federal Acquisition, Recycling, and Waste Prevention," directs EPA to change the process for designating items and providing recommendations. EPA now is to designate procurement items in a Comprehensive Procurement Guideline and to provide recommendations in related Recovered Materials Advisory Notices. Elsewhere in today's **Federal Register**, EPA is finalizing its first Comprehensive Procurement Guideline (CPG). The CPG designates 19 new items for which this Recovered Materials Advisory Notice provides recommended recovered materials content levels. These recommendations are organized within the following product categories: paper and paper products, vehicular products, construction products, transportation products, park and recreation products, landscaping products, and non-paper office products.

EFFECTIVE DATE: May 1, 1996.

ADDRESSES: The public docket for this notice is Docket No. F–95–PRMF-FFFFF, located in Room M2616 of the RCRA Information Center (RIC)—Mail Code 5305, U.S. EPA, 401 M Street, SW., Washington, DC 20460. The RIC is open from 9:00 am to 4:00 pm, Monday through Friday, excluding Federal holidays. To review docket materials, the public must make an appointment by calling (202) 260–9327. Materials may be copied for $0.15 per page.

FOR FURTHER INFORMATION: "RMAN for Items Designated in the Comprehensive Procurement Guideline—Supporting Analyses" is the primary supporting document for the final Recovered Materials Advisory Notice (RMAN). Both the **Federal Register** notice and the supporting document will be available in electronic format on the Internet System through the EPA Public Access Server at gopher.epa.gov. For a paper copy of the **Federal Register** notice or "RMAN for Items Designated in the Comprehensive Procurement Guideline—Supporting Analyses," please contact the RCRA Hotline at (800) 424–9346, or, in the Washington, DC metropolitan area, (703) 412–9810. Paper copies are also available in the RCRA Docket at the address listed in the previous section.

For technical information regarding today's recommendations for the following individual items, contact the referenced EPA staff: Building insulation and engine coolant—Tracy Bone (703) 308–7259; cement and concrete containing GGBF slag and hydraulic mulch—Dana Arnold, (703) 308–7279; carpet, floor tiles and patio blocks, playground surfaces and running tracks, yard trimmings compost, and temporary traffic control devices—Terry Grist, (703) 308–7257; structural fiberboard, laminated paperboard, and non-paper office products—Beverly Goldblatt, (703) 308–7278. For all other technical information, contact Beverly Goldblatt, (703) 308–7278, or Terry Grist (703) 308–7257.

Accessing Internet

1. Through Gopher: Go to: gopher.epa.gov

From the main menu, choose "EPA Offices and Regions". Next, choose "Office of Solid Waste and Emergency Response (OSWER)". Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Procurement/RMAN".

2. Through FTP: Go to: ftp.epa.gov

Login: anonymous

Password: Your Internet Address

Files are located in directories/pub/gopher. All OSW files are in directories beginning with "OSW".

3. Through MOSAIC: Go to: http://www.epa.gov

Choose the EPA Public Access Gopher. From the main (Gopher) menu, choose "EPA Offices and Regions". Next, choose "Office of Solid Waste and Emergency Response (OSWER)." Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Procurement/RMAN".

4. Through dial-up access:

Dial 919–558–0335. Choose EPA Public Access Gopher. From the main (Gopher) menu, choose "EPA Offices and Regions". Next, choose "Office of Solid Waste and Emergency Response (OSWER)". Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Procurement/RMAN".

SUPPLEMENTARY INFORMATION:

I. Authority

Today's Recovered Materials Advisory Notice is published under the authority of sections 2002(a) and 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6912(a) and 6962, and Executive Order 12873 (58 FR 54911, October 22, 1993).

II. Agency's Response to Public Comments

EPA received a number of comments on the draft RMAN published on April 20, 1994 (see 59 FR 18892–18914). The vast majority of these comments were specific to the recovered materials content levels recommended in the RMAN for each designated item. EPA carefully considered all of the comments on the draft RMAN in developing the final recommendations included in today's notice. A summary of all comments received and the Agency's response to these comments are provided in the document entitled "RMAN for Items Designated in the Comprehensive Procurement Guideline—Supporting Analyses." This document also provides discussions of any changes EPA made to the April 1994 draft recommendations.

III. Consolidation of New and Existing Recommendations

In the Comprehensive Procurement Guideline, which is found in the rules section of today's **Federal Register**, EPA is promulgating a final rule designating 19 items which are or can be made with recovered materials. The Recovered Materials Advisory Notice published here contains EPA's final recovered

materials content level recommendations for purchasing these 19 items.

Prior to 1993, EPA combined item designations and related purchasing recommendations in one Federal Register notice and codified both the designations and recommendations in the Code of Federal Regulations. As required by Executive Order 12873, "Federal Acquisition, Recycling, and Waste Prevention," (58 FR 54911, October 22, 1993), EPA is using a new procedure for designating items and for providing purchasing recommendations for those items. While the designations will be codified in the Code of Federal Regulations, the recommendations will be available in guidance documents known as Recovered Materials Advisory Notices. In the draft RMAN (59 FR 18893), EPA established a framework for consolidating the recommendations for newly-designated items with the existing recommendations for paper and paper products, re-refined lubricating oil, retread tires, building insulation products, and cement and concrete containing coal fly ash. EPA stated that the RMAN would incorporate the then-current recommendations (see 59 FR 18893, April 20, 1994). Thus, the RMAN appended to this notice contains both recommendations for the 19 new items and recommendations consolidated from the five existing procurement guidelines. These consolidated recommendations replace the recommendations in the existing guidelines.

On March 15, 1995, EPA published a Federal Register notice of the availability of a draft Paper Products Recovered Materials Advisory Notice (60 FR 14182). When final, the recommendations in the Paper Products RMAN will replace the recommendations found in Part II.A of today's RMAN.

Dated: April 21, 1995.

Carol M. Browner,

Administrator.

Recovered Materials Advisory Notice

The following represents EPA's recommendations to procuring agencies for purchasing the items designated in the Comprehensive Procurement Guideline (CPG) in compliance with section 6002 of the Resource Conservation and Recovery Act (RCRA).

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I. General Recommendations

Part A—Definitions

As used in this Recovered Materials Advisory Notice:

Act or *RCRA* means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, as amended, 42 U.S.C 6901 *et seq;*

Federal agency means any department, agency, or other instrumentality of the Federal government; any independent agency or establishment of the Federal government including any government corporation; and the Government Printing Office;

Person means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, Federal agency, State, municipality, commission, political subdivision of a State, or any interstate body;

Postconsumer material means a material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. *Postconsumer material* is a part of the broader category of *recovered materials.*

Postconsumer recovered materials, for purposes of purchasing paper and paper products, is a subset of the broader term *recovered materials,* as defined in RCRA section 6002(h), and means:

(1) Paper, paperboard and fibrous wastes from retail stores, office buildings, homes and so forth, after they have passed through their end-usage as a consumer item including: Used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards and used cordage; and

(2) All paper, paperboard and fibrous wastes that enter and are collected from municipal solid waste;

Procuring agency means any Federal agency, or any State agency or agency of a political subdivision of a State, which is using appropriated Federal funds for such procurement, or any person contracting with any such agency with respect to work performed under such contract;

Recovered materials means waste materials and byproducts which have been recovered or diverted from solid waste, but such term does not include those materials and byproducts generated from, and commonly reused within, an original manufacturing process;

Part B—Specifications

EPA recommends that Federal agencies review and revise their product specifications with a view to eliminating unnecessary stringency as well as requirements which bear no relation to function in order to allow for the use of recovered materials. Specifications that bear no relation to function should be revised according to the agency's established specifications review procedures. EPA further recommends that, in reviewing an existing specification's provisions pertaining to function, Federal agencies refer to existing voluntary standards and research by organizations such as the American Society for Testing and Materials (ASTM), the American Association of State Highway and Transportation Officials (AASHTO), the Technical Association of the Pulp and Paper Industry (TAPPI), and the American Institute of Paper Chemistry.

Federal agencies that reference Commercial Item Descriptions (CIDs) or appropriate industry standards should continue to reference them when purchasing designated items. However, agencies should review or modify CIDs and industry standards, as appropriate, to be certain that the use of recovered materials is allowed.

Under RCRA section 6002, Federal agencies need not revise specifications to allow or require the use of recovered materials if it can be determined that for technical reasons, for a particular end use, a product containing such materials will not meet reasonable performance standards. EPA recommends that Federal agencies document such determinations and that the determination be based on technical performance information (including any product testing) pertaining to a specific

item or application. EPA further recommends that Federal agencies reference such documentation in the contract files for subsequent procurements of the specific item.

In most cases, for the items designated in the CPG, EPA has recovered materials content levels for specific types or grades of items or for certain applications. EPA notes, however, that the intent is not to preclude Federal agencies from procuring other types or grades of items, or from using recovered materials content items for other applications. On the contrary, if a new type or grade of a designated item becomes available containing recovered materials or if a Federal agency discovers a new application for which recovered materials content is appropriate, EPA encourages the agency to revise its specifications or develop new specifications to allow the use of recovered materials in that type or grade of item or that specific application.

Part C—Affirmative Procurement Programs

EPA recommends that the Environmental Executive within each major procuring agency take the lead in developing the agency's affirmative procurement program and in implementing the recommendations set forth in this RMAN. The basic responsibilities of an Agency Environmental Executive are described in sections 302 and 402 of Executive Order 12873, "Federal Acquisition, Recycling, and Waste Prevention," (58 FR 54911, October 22, 1993). In the absence of such an individual, EPA recommends that the head of the implementing agency appoint an individual who will be responsible for ensuring the agency's compliance with RCRA section 6002 and Executive Order 12873.

RCRA section 6002 and Executive Order 12873 require procuring agencies to establish affirmative procurement programs for each EPA-designated item. EPA recommends that each agency develop a single, comprehensive affirmative procurement program with a structure that allows for the integration of new items as they are designated. Consistent with Executive Order 12873, EPA encourages agencies to implement preference programs for non-guideline items as well, in order to maximize their purchases of recycled content products and foster markets for recovered materials.

Preference Program: In Section II of this RMAN, EPA provides specific recommendations for procuring agencies to use when purchasing the EPA-designated items. For most of these items, EPA recommends that procuring agencies establish minimum content standards based on EPA's recommended recovered materials content levels and the procuring agencies' own research. For other items, the use of minimum content standards is inappropriate, and procuring agencies should establish an alternative program, as recommended by EPA.

In addition, EPA recommends that procuring agencies review their procurement practices and eliminate those that would inhibit or preclude the use of an item containing recovered materials. Specific examples of such procurement practices are provided in the item-specific recommendations, where appropriate.

Promotion Program: EPA recommends that procuring agencies include both internal and external promotion in their affirmative procurement programs.

There are several methods that procuring agencies can use to educate their employees about their affirmative procurement programs. These methods include preparing and distributing agency affirmative procurement policies, publishing articles in agency newsletters and publications, including affirmative procurement program requirements in agency staff manuals, and conducting workshops and training sessions to educate employees about their responsibilities under agency affirmative procurement programs.

Methods for educating existing contractors and potential bidders regarding an agency's preference for purchasing products containing recovered materials include publishing articles in appropriate trade publications, participating in vendor shows and trade fairs, placing statements in solicitations, and discussing an agency's affirmative procurement program at bidders' conferences.

Monitoring: EPA recommends that procuring agencies monitor their affirmative procurement programs, in accordance with RCRA section 6002(i)(2)(D) and Executive Order 12873, to ensure that they are fulfilling their requirements to purchase items composed of recovered materials to the maximum extent practicable. EPA anticipates that the Federal Environmental Executive and the Office of Federal Procurement Policy will request information from Federal agencies on their affirmative procurement practices. Therefore, EPA recommends that Federal procuring agencies maintain adequate records of procurements that may be affected by the Executive Order and RCRA requirements.

EPA recommends that procuring agencies track their purchases of products containing recovered materials to establish benchmarks from which progress can be assessed. To maintain adequate records on procurement of products containing recovered materials, EPA recommends that procuring agencies choose to collect data on the following:

- The minimum percentages of recovered materials content in the items procured or offered;
- Comparative price information on competitive procurements;
- The quantity of each item procured over a fiscal year;
- The availability of each item with recovered materials content; and
- Performance information related to recovered materials content of an item.

EPA recognizes that a procuring agency may be unable to obtain accurate data for all designated items. However, the Agency believes that in many cases, estimated data will suffice in determining the effectiveness of the agency's affirmative procurement program.

Certification: Certification of the recovered materials content in products is an important mechanism for encouraging the use of recovered materials in finished products. Because each product will be different, EPA recommends that procuring agencies discuss certification with product vendors to ascertain the appropriate period for certifying recovered materials content. EPA recommends that, whenever feasible, the recovered materials content of a product be certified on a batch-by-batch basis or as an average over a calendar quarter or some other appropriate averaging period as determined by the procuring agencies.

II. Specific Recommendations for Procurement of Designated Items

Part A—Paper and Paper Products

Following are the preference program and specifications recommendations from the previous procurement guideline (formerly found at 40 CFR part 250) and a subsequent Procurement Guidelines Advisory issued by EPA on November 20, 1990. On March 15, 1995, EPA issued a draft Paper Products Recovered Materials Advisory Notice (RMAN) in the **Federal Register** (see 60 FR 14182) which contains draft revisions to the Agency's recommendations for paper products. When EPA issues final recommendations for paper and paper

products, procuring agencies should substitute them for the recommendations found in this section of the RMAN.

Preference program. EPA recommends that procuring agencies set their minimum content levels at the highest levels that meet the statutory requirements of RCRA section 6002(c)(1), but no lower than the levels shown in Table A–1.

TABLE A–1.—EPA RECOMMENDED MINIMUM CONTENT STANDARDS OF SELECTED PAPERS AND PAPER PRODUCTS

	Minimum percentage of recovered materials	Minimum percentage of recovered postconsumer recovered materials	Minimum percentage of waste paper [1]
Newsprint		40	
High grade bleached printing and writing paper:			
Offset printing			50
Mimeo and duplicator paper			50
Writing (stationery)			50
Office paper (e.g., note pads)			50
Paper for high-speed copiers			50
Envelopes			50
Form bond including computer paper and carbonless.			50
Book papers			50
Bond papers			50
Ledger			50
Cover stock			50
Cotton fiber papers	25		50
Tissue products:			
Toilet tissue		20	
Paper towels		40	
Paper napkins		30	
Facial tissue		5	
Doilies		40	
Industrial wipers		0	
Unbleached packaging:			
Corrugated boxes		35	
Fiber boxes		35	
Brown papers (e.g., bags)		5	
Recycled paperboard:			
Recycled paperboard products including folding cartons		80	
Pad backing		90	

[1] Waste paper is defined in 40 CFR 247 (old 40 CFR 250) and refers to specified postconsumer and other recovered materials.

Part B—Vehicular Products

Section B–1—Lubricating Oil

Preference Program. EPA recommends that procuring agencies set their minimum re-refined oil content standard at the highest level of re-refined oil that they determine meets the statutory requirements of RCRA section 6002(c)(1), but no lower than 25 percent re-refined oil.

EPA recommends that procuring agencies review their procurement practices and eliminate those which would inhibit or preclude procurement of lubricating oils containing re-refined oil. For example, procuring agencies should review the practices of inviting bids and issuing contracts to do the following:

(1) Supply a broad range of lubricating oil products on an "all or none" basis.

(2) Supply lubricating oils for an excessively long period of time.

(3) Deliver lubricating oils to geographic locations throughout the United States or to an excessively broad geographic area.

(4) Supply excessively large contract quantities.

Specifications. EPA recommends that procuring agencies use the following specifications when procuring lubricating oils containing re-refined oil:

(1) Engine lubricating oils.

(i) A–A–52039—Commercial Item Description, Lubricating Oil, Automotive Engine, API Service SG (replaced MIL–L–46152, Lubricating Oil, Internal Combustion Engine, Administrative Service).

(ii) API Engine Service Category SF–1980 Gasoline Engine Warranty Maintenance Service (or current category)

(iii) A–A–52306—Commercial Item Description, Lubricating Oil, Heavy-Duty Diesel Engine (for wheeled vehicles only)

(iv) API Engine Service Category CC—Diesel Engine Service (or current category)

(v) MIL–L–2104, Lubricating Oil, Internal Combustion Engine, Combat/Tactical Service

(vi) API Engine Service Category CD—Diesel Engine Service (or current category)

(vii) MIL–L–21260D (or current version)—Lubricating Oil, Internal Combustion Engine, Preservative and Break-in

(viii) MIL–L–46167B (or current version)—Lubricating Oil, Internal Combustion Engine, Arctic

(2) Hydraulic fluids.

(i) MIL–H–5606E (or current version)—Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance

(ii) MIL–H–6083E (or current version)—Hydraulic Fluid, Petroleum Base, For Preservation and Operation

(3) Gear oils.

(i) MIL–L–2105D (or current version) Lubricating Oil, Gear, Multipurpose

(b) Copies of the military specifications can be obtained from: Commanding Officer, Naval Publications and Forms Center, 5801

Tabor Avenue, Philadelphia, Pennsylvania 19120.

Preference program. EPA recommends that procuring agencies establish preference programs consisting of two components:

(1) Procurement of tire retreading services for the agencies' used tire casings. EPA recommends that procuring agencies specify that tire repair and retread services must conform to Federal Specification ZZ–T–441H (or current version); obtain retreading services from retreaders participating in the U.S. General Services Administration, Federal Tire Program's Quality Assurance Facility Inspection Program (QAFIP); and require bidders to submit a copy of their current certification under the QAFIP.

(2) Procurement of tires through competition between vendors of new tires and vendors of retread tires. EPA recommends that procuring agencies specify that retread tires must meet the requirements of Federal Specification ZZ–T–381, "Tires, Pneumatic, Vehicular (Highway) (New and Retreaded)," and be listed on Qualified Products List QPL–ZZ–T–381, issue in effect. EPA further recommends that procuring agencies require bidders to submit a copy of their current certification under the U.S. General Services Administration, Federal Tire Program's Quality Assurance Facility Inspection Program (QAFIP).

In the event that identical low bids are received in response to a solicitation, all other factors being equal, procuring agencies should provide a preference to the vendor offering to supply the greatest number of retread tires.

Preference Program: EPA recommends that procuring agencies whose vehicles are serviced by a motor pool or vehicle maintenance facility establish a program for engine coolant reclamation and reuse, consisting of either reclaiming the spent engine coolants on-site for use in the agencies' vehicles, or establishing a service contract for reclamation of the agencies' spent engine coolant for use in the agencies' vehicles.

EPA also recommends that procuring agencies request reclaimed engine coolant when having their vehicles serviced at commercial service centers. Additionally, EPA recommends that agencies purchase reclaimed engine coolant when making direct purchases of this item such as when necessary to make up for losses due to leakage or spillage.

EPA does not recommend one type of engine coolant over another. However, EPA recommends that procuring agencies purchase engine coolant containing only one base chemical, typically ethylene glycol or propylene glycol, to prevent the commingling of incompatible types of engine coolant.

Part C—Construction Products

Note: Refer to Part F—Landscaping Products for additional items that can be used in construction.

Section C–1.—Building Insulation

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table C–1, procuring agencies establish minimum content standards for use in purchasing building insulation products.

TABLE C–1.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR BUILDING INSULATION

Insulation material	Recovered materials (materials and %)
Rock Wool	Slag 75.
Fiberglass	Glass cullet 20–25.
Cellulose loose-fill and spray-on.	Postconsumer paper 75.
Perlite composite board.	Postconsumer paper 23
Plastic Rigid Foam, Polyisocyanurate/polyurethane: Rigid foam.	Recovered material 9.
Foam-in-place	Recovered material 5.
Glass fiber reinforced	Recovered material 6.
Phenolic rigid foam	Recovered material 5.

Note: The recommended recovered materials content levels are based on the weight (not volume) of materials in the insulating core only.

Specifications: EPA recommends that procuring agencies reference ASTM standard specification D 5359, "Glass Cullet Recovered from Waste for Use in Manufacture of Glass Fiber," in Invitations for Bid and Requests for Proposal.

Section C–2—Structural Fiberboard and Laminated Paperboard

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table C–2, procuring agencies establish minimum content standards for use in purchasing structural fiberboard or laminated paperboard products for use in either insulating or structural applications.

TABLE C–2.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR STRUCTURAL FIBERBOARD AND LAMINATED PAPERBOARD

Product	Postconsumer recovered paper (%)	Total recovered materials content (%)
Structural fiberboards		80–100
Laminated paperboards	100	100

Note: The recovered materials content levels are based on the weight (not volume) of materials in the insulating core only.

Specifications: EPA recommends that procuring agencies use ASTM Standard Specification C 208 and ANSI/AHA specification A194.1. EPA further recommends that, when purchasing structural fiberboard products containing recovered paper, procuring agencies (1) reference the technical requirements of ASTM C 208, "Insulating Board (Cellulosic Fiber), Structural and Decorative," (2) permit structural fiberboard products made from recovered paper where appropriate, and (3) permit products such as floor underlayment and roof overlay containing recovered paper.

EPA further recommends that procuring agencies review their specifications for insulating products and revise them as necessary to obtain the appropriate "R"-value without unnecessarily precluding the purchase of products containing recovered materials.

Section C–3—Cement and Concrete

Preference Program: 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 or ground granulated blast furnace slag (GGBF slag), 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 both recovered materials and choose the one 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 or GGBF slag, where appropriate.

Due to variations in coal fly ash, GGBF slag, cement, strength

requirements, costs, and construction practices, EPA is not recommending recovered materials content levels for cement or concrete containing coal fly ash or GGBF slag. However, EPA is providing the following information about recovered materials content.

• Replacement rates of coal fly ash for cement in the production of blended cement generally do not exceed 20–30 percent, although coal fly ash blended cements may range from 0–40 percent coal fly ash by weight, according to ASTM C 595, for cement Types IP and I(PM). Fifteen percent is a more accepted rate when coal fly ash is used as a partial cement replacement as an admixture in concrete.

• According to ASTM C 595, GGBF slag may replace up to 70 percent of the Portland cement in some concrete mixtures. Most GGBF slag concrete mixtures contain between 25 and 50 percent GGBF slag by weight. EPA recommends that procuring agencies refer, at a minimum, to ASTM C 595 for the GGBF slag content appropriate for the intended use of the cement and concrete.

Specifications: The following recommendations address guide specifications, materials specifications, contract specifications, performance standards, mix design, and quality control.

• Guide specifications. EPA recommends that procuring agencies ensure that their guide specifications do not inappropriately or unfairly discriminate against the use of coal fly ash or GGBF slag in cement and concrete. EPA further recommends that procuring agencies revise their guide specifications to require that contract specifications for individual construction projects or products allow for the use of coal fly ash or GGBF slag, unless the use of these materials is technically inappropriate for a particular construction application.

• Materials specifications. EPA recommends that procuring agencies use the existing voluntary consensus specifications referenced in Table C–3 for cement and concrete containing GGBF slag.

TABLE C–3.—RECOMMENDED SPECIFICATIONS FOR CEMENT AND CONCRETE CONTAINING RECOVERED MATERIALS

Cement specifications	Concrete specifications
ASTM C 595, "Standard Specification for Blended Hydraulic Cements.".	ASTM C 618, "Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete."
ASTM C 150, "Standard Specification for Portland Cement.".	ASTM C 311, "Standard Methods of Sampling and Testing Fly Ash and Natural Pozzolans for Use as a Mineral Admixture in Portland Cement Concrete."
AASHTO M 240, "Blended Hydraulic Cements.".	ASTM C 989, "Ground Granulated Blast-Furnace Slag for Use in Concrete Mortars."
	AASHTO M 302, "Ground Granulated Blast Furnace Slag for Use in Concrete and Mortars."
	American Concrete Institute Standard Practice ACI 226.R1, "Ground Granulated Blast-Furnace Slag as a Cementitious Constituent in Concrete."

• State specifications. EPA recommends that procuring agencies consult other agencies with established specifications for coal fly ash or GGBF slag to benefit from their experience. Procuring agencies can consult the Federal Highway Administration, which maintains a data base of state highway agency material specifications. The States of Alabama, Connecticut, District of Columbia, Florida, Georgia, Illinois, Indiana, Maryland, Michigan, North Carolina, North Dakota, Ohio, Pennsylvania, South Carolina, Virginia, and West Virginia have adopted specifications which allow the use of GGBF slag in one or more applications. If needed, procuring agencies can obtain these specifications from the respective state transportation departments and adapt them for use in their programs for cement and concrete, as appropriate.

• Contract specifications. EPA recommends that procuring agencies which prepare or review "contract" specifications for individual construction projects revise those specifications to allow the use of cement and concrete containing coal fly ash or GGBF slag as optional or alternate materials for the project, where appropriate, consistent with the agencies' performance and price objectives.

• Performance standards. EPA recommends that procuring agencies review and, if necessary, revise performance standards relating to cement or concrete construction projects to insure that they do not arbitrarily restrict the use of coal fly ash or GGBF slag, either intentionally or inadvertently, unless the restriction is justified on a job-by-job basis: (1) To meet reasonable performance requirements for the cement or concrete or (2) because the use of coal fly ash or GGBF slag would be inappropriate for technical reasons. EPA recommends that this justification be documented based on specific technical performance information. Legitimate documentation of technical infeasibility for coal fly ash or GGBF slag can be for certain classes of applications, rather than on a job-by-job basis. Procuring agencies should reference such documentation in individual contract specifications to avoid extensive repetition of previously documented points. However, procuring agencies should be prepared to submit such documentation to analysis by interested persons, and should have a review process available in the event of disagreements.

• Mix design. In concrete mix design specifications which specify minimum cement content or maximum water, the cement ratios could potentially unfairly discriminate against the use of coal fly ash or GGBF slag. Such specifications should be changed in order to allow the partial substitution of coal fly ash or GGBF slag for cement in the concrete mixture, unless technically inappropriate. Cement ratios may be retained, as long as they reflect the cementitious characteristics which coal fly ash or GGBF slag can impart to a concrete mixture, e.g., by considering Portland cement plus coal fly ash or Portland cement plus GGBF slag as the total cementitious component.

• Quality control. Nothing in this RMAN should be construed to relieve the contractor of responsibility for providing a satisfactory product. Cement and concrete suppliers are already responsible both for the quality of the ingredients of their product and for meeting appropriate performance requirements, and will continue to be under this RMAN. Nothing in EPA's recommendations should be construed as a shift in normal industry procedures for assigning responsibility and liability for product quality.

Procuring agencies should expect suppliers of blended cement, coal fly ash or GGBF slag, and concrete to demonstrate (through reasonable testing programs or previous experience) the

performance and reliability of their product and the adequacy of their quality control programs. However, procuring agencies should not subject cement and concrete containing coal fly ash or GGBF slag to any unreasonable testing requirements.

In accordance with standard industry practice, coal fly ash and GGBF slag suppliers should be required to provide to users a statement of the key characteristics of the product supplied. These characteristics may be stated in appropriate ranges. Other characteristics should be requested as needed by the procuring agency.

Agencies desiring a testing or quality assurance program for cements, blended cements, or coal fly ash should contact the U.S. Army Engineer Waterways Experiment Station, PO Box 631, Vicksburg, Mississippi 39180.

Section C–4—Carpet

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table C–4, procuring agencies establish minimum content standards for use in purchasing polyester carpet for light- and moderate-wear applications. This recommendation does not include polyester carpet for use in heavy-wear or severe-wear applications; however, procuring agencies are encouraged to evaluate the suitability of polyester carpet in these applications. These recommendations do not preclude a procuring agency from purchasing carpet made of other materials, such as nylon, wool, or polypropylene.

TABLE C–4.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR CARPET

Product	Resin	Postconsumer Materials (%)
Polyester Carpet Face Fiber	PET	25–100

Specifications: EPA recommends that Federal procuring agencies use GSA's New Item Introductory Schedule when purchasing polyester carpet containing recovered materials. EPA also recommends that procuring agencies review their specifications and revise them to permit, where suitable, the use of polyester carpet containing recovered materials. In particular, EPA recommends that agencies currently limiting carpet materials to nylon, wool, or other materials consider adding polyester, where appropriate, to enable them to procure carpet containing recovered materials.

Section C–5—**Floor Tiles and Patio Blocks**

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table C–5, procuring agencies establish minimum content standards for use in purchasing heavy-duty/commercial type floor tiles and patio blocks made with rubber or plastic.

TABLE C–5.—RECOMMENDED RECOVERED MATERIALS LEVELS FOR FLOOR TILES AND PATIO BLOCKS

Product	Material	Postconsumer materials (%)	Total recovered materials (%)
Patio blocks	rubber or rubber blends	90–100	
	Plastic or plastic blends		90–100
Floor tiles (heavy duty/commercial use)	Rubber	90–100	
	Plastic		90–100

Note: The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents. EPA's recommendation does not preclude procuring agencies from purchasing floor tiles or patio blocks manufactured from another material. It simply recommends that procuring agencies, when purchasing floor tiles or patio blocks made from rubber or plastic, purchase these items made from recovered materials. Recommendations for floor tiles are limited to heavy-duty/commercial-type applications only.

Part D—Transportation Products

Section D–1—Temporary Traffic Control Devices

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table D–1, procuring agencies establish minimum content standards for use in traffic cones and traffic barricades.

TABLE D–1.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR TRAFFIC CONES AND TRAFFIC BARRICADES

Product	Material	Postconsumer materials (%)	Total recovered materials (%)
Traffic Cones	PVC, LDPE, Crumb Rubber		50—100
Traffic Barricades (Type I & II only)	HDPE, LDPE, PET Steel	80—100	100
	Fiberglass		100

Note: The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents.

Part E—Park and Recreation Products

Section E–1—Playground Surfaces and Running Tracks

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table E–1, procuring agencies establish minimum content standards for use in purchasing playground surfaces and running tracks made of rubber or plastic.

Table E–1.—Recommended Recovered Materials Content Levels for Playground Surfaces and Running Tracks

Product	Material	Postconsumer recovered materials (%)
Playground Surfaces	Rubber or Plastic	90—100
Running Tracks	Rubber or Plastic	90—100

Note: The recommended recovered materials content levels are based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, or coloring agents. EPA's recommendation does not preclude procuring agencies from purchasing playground surfaces or running tracks manufactured from another material. It simply recommends that procuring agencies, when purchasing playground surfaces or running tracks made from rubber or plastic, purchase these items made from recovered materials.

Part F—Landscaping Products

Section F–1—Hydraulic Mulch

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table F–1, procuring agencies establish minimum content standards for paper-based and wood-based hydraulic mulch products.

TABLE F–1.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR HYDRAULIC MULCH PRODUCTS

Hydraulic mulch products	Recovered materials (materials and %)
Paper-Based Hydraulic Mulch	Postconsumer recovered paper 100.
Wood-Based Hydraulic Mulch	Recovered wood and/or paper 100.

Note: The recommended recovered materials content levels are based on the dry weight of the fiber, exclusive of any dyes, wetting agents, seeds, fertilizer, or other non-cellulose additives.

Section F–2—Yard Trimmings Compost

Preference Program: EPA recommends that procuring agencies purchase or use compost made from yard trimmings, leaves, and/or grass clippings in such applications as landscaping, seeding of grass or other plants on roadsides and embankments, as nutritious mulch under trees and shrubs, and in erosion control and soil reclamation.

EPA further recommends that those procuring agencies that have an adequate volume of yard trimmings, leaves, and/or grass clippings, as well as sufficient space for composting, should implement a composting system to produce compost from these materials to meet their landscaping and other needs.

Specifications: EPA recommends that procuring agencies ensure that there is no language in their specifications for fertilizers and soil amendments that would preclude or discourage the use of compost. For instance, if specifications address the use of straw or hay in roadside revegetation projects, procuring agencies should assess whether compost could substitute for straw or hay or be used in combination with them.

The State of Maine has developed quality standards for compost products that are used by its agencies and/or purchased with state funds. The quality standards have been set for six types of compost products, ranging from topsoil (three classes), to wetland substrate, to mulch (two classes). For each of these types of compost product, standards for maturity, odor, texture, nutrients, Ph, salt content, organic content, pathogen reduction, heavy metals, foreign matter, moisture content, and density have been established. EPA recommends that procuring agencies obtain and adapt this or another suitable specification for their use in purchasing compost products.

Part G—Non-Paper Office Products

Section G–1—Office Recycling Containers and Office Waste Receptacles

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table G–1, procuring agencies establish minimum content standards for use in purchasing office recycling containers and office waste receptacles.

TABLE G–1.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR OFFICE RECYCLING CONTAINERS AND OFFICE WASTE RECEPTACLES

Product	Recovered materials (materials and percent)
Office Recycling Containers and Office Waste Receptacles	Plastic 20–100 Postconsumer Recovered Materials. Paper Refer to the Paper Products Recommendations in Part A of RMAN. Steel 25–100 Total recovered materials.

Note: EPA's recommendation for office recycling containers and office waste receptacles containing recovered plastic, paper, or steel does not preclude procuring agencies from purchasing containers or receptacles manufactured using another material, such as wood. It simply recommends that procuring agencies, when purchasing office recycling containers or office waste receptacles manufactured from plastic, paper, or steel, seek such containers made with recovered materials.

Section G–2–Desktop Accessories

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table G–2, procuring agencies establish minimum content standards for use in purchasing plastic desktop accessories. If items are not available within the recommended range, procuring agencies should seek the items with the highest percentage of recovered materials practicable.

TABLE G–2—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PLASTIC DESKTOP ACCESSORIES

Product	Postconsumer recovered materials (material and percent)
Plastic Desktop Accessories.	Polystyrene 25–80.

Note: EPA's recommendation does not preclude procuring agencies from purchasing a desktop accessory manufactured from another material, such as paper, wood, or steel. It simply recommends that, when purchasing plastic desktop accessories, procuring agencies purchase these items made from recovered materials.

Section G–3—Toner Cartridges

Preference Program: EPA recommends that procuring agencies establish procedures and policies that give priority to remanufacturing the agencies' expended toner cartridges. EPA recommends that, under such policies and procedures, procuring agencies procure remanufacturing services for expended cartridges and, when such services are unavailable or not practicable, obtain remanufactured toner cartridges or new toner cartridges made with recovered materials from product vendors.

Section G–4—Binders

Preference Program: EPA recommends that, based on the recovered materials content levels shown in Table G–3, procuring agencies establish minimum content standards for use in purchasing binders.

TABLE G–3.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR BINDERS

Product	Recovered materials (materials and percent)
Plastic-Covered Binders (Plastic Covering)	Plastic 25–50.
Chipboard, Paperboard, or Pressboard Binders or Binder Components	Paper Refer to Paper Products Recommendations in Part A of RMAN.

Note: The chipboard, paperboard, or pressboard binders or components of plastic-covered binders or binders covered with another material, such as cloth, are covered under the recommendation for paper and paper products (see Part A of the RMAN). EPA's recommendations do not preclude procuring agencies from purchasing binders covered with or manufactured using another material, such as cloth. It simply recommends that procuring agencies, when purchasing binder types designated in the procurement guidelines, purchase these binders containing recovered materials.

Specifications: GSA's specification for binders, A-A–2549A, covers four types of binders, including cloth bound, flexible cover; cloth bound, stiff cover; plastic bound, flexible cover; and plastic bound, stiff cover. In the specification, GSA requires its binders to contain "a minimum of 100% waste paper, including a minimum of 30% postconsumer recovered materials."

Section G–5—Plastic Trash Bags

Preference Program: EPA recommends that, based on the content levels shown in Table G–4, procuring agencies establish minimum content standards for use in purchasing plastic trash bags.

TABLE G–4.—RECOMMENDED RECOVERED MATERIALS CONTENT LEVELS FOR PLASTIC TRASH BAGS

Product	Postconsumer recovered materials (material and percent)
Plastic Trash Bags	Plastic 10–100.

Note: EPA's recommendation does not preclude procuring agencies from purchasing a trash bag manufactured using another material, such as paper. It merely recommends that procuring agencies, when purchasing plastic trash bags, purchase these items made from recovered materials.

Part H—Miscellaneous Products

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