

This is a guidance document with sample specification language intended to be inserted into project specifications on this subject as appropriate to the agency's environmental goals. Certain provisions, where indicated, are required for U.S. federal agency projects. Sample specification language is numbered to clearly distinguish it from advisory or discussion material. Each sample is preceded by identification of the typical location in a specification section where it would appear using the SectionFormat™ of the Construction Specifications Institute; the six digit section number cited is per CSI Masterformat™ 2004 and the five digit section number cited parenthetically is per CSI Masterformat™ 1995..

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SECTION 09 72 00 (SECTION 09720) - WALLCOVERING

SPECIFIER NOTE:

resource management: Wallcoverings manufactured from recycled cotton, sustainably harvested wood, and natural materials such as sisal, jute, straw, and wool are available. Cellulose in wallpaper is a renewable resource. Refer to Section 09 29 00 (09250) - Gypsum for information regarding paper. Polyvinyl chloride may be used in vinyl wallcovering. Refer to Section 09 65 00 (09650) - Resilient Flooring for information on PVC.

toxicity/IEQ: Fabrics, plastics, and paper wall coverings each have unique potential chemical content and emission characteristics. Refer to Section 09 65 00 (09650) - Resilient Flooring for information on PVC. VOCs may be emitted from adhesives and backings during the curing process. Non-permeable wall coverings may trap moisture and promote the growth of mold and mildew. Refer to Section 09 65 00 (09650) – Resilient Flooring for additional, related information.

performance: Performance is comparable for green methods and standard methods.

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes:
1. Wallcovering.

1.2 QUALITY ASSURANCE

- A. VOC emissions: Provide low VOC products. Comply with:
1. Adhesives and sealants: Comply with California's South Coast Air Quality Management District (SCAQMD) #1168
 2. Aerosol adhesives: Comply with Green Seal GS-36

SPECIFIER NOTE:

NSF-ISR has a draft standard for multi-attribute evaluation of environmental preferability: NSF 342 Sustainability Assessment for Wallcovering Products

The scope of the standard includes the following wallcovering manufacturing processes:

- Raw material inputs (fibers, resins, additives, colorants, and process chemicals)
- Fabric or sheet formation
- Finishing treatments

The scope of the standard also includes the following wallcovering distribution processes:

- Product distribution
- Recycling infrastructure support
- IAQ

The draft standard compares and assesses sustainable product characteristics of wallcovering. Assessment is implemented through a point system that addresses: materials, water efficiency, energy

conservation, air quality, and social issues. Four levels of achievement or compliance are attainable to reflect increasing movement toward sustainability: Conformant, Silver, Gold, and Platinum.
http://www.nsf.org/business/sustainability/standards_inprocess.asp?program=Sustainability
Edit below to suit project and to reflect latest published standard.

- B. Provide wallcovering compliant with NSF 342 **[Conformant] [Silver] [Gold] [Platinum]** level.

1.3 SUBMITTALS

- A. Product data. Unless otherwise indicated, submit the following for each type of product provided under work of this Section:

SPECIFIER NOTE:

Green building rating systems often include credit for materials of recycled content. USGBC-LEED™ v3, for example, includes credit for materials with recycled content, calculated on the basis of pre-consumer and post-consumer percentage content, and it includes credit for use of salvaged/recovered materials. Green Globes US also provides points for reused building materials and components and for building materials with recycled content.

1. Recycled Content:
 - a. Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
 - b. Indicate relative dollar value of recycled content product to total dollar value of product included in project.
 - c. If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
 - d. If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.

SPECIFIER NOTE:

Specifying local materials may help minimize transportation impacts; however it may not have a significant impact on reducing the overall embodied energy of a building material because of efficiencies of scale in some modes of transportation. Green building rating systems frequently include credit for local materials. Transportation impacts include: fossil fuel consumption, air pollution, and labor. USGBC-LEED™ v3 includes credits for materials extracted/harvested and manufactured within a 500 mile radius from the project site. Green Globes US also provides points for materials that are locally manufactured.

2. Local/Regional Materials:
 - a. Sourcing location(s): Indicate location of extraction, harvesting, and recovery; indicate distance between extraction, harvesting, and recovery and the project site.
 - b. Manufacturing location(s): Indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
 - c. Product Value: Indicate dollar value of product containing local/regional materials; include materials cost only.
 - d. Product Component(s) Value: Where product components are sourced or manufactured in separate locations, provide location information for each component. Indicate the percentage by weight of each component per unit of product.

SPECIFIER NOTE:

Green building rating systems may include credit for low emitting materials. USGBC-LEED™ v3, for example, includes credits for low-emitting materials, including: adhesives and sealants, paints and coatings, carpets, and composite wood and agrifiber products. Under LEED™ v3, adhesives and sealants are to comply with California's South Coast Air Quality Management District (SCAQMD) #1168;

aerosol adhesives are to comply with Green Seal GS-36; interior architectural paints are to comply with Green Seal GS-11; anti-corrosive paints are to comply with Green Seal GS-03 (note – Green Seal has withdrawn GS-03; as of November 2008, anti-corrosive paints are included in a revised GS-11); clear wood finishes are to comply with SCAQMD #1113; carpet with the Carpet and Rug Institute (CRI) Green Label Plus; carpet cushion with CRI Green Label program; hard surface flooring with FloorScore; tile setting adhesives and grout with SCAQMD #1168; and, composite wood and agrifiber products are to contain no added urea-formaldehyde.

As per USGBC published Credit Interpretations, the credits for low-emitting materials are directed towards interior, site-installed (i.e. not prefabricated) products. Verify project requirements for low VOC roofing products.

Both the Adhesive and Sealant Council (ASC) and the SCAQMD have indicated that low VOC adhesives may have performance difficulties in extreme temperature and humidity conditions.

Green Seal, an independent, non-profit organization, certifies low-emitting products using internationally recognized methods and procedures. Green Seal certification meets the criteria of ISO 14020 and 14024, the environmental standards for ecolabeling set by the International Organization for Standardization (ISO); the U.S. Environmental Protection Agency's criteria for third-party certifiers of environmentally preferable products; and the criteria for bona fide ecolabeling bodies of the Global Ecolabeling Network.

3. VOC data:

a. Adhesives:

- 1) Submit manufacturer's product data for adhesives. Indicate VOC limits of the product. Submit MSDS highlighting VOC limits.
- 2) Submit Green Seal Certification to GS-36 and description of the basis for certification.
- 3) **[Submit manufacturer's certification that products comply with SCAQMD #1168.] [Submit manufacturer's certification that products comply with SCAQMD Rule 1168 in areas where exposure to freeze/thaw conditions and direct exposure to moisture will not occur. In areas where freeze/thaw conditions do exist or direct exposure to moisture can occur, submit manufacturer's certification that products comply with Bay Area AQMD Reg. 8, Rule 51 for containers larger than 16 oz and with California Air Resources Board (CARB) for containers 16 oz or less.]**

SPECIFIER NOTE:

The Food, Conservation, and Energy Act of 2008 (also known as the 2008 U.S. Farm Bill) largely continues programs of the Farm Security and Rural Investment Act of 2002 ([2002 Farm Bill](http://www.usda.gov/farmbill/)) <http://www.usda.gov/farmbill/> Section 9002 requires each Federal Agency to develop a procurement program which will assure that items composed of biobased products will be purchased to the maximum extent practicable and which is consistent with applicable provisions of Federal procurement law. USDA designates biobased products for preferred Federal procurement and recommends biobased content levels for each designated product.

USGBC-LEED™ v3 includes credits for use of rapidly renewable materials, which USGBC describes as plants harvested within a ten-year cycle.

Green Globes – US, provides credit for integration of materials from renewable sources that have been selected based on life-cycle assessment.

4. Biobased materials:

- a. Indicate type of biobased material in product.
- b. Indicate the percentage of biobased content per unit of product.
- c. Indicate relative dollar value of biobased content product to total dollar value of product included in project.

- B. Submit environmental data in accordance with Table 1 of ASTM E2129 for products provided under work of this Section.

PART 2 - PRODUCTS

SPECIFIER NOTE:

EO 13423 includes requirements for Federal Agencies to use “sustainable environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products”

Specifically, under the Sustainable Building requirements per Guiding Principle #5 Reduce Environmental Impact of Materials, EO13423 directs Federal agencies to “use products meeting or exceeding EPA’s recycled content recommendations” for EPA-designated products and for other products to “use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.”

Executive Order 13514; *Federal Leadership in Environmental, Energy, and Economic Performance*; was signed on October 5, 2009. <http://www.ofee.gov/execorders.asp> It expands upon the environmental performance requirements of EO 13423.

http://www1.eere.energy.gov/femp/regulations/printable_versions/eo13423.html

EO 13514 sets numerous federal requirements in several areas, including sustainable buildings and communities. Federal agencies must implement high performance sustainable federal building design, construction, operation and management, maintenance, and deconstruction, including:

- Ensuring all new Federal buildings, entering the design phase in 2020 or later, are designed to achieve zero net energy by 2030.
- Ensuring all new construction, major renovations, or repair or alteration of Federal buildings comply with the Guiding Principles of Federal Leadership in High Performance and Sustainable Buildings <http://www1.eere.energy.gov/femp/pdfs/mouhighperfsustainfedfacs.pdf>
- Ensuring at least 15% of existing agency buildings and leases (above 5,000 gross square feet) meet the Guiding Principles by fiscal year 2015 and that the agency makes annual progress towards 100% compliance across its building inventory.

Additionally, for USDA-designated biobased products, Federal agencies must use products meeting or exceeding USDA’s biobased content recommendations; and for other products, biobased products made from rapidly renewable resources and certified sustainable wood products.

And, under the Sustainable Building requirements per Guiding Principle #4 Enhance Indoor Environmental Quality, EO13423 directs Federal agencies to use “materials and products with low pollutant emissions, including adhesives, sealants, paints, carpet systems, and furnishings.”

2.1 MATERIALS

A. Polyethylene:

1. Toxicity/IEQ: Provide vinyl-free, chlorine-free, plasticizer-free wallcovering

B. Fabric:

SPECIFIER NOTE:

Green building rating systems often include credit for materials of recycled content and may distinguish allowable credit for post-consumer and post-industrial (or pre-consumer) recycled content. USGBC-LEED™ v3, for example, factors 100 percent of post-consumer recycled content but only 50 percent of pre-consumer (post-industrial) recycled content into calculations for its recycled content materials credit. LEED v3 grants one credit to a project for using materials with recycled content such that the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10 percent of the total value of the materials in the project; 10% (post-consumer + 1/2 post-industrial). It grants an additional point for 20% (post-consumer + 1/2 post-industrial).

Green Globes US also provides points for reused building materials and components and for building materials with recycled content.

Recycled content is typically determined by calculating the weight of the recycled material divided by the total weight of the product and expressed as a percentage by weight. (The recycled content “value” of a product as assessed under LEED is determined by multiplying the recycled content percentage and the cost of the product.)

Verify with manufacturer for product availability and recycled content.

1. Recycled Content: Minimum **[5] [10] [xxxx]** percent post-consumer recycled content, or minimum **[20] [40] [xxxx]** percent pre-consumer recycled content at contractor’s option.

SPECIFIER NOTE:

For current designations under the Federal Biobased Products Preferred Procurement Program (FB4P), refer to www.biobased.oce.usda.gov. As of January 4, 2010, the Federal Register includes designations for approximately 60 product types. The requirements for purchasing biobased items apply to those items directly purchased by the federal agency. Under a construction contract, the contractor’s use of hydraulic fluid in its bulldozers and backhoes is incidental to the purpose of its contract, so the contractor is not required to use biobased hydraulic fluids. The Office of the Federal Environmental Executive (OFEE) recommends that agencies encourage the use of these items, however.

Currently designated items that affect construction include:

- Roof Coatings
- Water Tank Coatings
- Adhesive and Mastic Removers
- Composite Panels
- Fertilizers
- Plastic Insulating Foam
- Carpet and Upholstery Cleaners
- Carpets
- Dust Suppressants
- Packaging Films
- Glass Cleaners
- Hydraulic Fluids – Stationary Equipment
- Wood and Concrete Sealers
- Cleaners

The USDA currently has identified about 150 items for which it is collecting test data needed for the additional designations of items that will extend preferred procurement status to include all qualifying biobased products.

2. Biobased content: Minimum **[xxxxx]** percent biobased wallcovering.
 - a. Sisal.
 - b. Cork.
 - c. Flax.

C. Cellulose:

1. Recycled Content: Minimum **[5] [10] [xxxx]** percent post-consumer recycled content, or minimum **[20] [40] [xxxx]** percent pre-consumer recycled content at contractor’s option.

2.2 ACCESSORIES

A. Adhesive:

1. Toxicity/IEQ: Comply with applicable regulations regarding toxic and hazardous materials, GS-36 for Commercial Adhesive, **[South Coast Air Quality Management District Rule 1168] [Bay Area AQMD Reg. 8, Rule 51 for**

containers larger than 16 oz and with California Air Resources Board (CARB) for containers 16 oz or less], and as specified.

PART 3 - EXECUTION

3.X SITE ENVIRONMENTAL PROCEDURES

- A. Indoor Air Quality: Provide temporary ventilation as specified in Section 01 57 19.11 (01352) – Indoor Air Quality (IAQ) Management. .
- B. Waste Management: As specified in Section 01 74 19 (01351) – Construction Waste Management and as follows:
 - 1. Biobased Content scrap material may be shredded and composted on site.

END OF SECTION