

Proposed Item for Biobased Designation

The following biobased product information has been collected to support item designation by USDA for the Federal Biobased Product Preferred Procurement Program (FB4P). This summary reflects data available as of January 16, 2007 with additional performance standards added April 2, 2007.

Title: Biobased Carpets

Description: Floorcovering that consists of woven fibers and an adhesive backing.

Manufacturers Identified: 6 manufacturers producing Biobased Carpets have been identified through internet searches, manufacturer's directories, trade associations, and company submissions.

Industry Associations Investigated: The following industry associations have been investigated for member companies producing Biobased Carpets:

- Carpets & Rugs Manufacturer's Association
- Carpet & FabriCare Institute
- Synthetic Turf Council
- National Recycling Coalition
- Invista Partnership for Carpet Reclamation
- U.S. Green Building Council

Commercially Available Products Identified: Of the manufacturers identified, 13 Biobased Carpets are commercially available on the market.

Product Information Collected: Specific product information including company contact, intended use, biobased content, and performance characteristics have been collected on 8 Biobased Carpets.

Industry Performance Standards: Product information submitted by biobased manufacturers indicate that have typically been tested to the following industry standards:

- American Association of Textile Chemists and Colorists AATCC Test Method 134 Electrostatic Propensity of Carpets – Ability of the carpet to dissipate electrostatic charges.
- Chamber of Commerce and Industry Aachen (Germany) Aachen Method DIN 54318 Aachen Dimensional Stability Test
- American Society for Testing and Materials ASTM D1335 Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings
- American Society for Testing and Materials ASTM D3936 Standard Test Method for Resistance to Delamination of the Secondary Backing of Pile Yarn Floor Covering
- American Society for Testing and Materials ASTM D5116 Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products
- American Society for Testing and Materials ASTM D5417 Standard Practice for Operation of the Vettermann Drum Tester
- American Society for Testing and Materials ASTM D5793 Standard Test Method for Binding Sites Per Unit Length or Width of Pile Yarn Floor Coverings

- American Society for Testing and Materials ASTM D5848 Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Coverings
- American Society for Testing and Materials ASTM D6859 Standard Test Method for Pile Thickness of Finished Level Pile Yarn Floor Coverings
- American Society for Testing and Materials ASTM E2129 Standard Practice for Data Collection for Sustainability Assessment of Building Products
- American Society for Testing and Materials ASTM E648 "Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source Class 1: Average minimum 0.45 watts per square centimeter within exits, access to exits, corridors of health care facilities (hospitals, nursing homes, etc.), and new construction detention and correctional facilities. Class 2: Average minimum 0.22 watts per square centimeter within exits, access to exits (corridors) of day care centers, existing detention and correctional facilities, hotels, dormitories, and apartment buildings."
- American Society for Testing and Materials ASTM E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
- Bay Area Air Quality Management District BAAQMD Rule 51 Rule limiting the emissions of organic compounds from adhesive and sealant products
- Collaborative for High Performance Schools CHPS Criteria to reduce the amount of chemical emissions from building materials used in schools to reduce harmful exposures to occupants.
- American Association of Textile Chemists and Colorists Color Fastness AATCC 107 Colorfastness to Water
- American Association of Textile Chemists and Colorists Color Fastness AATCC 129 Colorfastness to Ozone in the Atmosphere under High Humidities
- American Association of Textile Chemists and Colorists Color Fastness AATCC 138 Cleaning: Washing of Textile Floor Coverings
- American Association of Textile Chemists and Colorists Color Fastness AATCC 164 Colorfastness to Oxides of Nitrogen in the Atmosphere under High Humidities
- American Association of Textile Chemists and Colorists Color Fastness AATCC 165 Colorfastness to Crocking: Textile Floor Coverings-AATCC Crockmeter Method
- American Association of Textile Chemists and Colorists Color Fastness AATCC 16-E Colorfastness to Light: Water – Cooled Xenon – Arc Lamp, Continuous Light – AATCC-16, option E
- Carpet and Rug Institute CRI Test Method 101 Assessment of Carpet Surface Appearance Change using the CRI Reference Scales
- Carpet and Rug Institute CRI Test Method 104 Standard for Installation Specification of Commercial Carpet
- Carpet and Rug Institute CRI Test Method 105 Standard for Installation of Residential Carpet
- Carpet and Rug Institute CRI Test Method 110 Evaluation Procedures for CRI Carpet Spot Cleaning Product Certification
- Carpet and Rug Institute CRI Test Method 111 Evaluation Procedures for CRI Carpet Cleaning Certification of In-Tank and Pre-Spray Cleaning Products.
- Consumer Product Safety Commission Flammable Fabrics Act (FF) 2-70 – Small rugs less than 24 square feet must be tested, but they do not have to pass the test.
- Consumer Product Safety Commission Flammable Fabrics Act (FF) 1-70 (16 CFR 1630 and ASTM D-2859) – The Pill Test, requires all carpet and large rugs (24 square feet or larger)

manufactured for sale in the United States or imported into this country to pass a small-scale ignition test.

- Green Seal GC-03 Standard environmental requirements for anti-corrosive paints
- Green Seal GS-11 Standard environmental requirements for paints; not including stains, clear finishes, or paints sold in aerosol cans
- Green Seal GS-36 Standard environmental requirements for commercial adhesives
- American National Standard, Accessible and Usable Buildings and Facilities International Code Council (ICC)/ANSI A117.1-1998
- International Organization for Standardization ISO 2551 Machine-made textile floor coverings -- Determination of dimensional changes due to the effects of varied water and heat conditions
- National Fire Protection Association NFPA-253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
- National Fire Protection Association NFPA-258 NBS Smoke Density Chamber
- South Coast Air Quality Management District SCAQMD Rule 1113 Rule limiting the VOC content of architectural coatings
- South Coast Air Quality Management District SCAQMD Rule 1168 Rule limiting the VOC content of adhesive and sealant applications
- American National Standard Institute Wear testing Rotary Chair & Vetterman Drum Textile floor coverings - Determination of resistance to damage at cut edges using the modified Vetterman drum test (FOREIGN STANDARD)

Samples Tested for Biobased Content: 9 samples of Biobased Carpets have been submitted to independent laboratories for biobased content testing as specified by ASTM standard D6866-04.

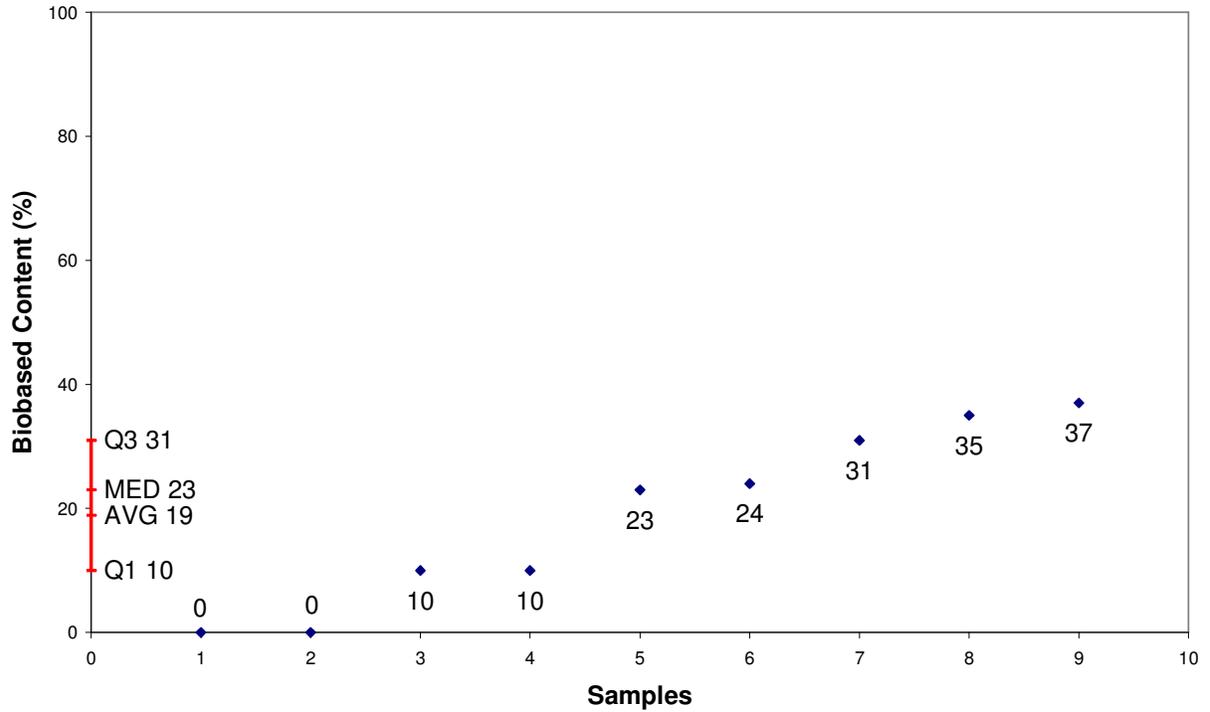
Biobased Content Data: Results from biobased content testing of Biobased Carpets indicate a range of content percentages from 0% minimum to 37% maximum biobased content as defined by ASTM D 6866-04. A detailed distribution of biobased content levels is included as Appendix A.

Products Submitted for BEES Analysis: Life-cycle cost and environmental effect data for 1 Biobased Carpets have been submitted to NIST for BEES analysis.

BEES Analysis: The life-cycle costs of the submitted Biobased Carpets range from \$39.22 minimum to \$39.22 maximum per usage unit. The environmental scores range from 0.2429 minimum to 0.2429 maximum. A detailed summary of the BEES results is included as Appendix B.

Appendix A - Biobased Content Data

Carpets

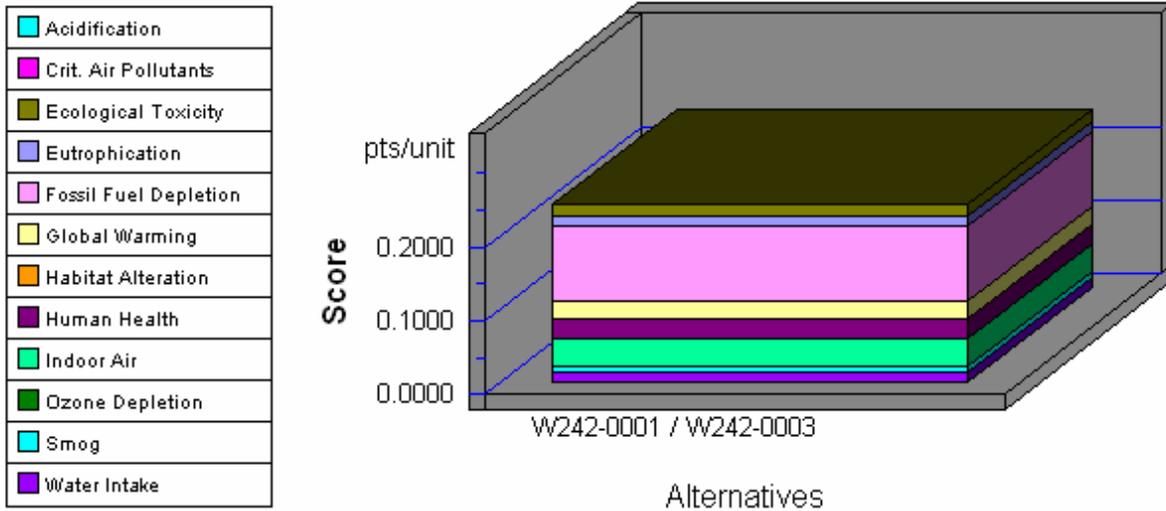


	Manufacturers Identified	Products Identified	C14	BEES
1	Y23N	Y23N-0003	0	
2	Y23N	Y23N-0004	0	
3	Y23N	Y23N-0002	10	
4	Y23N	Y23N-0001	10	
5	W242	W242-0002	23	
6	W242	W242-0004	24	
7	W242	W242-0001	31	yes
8	W242	W242-0003	35	yes
9	J34L	J34L-0001	37	

Appendix B - BEES Analysis Results

Functional Unit: Covering 1 sq yard over 50 years

Environmental Performance

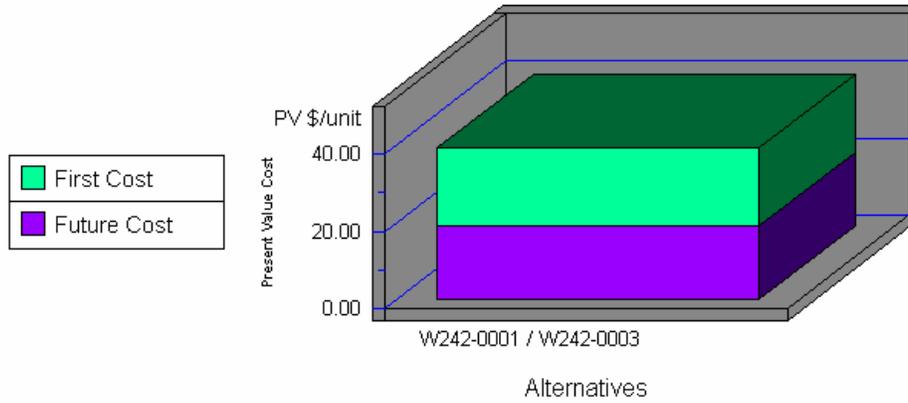


Note: Lower values are better

Category	W242-0001 / W242-0003
Acidification--5%	0.0000
Crit. Air Pollutants--6%	0.0014
Ecolog. Toxicity--11%	0.0165
Eutrophication--5%	0.0112
Fossil Fuel Depl.--5%	0.1028
Global Warming--16%	0.0240
Habitat Alteration--16%	0.0000
Human Health--11%	0.0278
Indoor Air--11%	0.0377
Ozone Depletion--5%	0.0000
Smog--6%	0.0079
Water Intake--3%	0.0136
Sum	0.2429

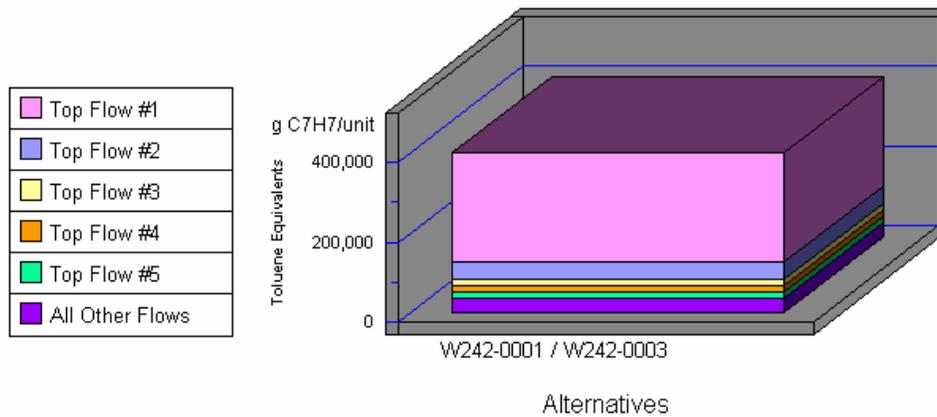
Appendix B (continued)

Economic Performance



Category	W242-0001 / W242-0003
First Cost	20.00
Future Cost-- 3.9%	19.22
Sum	39.22

Human Health by Sorted Flows*



Note: Lower values are better

Category	W242-0001 / W242-0003
Cancer--(w) Phenol (C6H5OH)	273,413.80
Cancer--(a) Dioxins (unspecifie)	42,887.78
Cancer--(a) Arsenic (As)	17,067.48
Noncancer--(a) Mercury (Hg)	16,443.91
Cancer--(w) Arsenic (As3+, As5+	15,403.35
All Others	35,956.91
Sum	401,173.23

*Sorted by five topmost flows for worst-scoring product