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Evaluation #

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Safety & Buildings Division
201 West Washington Avenue
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Wisconsin Building Products Evaluation

Material

Insulation Board and Housewrap
GreenGuard®

Manufacturer

Pactiv Building Products
2100 RiverEdge Pkwy., Ste. 175
Atlanta, GA 30328

SCOPE OF EVALUATION

GENERAL: This report evaluates GreenGuard® insulation board, insulation sheathing and housewrap products manufactured by Pactiv Building Products. GreenGuard® insulation boards included in this approval are **CM, CMX, SL, SLX, SB** and **DC**. GreenGuard® insulation sheathing include Fanfold siding underlayment, **PB4** Protection Board, **PB6** Roofing Recovery Board, **PB6 Plus** Roofing Recovery Board, **PB6W** Roofing Recovery Board, **PLYGOOD®** and **PLYGOOD Ultra** Sheathing and Roofing Recovery Boards, **CB4** Condensation Board, and **Backer-Pro** Contoured Backer Board. GreenGuard® housewrap products include **Value Wrap, Classic Wrap, Lowe's, PINKWRAP, Ultra Wrap,** and **RainDrop.**

This review includes the cited **Comm** code requirements below in accordance with the current **Wisconsin Uniform Dwelling Code (UDC), (for 1 & 2 family dwellings):**

- **Foam Plastic:** The GreenGuard® insulation board, insulation sheathing and housewrap products were evaluated in accordance with **s. Comm 21.11(1)** and **(2)**.
- **Thermal Envelope Material:** The GreenGuard® insulation board and insulation sheathing products were evaluated in accordance with **s. Comm 22.03(2)(a)** and **(b), (3)** and **(4)**.
- **Weather Protection:** The GreenGuard® housewrap products were evaluated in accordance with **s. Comm 22.22(1)**.

The **IBC** requirements below in accordance with the current **Wisconsin Amended ICC Code:**

- **Foam Plastic:** The GreenGuard® insulation board and insulation sheathing products were evaluated in accordance with the requirements of **s. IBC 2603.1, 2603.3.2, 2603.5.6** and **2603.3**.
- **Thermal Barrier:** The GreenGuard® insulation board and insulation sheathing products were evaluated in accordance with the requirements of **s. IBC 2603.4** and **2603.5.2**.

- **Siding Backer Board:** The GreenGuard® insulation board and insulation sheathing products were evaluated in accordance with the requirements of **s. IBC 2603.4.1.10**.
- **Weather Protection:** The GreenGuard® housewrap products were evaluated in accordance with **s. IBC 1403.2**.

DESCRIPTION AND USE

GreenGuard® products are used in residential and commercial applications from the roof to the foundation.

GreenGuard® Insulation Boards: **CM, CMX, SL, SLX, SB** and **® DC** foam plastic insulation boards are closed-cell extruded polystyrene boards. The foam plastic insulation boards are manufactured in various thickness, size, and edge profiles as shown in Table 1 of this evaluation. GreenGuard® **CMX** and **SLX** foam plastic insulation boards are faced on both sides with a laminated plastic film facer.

GreenGuard® **CM, CMX, SL, SLX, SB** and **DC** foam plastic insulation boards are used as nonstructural sheathing in wall and roof applications, and as an interior insulating board installed on the attic side of gables and on the interior of crawl spaces **without a thermal barrier**. (See **LIMITATIONS OF APPROVAL** and **TESTS AND RESULTS** sections).

GreenGuard® Insulation Sheathing: are extruded polystyrene foam plastic products available in single semi-rigid sheets or “fanfolded” bundles in thicknesses ranging from ¼- to 3/8-inch (5.9 to 9.5 mm) with capsheets and various plastic facers. GreenGuard® “fanfolded” bundles are available in widths of 4 feet (1219 mm) and lengths, when folded, of 50 feet (15m). The GreenGuard® board products range in size from 4 by 7 feet to 4 by 9 feet (1219 by 2134 mm to 1219 by 2743 mm). The extruded polystyrene foam plastic components for the GreenGuard® Insulation Products evaluated in this report are manufactured with the same formulation. See Table 2 of this evaluation for descriptions.

GreenGuard® **PB4** boards are intended for use in below-grade applications for installation on the exterior side of foundation walls to provide protection for waterproofing applications.

GreenGuard® **PB6, PB6W, PB6 Plus** and 3/8-inch thick (9.5 mm) **PLYGOOD®** boards are intended for use as components of classified roof assemblies as described in Table 3, in **TESTS AND RESULTS** section.

GreenGuard® **CB4** boards are intended for exposed installation on the interior side of wood and metal-framed walls, roofs and ceilings, of buildings and structures of Use Groups S-1 and S-2. (See **LIMITATIONS OF APPROVAL** and **TESTS AND RESULTS** sections).

GreenGuard® **BACKER-PRO** is intended for use as an underlayment for siding applications.

GreenGuard® **PLYGOOD®** and **PLYGOOD® ULTRA** boards are foam plastic insulation boards are used as nonstructural sheathing in wall applications **without a thermal barrier**. (See **LIMITATIONS OF APPROVAL** and **TESTS AND RESULTS** sections).

The balance of the GreenGuard® Insulation Products listed in Table 2 of this approval are intended for use as an underlayment board for re-siding applications.

GreenGuard® Housewrap: are used as an air infiltration barrier and/or water-resistive barrier on the exterior side of exterior walls where combustible construction is permitted. The housewraps are roll type materials consisting of either a non-woven polyolefin fabric combined with a polyolefin sheet (Ultra Wrap) for the transmission of moisture vapor from inside the wall cavities.

GreenGuard® **Value Wrap Housewrap** is 0.008-inch (0.2 mm) thick with an average weight of 13 pounds (6 kg) per 1000 square feet (93 m²).

GreenGuard® **Classic Wrap Housewrap** is 0.008-inch (0.2 mm) thick with an average weight of 15 pounds (7 kg) per 1000 square feet (93 m²). GreenGuard® Classic Wrap Housewrap is also sold by Owens Corning as **PINKWRAP Housewrap** and Lowe’s Home Improvement Warehouse as **Lowe’s Housewrap**. GreenGuard® **Classic Wrap Housewrap** is green in color, **PINKWRAP Housewrap** is pink in color, and **Lowe’s Housewrap** is white in color.

GreenGuard® **Ultra Wrap Housewrap** is a nonperforated and non-woven polyolefin fabric combined with a polyolefin sheet and is 0.008-inch (0.2 mm) thick with an average weight of 14 pounds (6 kg) per 1000 square feet (93 m²).

GreenGuard® **Rain Drop Housewrap** is 0.018-inch (0.5 mm) thick with an average weight of 16 pounds (7 kg) per 1000 square feet (93 m²).

TABLE 1

Product Identification	Edge Profile	Thickness ¹ [inches (mm)]	Board Size [Feet (mm)]
GreenGuard® CM (CertaBoard™ CM)	Square-edge	½ - 3 (12.7 – 76.2)	2 x 8 (610 x 2438) 4 x 8 (1219 x 2438) 4 x 9 (1219 x 2743)
GreenGuard® CMX (CertaBoard™ CMX)	Square-edge and a clear plastic film on both sides	½ - ¾ (12.7 – 19.1)	4 x 8 (1219 x 2438) 4 x 9 (1219 x 2743)
GreenGuard® SL (CertaBoard™ SL)	Shiplap-edge	½ - 1 (12.7 – 25.4)	2 x 8 (610 x 2438) 4 x 8 (1219 x 2438)
GreenGuard® SLX (CertaBoard™ SLX)	Shiplap-edge and a clear plastic film on both sides	½ - 1 (12.7 – 25.4)	4 x 8 (1219 x 2438) 4 x 9 (1219 x 2743)
GreenGuard® SB (CertaBoard™ SB)	Scored at 16 and 24 in. (406 and 610 mm) o.c.	1 - 2 (25.4 – 50.8)	4 x 8 (1219 x 2438)
GreenGuard® DC (CertaBoard™ DC)	Channels notched along the edges	2 (50.8)	2 x 8 (610 x 2438)

Note 1: F·ft²-hr/Btu = 0.17611 m²·K/W.

TABLE 2

Product Name	Product Thickness (in.)	Product Description
GreenGuard NP14	¼ (6 mm)	Multi-layered, perforated extruded polystyrene foam, available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard P14	¼ (6 mm)	Extruded polystyrene foam core with clear, perforated plastic facers on both sides, available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard XP14	¼ (6 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides and a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PLYFOLD Y250	¼ (6 mm)	Extruded polystyrene foam core with clear, perforated plastic facers on both sides, available in 4' x 50' (1.2 m x 15.2 m) bundles & packaged for home centers.
GreenGuard FP14	¼ (6 mm)	Extruded polystyrene foam core with clear, perforated plastic facers on both sides with an additional perforated, metallized facer on one side. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard XFP14	¼ (6 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides with an additional perforated, metallized facer on one side. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard BACKER-PRO	¼ (6 mm)	Extruded polystyrene foam that is contoured to fit the profile of vinyl siding. Available in 4' x 24' (1.2 m x 7.3 m) bundles.
GreenGuard PB4	¼ (6 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PLYGOOD PG28	¼ (6 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides. Available in 4' x 8' (1.2 m x 2.4 m) sheets.
GreenGuard PLYGOOD PGF28	¼ (6 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides with an additional non-perforated metallized facer on one side. Available in 4' x 8' (1.2 m x 2.4 m) sheets.
GreenGuard CB4	¼ (6 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides with an additional white, non-perforated facer on the non-printed side. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PLYGOOD NPG3075, NPG308	5/16 (8 mm)	Multi-layered, non-perforated extruded polystyrene foam, available in sheets measuring 4' x 7-1/2' (1.2 m x 2.3 m) (NPG3075) and 4' x 8' (1.2 m x 2.4 m) (NPG308).
GreenGuard PLYGOOD PG3075, PG308	5/16 (8 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides. Available in sheets measuring 4' x 7-1/2' (1.2 m x 2.3 m) (PG3075) and 4' x 8' (1.2 m x 2.4 m) (PG308).
GreenGuard PGWZ WZPG3075, WZPG308	5/16 (8 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on one side and a reinforcing scrim on the printed side. Available in sheets measuring 4' x 7-1/2' (1.2 m x 2.3 m) (WZPG3075) and 4' x 8' (1.2 m x 2.4 m) (WZPG308).
GreenGuard NP38	3/8 (10 mm)	Multi-layered, perforated extruded polystyrene foam, available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard NPG38	3/8 (10 mm)	Multi-layered, perforated extruded polystyrene foam, available in 4' x 50' (1.2 m x 15.2 m) bundles.

TABLE 2 continued

Product Name	Product Thickness (in.)	Product Description
GreenGuard P38	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard XP38	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides, printed with grid lines. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard Y375	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard FP38	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides with an additional perforated, metallized facer on one side. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard XFP38	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides with an additional perforated, metallized facer on one side (non-reflective side is printed with grid lines). Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PB6	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated, flexible plastic facers on both sides. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PB6W	3/8 (10 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides with an additional white, non-perforated facer on one side. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PB6 PLUS	3/8 (10 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides with an additional clear, non-perforated facer on one side. Product has a “cut & fold” hinge design. Available in 4' x 50' (1.2 m x 15.2 m) bundles.
GreenGuard PLYGOOD PG38, PG39	3/8 (10 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides. Available in sheets measuring 4' x 8' (1.2 m x 2.4 m) (PG38) and 4' x 9' (1.2 m x 2.7 m) (PG39).
GreenGuard PLYGOOD PGF38	3/8 (10 mm)	Extruded polystyrene foam core with clear, non-perforated plastic facers on both sides with an additional non-perforated metallized facer on one side. Available in 4' x 8' (1.2 m x 2.4 m) sheets.
GreenGuard PLYGOOD Ultra PGU38, PGU39	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated plastic facers on one side and a reinforcing scrim on the printed side. Available in sheets measuring 4' x 8' (1.2 m x 2.4 m) (PGU38) and 4' x 9' (1.2 m x 2.7 m) (PGU39).
GreenGuard PLYGOOD Ultra PGU48, PGU49	3/8 (10 mm)	Extruded polystyrene foam core with clear, perforated plastic facers on one side and a reinforcing scrim on the printed side. Available in sheets measuring 4' x 8' (1.2 m x 2.4 m) (PGU48) and 4' x 9' (1.2 m x 2.7 m) (PGU49).

TESTS AND RESULTS

- GreenGuard® Insulation Boards CM, CMX, SL, SLX, SB, DC** were tested in accordance with **ASTM E84**. The insulation boards exhibit a flame spread rating of 25 or less and a smoke-developed index of 450 or less. Testing was conducted by Underwriter’s Laboratory Inc., File R11183, Project 88NK2204, dated March 3, 1998. Underwriter’s Laboratory Inc., File R11183, Project 92NK5174, dated January 29, 1993, for the **SLX** product.

Room corner fire testing utilizing ½-inch (12.7 mm) thick **GreenGuard® SLX** was done on April 1996, by RADCO, Report No. 1701, Project No. C-6028.

Holometrix, Inc., Report AMF-4, dated May 1989, and Report No. AMF-5, dated June 1989, contains results of thermal transmission testing. See Table below.

**Thermal Resistance Properties
GreenGuard® Insulation Boards CM, CMX, SL, SLX, SB, DC**

Thickness ¹ [Inch (mm)]	R-Values (°F·ft ² ·hr/Btu)
½ (12.7)	3.0
¾ (19.1)	3.8
1 (25.4)	5.0
1-1/2 (38.1)	7.5
2 (50.4)	10.0
3 (76.2)	15.0

Note 1: F·ft²·hr/Btu = 0.17611 m²·K/W.

- GreenGuard® Insulation Sheathing PB4, PB6, PB6W, PB6 Plus, PLYGOOD, CB4, BACKER-PRO, and PLYGOOD ULTRA** were tested in accordance with **ASTM E84**. The insulation sheathing exhibit a flame spread rating of 25 or less and a smoke-developed index of 450 or less. Testing was conducted by Underwriter’s

Laboratory Inc., File R11183, Project Numbers 99NK25151, dated October 3, 2001, 01NK5812, dated June 4, 2001, 99NK25152, dated April 1, 2002, and 98NK12364, dated April 1, 2002.

RADCO, Report No. RAD-1700, dated April 1996, contains results of testing performed by in accordance with **UL 1715**.

Fire testing in accordance with **ASTM E108** by Underwriter’s Laboratory Inc., File R11183, Project Numbers 88NK13026, dated October 14, 1988, 97NK31532, dated December 27, 1996, and 96NK12556, dated August 8, 1996.

- **GreenGuard® Value Wrap, Classic Wrap, PINKWRAP, Lowe’s Housewrap, Ultra Wrap and Rain Drop** had physical testing done by RADCO, Project No. C-6982, Report No. RAD-2093c dated April 1999.

GreenGuard® Classic Wrap had physical tests done by RADCO, Project No. C-8232 (Rev.) Report No. RAD-3011 dated April 2002.

GreenGuard® Value Wrap had physical tests done by RADCO, Project No. C-8232 (Rev.) Report No. RAD-3012 dated April 2002.

GreenGuard® Rain Drop Drainage Wrap had physical tests done by RADCO, Project No. C-8448, Report No. RAD-3086 dated July 2002.

GreenGuard® Value Wrap, Classic Wrap, PINKWRAP, Lowe’s Housewrap, Ultra Wrap and Rain Drop were tested in accordance with **ASTM E84**, by Omega Point Laboratories, Report N0. 8939-104572 dated March 11, 1999.

GreenGuard® Rain Drop Drainage Wrap was tested in accordance with **ASTM E84**, by Omega Point Laboratories, Report N0. 16306-110640 dated February 12, 2002.

GreenGuard® Classic Wrap was tested in accordance with **ASTM E84**, by Omega Point Laboratories, Report N0. 16306-111460 dated June 13, 2002.

GreenGuard® Value Wrap was tested in accordance with **ASTM E84**, by Omega Point Laboratories, Report N0. 16306-111461 dated June 17, 2002.

GreenGuard® Rain Drop Drainage Wrap had structural integrity and water penetration testing by RADCO, Project No. C-8915, Report No. RAD-3297 dated July 3, 2003.

TABLE 3
Summary of Fire Classified Roof Coverings – Ballasted, Fully Adhered and Mechanically Fastened

Class A – Maintenance and Repair – Ballasted	
Attachment:	Class A Ballasted
Deck:	Noncombustible
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B, or C
Membrane:	As listed in UL Roofing Material and Systems Directory 2002
Slip Sheet:	One layer of GreenGuard PB6, PB6W, PG38, PG39, PB6 PLUS
Surfacing:	River bottom stone (¾ to 1-1/2 inch diameter) 1000 lb/sq.
Class A – Maintenance and Repair – Mechanically Fastened	
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B, or C, gravel surfaced 400 lb/sq.
Slip Sheet:	One layer of GreenGuard PB6W, PB6 PLUS
Membrane:	Duro-Last (PVC)
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	2 inch (50.8 mm)
Existing Roofing System:	Class A, B, or C smooth or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG39
Slip Sheet:	Atlas FR-10 or FR-11
Membrane:	Duro-Last (PVC)

**TABLE 3
Summary of Fire Classified Roof Coverings – Ballasted, Fully Adhered and Mechanically Fastened (continued)**

Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B, or C smooth or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG39
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	1-1/2 inch (38.1 mm)
Existing Roofing System:	Class A, B, or C smooth or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG39
Slip Sheet:	Atlas FR-10 or FR-11
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	1 inch (25.4 mm)
Existing Roofing System:	Class A, B, or C cap sheet, smooth or gravel surfaced BUR
Insulation:	GreenGuard PB6
Membrane:	Seaman Fiber Tite (EIP)
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	1 inch (25.4 mm)
Existing Roofing System:	Class A, B, or C cap sheet, smooth or gravel surfaced BUR
Insulation:	GreenGuard PB6 PLUS
Membrane:	John Mansville SR-50, SR-60 or SR-80
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B, or C built-up system, cap sheet or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG39
Slip Sheet:	Atlas FR-10 or FR-11
Membrane:	Carlisle Sure-Weld GSD (TPO) or Versico Versiweld Premier EF (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	1 inch (25.4 mm)
Existing Roofing System:	Class A, B, or C built-up system, cap sheet or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG3 or PB6 PLUS
Membrane:	Carlisle FR Reinforced EPDM
Attachment:	Class A – Mechanically Fastened
Deck:	Noncombustible
Incline:	1 inch (25.4 mm)
Existing Roofing System:	Class A, B, or C built-up system, cap sheet or gravel surfaced BUR
Insulation:	GreenGuard PB6W
Membrane:	Duro-Last (PVC)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	2 inch (50.8 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39
Slip Sheet:	Atlas FR-10 or FR-11
Membrane:	Duro-Last (PVC)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	1-1/2 inch (38.1 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Slip Sheet:	Atlas FR-10 or FR-11
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO)

**TABLE 3
Summary of Fire Classified Roof Coverings – Ballasted, Fully Adhered and Mechanically Fastened (continued)**

Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	Genflex (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6 PLUS
Membrane:	Bond Cote 350 Series, 400 Series or Bond Cote Spectrum
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	Carlise Sure Weld (TPO), Sure-Weld GSD (TPO), Versico Versiweld Premier (TPO) or Versiweld Premier EF (TPO)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	Genflex (TPO) or Genflex RM (PVC)
Attachment:	Class A – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	Genflex Everguard SR or Everguard FB
Class B – Maintenance and Repair – Mechanically Fastened	
Attachment:	Class B – Mechanically Fastened
Deck:	Noncombustible
Incline:	1/2-inch (12.7 mm)
Existing Roofing System:	Class A, B or C smooth or gravel
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO), fastened to the deck with metal screws and discs. Membrane laps are hot air welded.
Attachment:	Class B – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	1/2-inch (12.7 mm)
Existing Roofing System:	Class A or B smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO), fastened to the deck with metal screws and discs. Membrane laps are hot air welded.
Class A, B or C – Maintenance and Repair – Mechanically Fastened	
Attachment:	Class A, B or C – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B or C smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	J.P. Stevens Hi-Tuff (CSM) or Hi-Tuff EP (TPO)
Attachment:	Class A, B or C – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	1 inch (25.4 mm)
Existing Roofing System:	Class A, B or C gravel (400 lb/sq.)
Insulation:	GreenGuard PB6, PB6W, PG38, PG39 or PB6 PLUS
Membrane:	Seaman Fiber Tite (EIP)
Attachment:	Class A, B or C – Mechanically Fastened
Deck:	Combustible (C15/32)
Incline:	¼-inch (6.35 mm)
Existing Roofing System:	Class A, B or C smooth or gravel (400 lb/sq.)
Insulation:	GreenGuard PB6W or PB6 PLUS
Membrane:	Duro-Last (PVC)

TABLE 3
Summary of Fire Classified Roof Coverings – Ballasted, Fully Adhered and Mechanically Fastened (continued)

Class A, B or C – Maintenance and Repair – Fully Adhered	
Attachment:	Class A, B or C – Fully Adhered
Deck:	Combustible (C15/32)
Incline:	1/2-inch (12.7 mm)
Existing Roofing System:	Class A, B or C gravel (400 lb/sq.)
Insulation:	GreenGuard PB6 or PB6 PLUS
Membrane:	Carlise FR EPDM, 45 or 60 mil., fully adhered with B-500 bonding adhesive, applied at 1 gal/sq.

LIMITATIONS OF APPROVAL

The **Comm** limitations below are in accordance with the current **Wisconsin Uniform Dwelling Code (UDC)**, (for 1- and 2-family dwellings):

- **Foam Plastic:** The GreenGuard® insulation board, insulation sheathing and housewrap products shall be separated from the building interior with a thermal barrier as required by **s. Comm 21.11(1)**.
 1. A vapor retarder shall be provided as required under **ss. Comm 22.22(1) and (2)**.
 2. The GreenGuard® insulation board, insulation sheathing and housewrap products shall be protected from the weather after application.
 3. The GreenGuard® insulation board, insulation sheathing and housewrap products shall be installed in accordance with the manufacturer’s installation instructions manual.
- **Thermal Performance:** The GreenGuard® insulation board, insulation sheathing and housewrap products were **not** evaluated. Data and other requirements in accordance with the thermal performance calculation requirements of **s. Comm 22.31** will be submitted on a job-to-job-basis.
 1. The GreenGuard® insulation board, insulation sheathing and housewrap products were **not** evaluated for compliance with the thermal requirements of **Subchapter VI, ss. Comm 22.20, 22.21, 22.23, 22.24, 22.27, 22.28, and 22.31** of the current UDC.
 2. The GreenGuard® insulation board, insulation sheathing and housewrap products shall be identified in accordance with the requirements of **s. Comm 22.03** of the current UDC.

The **IBC** limitations below are in accordance with the current **Wisconsin Amended ICC Code**:

- **Foam Plastic:** The GreenGuard® insulation board, insulation sheathing and housewrap products shall be separated from the building interior with a thermal barrier as required by **s. IBC 2603.4**.
 1. A vapor retarder shall be provided as required under **s. IBC 502.1.1 [Comm 63.0502 (1)] and s. IBC 802.1.2 [Comm 63.0802 (2)]**.
 3. GreenGuard® insulation board, insulation sheathing and housewrap products shall be protected from the weather after application.
 4. The GreenGuard® insulation board, insulation sheathing and housewrap products shall be installed in accordance with the manufacturer’s installation instructions manual.
 4. Foam plastic insulation under a roof assembly or roof covering that is installed in accordance with the code and the manufacturer’s installation instructions shall meet the requirements of **s. IBC 2603.4.1.5**.
- **Thermal Performance:** The GreenGuard® insulation board, insulation sheathing and housewrap products were **not** evaluated. Data and other requirements in accordance with the **IECC** as modified by **s. Comm 63.0004 (3)**, **s. IECC 502.2.1**, or **s. 502.2.2**, or **s. 502.2.3** and **s. 602.1** and **IECC Chapter 8** will be submitted on a job-to-job-basis.
 1. The GreenGuard® insulation board, insulation sheathing and housewrap products shall meet the thermal performance requirements of **Comm 63.1018(2)(b)** for **all** commercial uses in WI.
 2. The GreenGuard® insulation board, insulation sheathing and housewrap products were **not** evaluated for compliance with the thermal requirements of **1502.2.4.1, 502.2.4.7, 502.2.4.16, 602.1, 602.1.1, 602.1.1.2, 602.1.2**
 3. The GreenGuard® insulation board, insulation sheathing and housewrap products shall be identified in accordance with the requirements of **ss. IECC 102.4, 102.5, 102.5.1** and **s. 102.5.1.1**.

This approval will be valid through December 31, 2009, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The product approval is applicable to projects approved under the current edition of the applicable codes. This approval may be void for project approvals made under future applicable editions. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Revision Date:

Approval Date: May 17, 2004 By: _____

Lee E. Finley, Jr.
Product & Material Review
Integrated Services Bureau

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