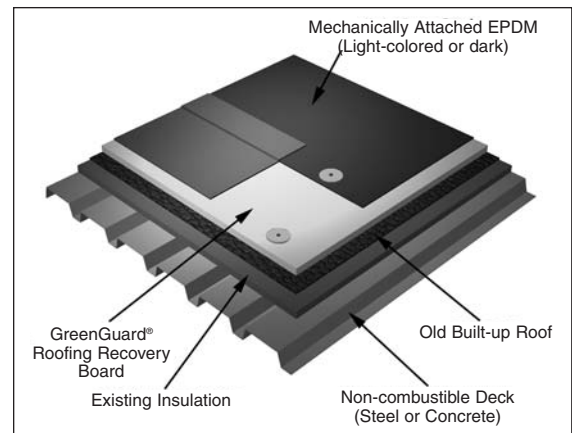
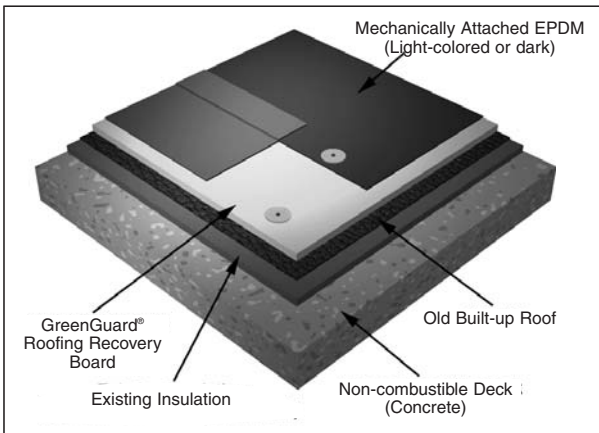


# GreenGuard® Roofing Recovery Boards Installation Guide Mechanically-Fastened and Loose-Laid / Ballasted Roof Systems



## Section 07220



## PART 1 GENERAL

### 1.01 SUMMARY

*Specifier Note: Select roof system type and requirements. Coordinate with other sections.*

A. Section includes: Roofing recovery boards for use in the following roof systems:

1. Roof System Type (select desired roof system):
  - a. Loose-Laid, Ballasted
  - b. Mechanically Attached

B. Related Sections:

1. Section 07500 - Membrane Roofing
2. Section 07530 - Elastomeric Sheet Roofing
3. Section 07700 - Roof Specialties and Accessories
4. Section 07722 - Roof Hatches

### 1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C 272 - Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
2. ASTM C 303 - Test Method for Density of Preformed Block-Type Thermal Insulation
3. ASTM C 518 - Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
4. ASTM D 1621 - Test Method for Compressive Properties of Rigid Cellular Plastics
5. ASTM E 84/UL 723 - Test Method for Surface Burning Characteristics of Building Materials
6. ASTM E 96 - Test Methods for Water Vapor Transmission of Materials

### 1.03 SUBMITTALS

A. General: Submittals shall be in accordance with Division 1 section on "Submittal Procedures".

- B. Product Data: Submit roofing recovery board specifications.
- C. Quality Assurance: Submit the following:
  1. Compliance Reports: Evaluation Reports containing reference to substantiating test reports used to establish compliance with the Model Building Codes.
  2. Letter of Certification: Signed letter certifying that roofing recovery boards comply with the physical properties shown in Section 2.01.A.3.
  3. Roof system listings from Underwriters Laboratories, Inc. (UL) or (FM) Approvals.

#### 1.04 QUALITY ASSURANCE

- A. Regulatory Requirements: For the most current code compliance information, go to [green-guard.com](http://green-guard.com).
- B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, installation instructions and warranties for various roof system components. Apply Division 1 sections on “Project Management and Coordination” and “Project Meetings”.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Shall comply with Division 1 section on “Product Requirements”.
- B. Delivery: Deliver to the job site in original packaging or as individual sheets or bundles.
- C. Storage and Handling: When stored outdoors, all product should be protected from exposure to direct sunlight using the original packaging or an opaque, light-colored tarp. Material that has been unwrapped should be covered or rewrapped.

#### 1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Install roofing recovery boards only when surfaces are dry and inclement weather is not prevalent.

## **PART 2 PRODUCTS**

### 2.01 EXTRUDED POLYSTYRENE ROOFING RECOVERY BOARD

- A. Acceptable Manufacturer: Pactiv Building Products
  1. Contact: Pactiv Building Products,  
Telephone: (800) 241-4402, Website: [www.green-guard.com](http://www.green-guard.com)
  2. Proprietary Products: Extruded Polystyrene Roofing Recovery Board:
    - a. GreenGuard® PB6/PG38 Roofing Recovery Board: Size as specified below:
      - 1) Nominal Thickness: 3/8 inch (9.5 mm).
      - 2) Size: PB6 - 4 ft. by 50 ft. (1.2 m by 15.2 m)  
PG38 - 4 ft. by 8 ft. (1.2 m by 2.4 m)
    - b. GreenGuard® PB6W Roofing Recovery Board: Size as specified below:
      - 1) Nominal Thickness: 3/8 inch (9.5 mm).
      - 2) Size: 4 ft. by 50 ft. (1.2 m by 15.2 m)
    - c. GreenGuard® PB6 PLUS Roofing Recovery Board: Size as specified below:
      - 1) Nominal Thickness: 3/8 inch (9.5 mm).
      - 2) Size: 4 ft. by 50 ft. (1.2 m by 15.2 m)
    - d. GreenGuard® PB6FA/PB38FA Roofing Recovery Board: Size as specified below:
      - 1) Nominal Thickness: 3/8 inch (9.5 mm).
      - 2) Size: PB6FA - 4 ft. by 50 ft. (1.2 m by 15.2 m)  
PB38FA - 4 ft. by 8 ft. (1.2 m by 2.4 m)
  3. Product Testing:
    - a. Water Absorption: ASTM C 272; Max. 0.60% by volume.
    - b. Density: ASTM C 303
      - 1) GreenGuard® PB6/PG38: 2.9 lbs./ft<sup>3</sup>(46 kg/m<sup>3</sup>)
      - 2) GreenGuard® PB6W: 3.1 lbs./ft<sup>3</sup>(50 kg/m<sup>3</sup>)
      - 3) GreenGuard® PB6 PLUS: 3.9 lbs./ft<sup>3</sup>(62 kg/m<sup>3</sup>)
      - 4) GreenGuard® PB6FA/PB38FA: 4.2 lbs./ft<sup>3</sup>(67 kg/m<sup>3</sup>)

- c. Thermal Resistance (at 75°F mean temperature): ASTM C 518; 1.5 ft<sup>2</sup>•hr•°F/Btu (0.26 m<sup>2</sup>(k/W). Specimens are tested in accordance with the FTC “R-value Rule” (16 CFR, Part 460).
  - d. Compressive Strength (at 10% Deflection): ASTM D 1621
    - 1) GreenGuard® PB6/PG38: 15 lbs./in<sup>2</sup>(103 kPa)
    - 2) GreenGuard® PB6W: 15 lbs./in<sup>2</sup>(103 kPa)
    - 3) GreenGuard® PB6 PLUS: 20 lbs./in<sup>2</sup>(138 kPa)
    - 4) GreenGuard® PB6FA/PB38FA: 20 lbs./in<sup>2</sup>(138 kPa)
  - e. Surface Burning Characteristics: ASTM E 84/UL723
    - 1) GreenGuard® PB6/PG38: Flame Spread 10, Smoke Developed 45 – 140
    - 2) GreenGuard® PB6W/PB6 PLUS/PB6FA/PB38FA: Flame Spread 15, Smoke Developed 50Note: These numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these materials under actual fire conditions.
  - f. Water Vapor Permeance (Procedure A, 75°F, 50% R.H.): ASTM E 96; 0.6 perm (34.5 ng/Pa•s•m<sup>2</sup>).
  - g. Maximum Recommended Use Temperature: 200°F.
4. Substitutions: No substitutions permitted.

## 2.02 ACCESSORIES

- A. Accessories: Provide installation accessories as recommended by insulation manufacturer.

## 2.03 SOURCE QUALITY

- A. Source Quality: Obtain extruded polystyrene roofing recovery board from a single manufacturer.

# PART 3 EXECUTION

## 3.01 MANUFACTURER’S INSTRUCTIONS

- A. Compliance: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions, and product package instructions.

## 3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections are acceptable for product installation in accordance with the manufacturer’s instructions. The following instructions address only the installation of GreenGuard® Roofing Recovery Board:
  - 1. Do not proceed with work during inclement weather or install any GreenGuard® Roofing Recovery Board over a wet surface.
  - 2. If there are holes or voids in the existing roof system, they must be repaired or filled prior to installing the GreenGuard® Roofing Recovery Board.
  - 3. GreenGuard® Roofing Recovery Boards (except PB6/PG38) may be installed directly over existing coal tar roof systems if the roof has not been resaturated within the previous 4 years (otherwise use a 6 mil polyethylene separator sheet between the roofing recovery board and the existing roof system). In addition, the new roof system must be designed to limit the maximum coal tar temperature to 110°F to prevent volatiles from escaping from the existing roof system and attacking the roofing recovery board. The design temperature at the surface of the roofing recovery board installed over existing coal tar roofs shall not exceed 200°F during installation or use.
  - 4. Beginning of installation means acceptance of substrate and existing project conditions.

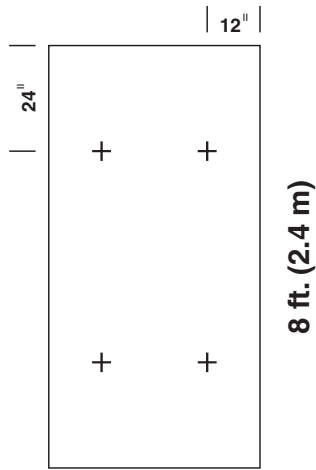
## 3.03 PREPARATION

- A. Surface Preparation:
  - 1. When installing GreenGuard® Roofing Recovery Boards over existing roofs, all loose aggregate, large stones (sharp-edged stones that protrude to a height that may extend through the GreenGuard® Roofing Recovery Board), and debris should be removed prior to installation of the roofing recovery board.

### 3.04 INSTALLATION

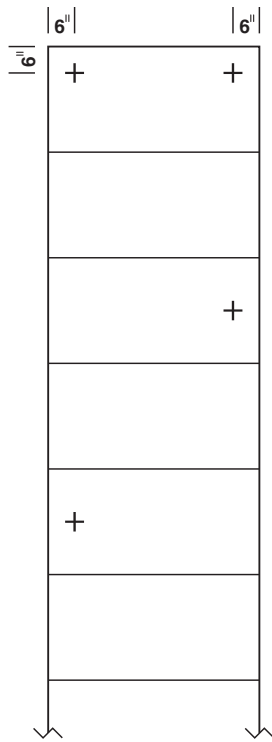
#### A. General:

1. Install only as much roofing recovery board as can be covered by the roofing materials in the same day
2. GreenGuard® PB6 and GreenGuard® PLYGOOD-PG38 can be used in conjunction with the following black or light-colored roof membrane types: EPDM, TPO.
3. GreenGuard® PB6W/PB6 PLUS/PB6FA/PB38FA are designed for use with all types of single-ply roof membranes, including CPA, NBP and PVC roof membranes. Since different test methods are used to measure plasticizer migration, the roof membrane manufacturer should be contacted to confirm use of these roofing recovery boards prior to installation.
4. Installation: GreenGuard® PB6/PB6W/PB6 PLUS/PB6FA Fanfold Roofing Recovery Boards:
  - a. Unfold three sections of the 50 ft. (15.2 m) bundle of GreenGuard® Roofing Recovery Board and attach it to the existing roof deck using 2-3 in. (76 mm) diameter plates and screws that are long enough to penetrate through the existing roof system to the underlying roof deck. Attach GreenGuard® Roofing Recovery Board using one of the fastening patterns shown in Figures 2, 3 or 5. Alternative fastening patterns must be approved by the roofing recovery board manufacturer prior to starting the job. Additional fasteners may be used if necessary to secure the roofing recovery board during windy conditions or when the surface of the existing roof system has inconsistencies. Note: FM Approvals requires that a minimum of 4 fasteners [1 fastener/4 ft<sup>2</sup>(1.2 m<sup>2</sup>)] be used for insulations having any one dimension greater than 4 feet (1.2 m) on all jobs that involve buildings insured by FM Approvals underwriter companies.
  - b. The GreenGuard® PB6, PB6W and GreenGuard® PB6 PLUS should be installed with the longest dimension perpendicular to the membrane seams and with end joints staggered.
5. Installation: GreenGuard® PG38/PB38FA Roofing Recovery Boards:
  - a. Attach GreenGuard® Roofing Recovery Board to the existing roof deck using 2-3 in. (76 mm) diameter plates and screws that are long enough to penetrate through the existing roof system to the underlying roof deck. Attach GreenGuard® Roofing Recovery Board using the fastening pattern shown in Figure 1 or Figure 4. Alternative fastening patterns must be approved by the roofing recovery board manufacturer prior to starting the job. Additional fasteners may be used if necessary to secure the roofing recovery board during windy conditions or when the surface of the existing roof system has inconsistencies. Note: FM Approvals requires that a minimum of 4 fasteners [1 fastener/4 ft<sup>2</sup>(1.2 m<sup>2</sup>)] be used for insulations having any one dimension greater than 4 feet (1.2 m) on all jobs that involve buildings insured by FM Approvals underwriter companies.
  - b. The GreenGuard® Roofing Recovery Boards should be installed with the longest dimension perpendicular to the membrane seams and with end joints staggered.
6. Refer to the Underwriters Laboratories, Inc. Roofing Materials Guide and the FM Approvals “RoofNav” for details regarding specific roof systems.
7. Prior to installation of the roof membrane, inspect the surface of the GreenGuard® Roofing Recovery Board and remove any pieces of gravel that may potentially puncture the roof membrane during installation.
8. Install the roof membrane in accordance with the membrane manufacturer’s installation instructions for mechanically attached or loose-laid and ballasted roof systems. (Note: No fasteners are required to attach GreenGuard® Roofing Recovery Boards used in loose-laid and ballasted roof systems.)



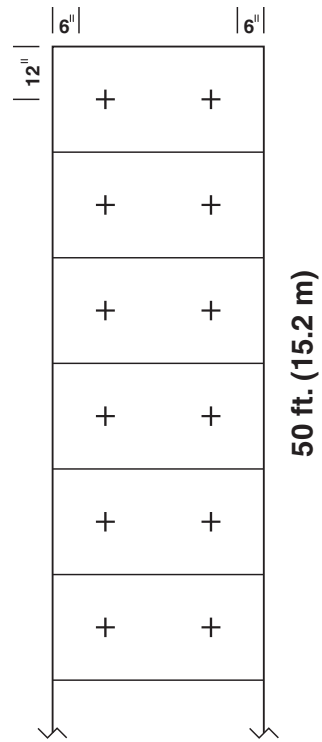
**4 ft. (1.2 m)**

**Figure 1**  
Fastening Pattern  
For Sheets



**4 ft. (1.2 m)**

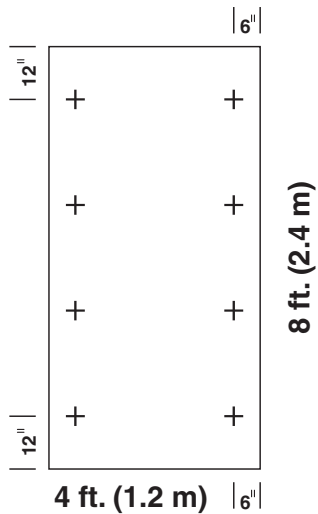
**Figure 2**  
Fastening Pattern  
For Fanfold Products



**4 ft. (1.2 m)**

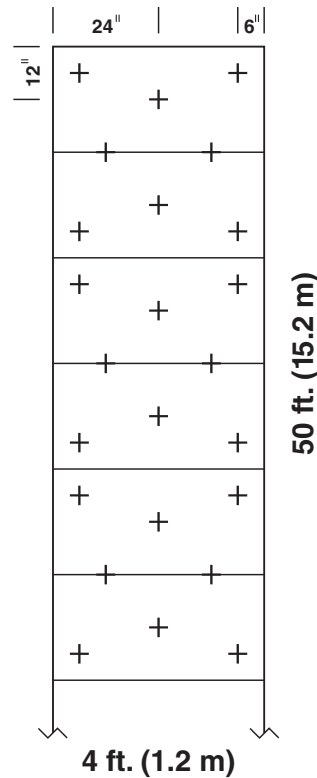
**Figure 3**  
Fastening Pattern  
For FM Approvals Jobs

**Fastening Patterns for GreenGuard® Roofing Recovery Boards Used Under  
Light-Colored Roof Membranes**



**4 ft. (1.2 m)**

**Figure 4**  
Fastening Pattern  
For Sheets



**4 ft. (1.2 m)**

**Figure 5**  
Fastening Pattern  
For Fanfold Products

**Fastening Patterns for GreenGuard® Roofing Recovery Boards Used Under  
Dark-Colored Roof Membranes**



Pactiv's GreenGuard Roofing Recovery Board is an ENERGY STAR qualified product as a part of EPA's Home Sealing effort.

**For the most current product and code compliance information, go to [green-guard.com](http://green-guard.com).**

**WARNING:** Foam insulation will ignite if exposed to fire of sufficient heat and intensity. Protect foam insulation from exposure to open flame or other ignition sources during shipping, storage, and installation.

These products should not be used as an exposed interior surface in buildings where people can be expected to be present. An approved fire protection barrier, such as 1/2" gypsum wallboard or the equivalent, should be applied between these products and the interior of such buildings. Fire and building codes should be followed.

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