

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION

RC-121

Effective Date: May 1, 2013

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **May 2016**.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

**Liberty Self-Adhering Roof Systems and Ruberoid SA (Self-Adhering) Roof Systems**, manufactured by

**GAF**  
**1361 Alps Road**  
**Wayne, New Jersey 07470-3689**  
**Telephone: (973) 628-3000**

will be accepted in designated catastrophe zones along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

## PRODUCT DESCRIPTION

**Liberty SBS Self-Adhering Base/Ply Sheet:** Fiberglass reinforced, self-adhering, SBS modified bitumen membrane for ply and base ply applications. Designed for use with the Liberty SBS Self-Adhering Cap Sheet.

**Ruberoid SA Base/Ply:** Fiberglass reinforced, self-adhering, SBS modified bitumen membrane for ply and base ply applications. Designed for use with the Ruberoid SA Cap Sheet or Ruberoid SA Cap FR Sheet.

**Liberty MA Mechanically Attached Base Sheet:** Fiberglass reinforced, SBS modified bitumen base sheet for use with self-adhering membranes.

**StormSafe Anchor Sheet:** Woven polypropylene reinforced, polypropylene coated base sheet for use with self-adhering membranes.

**Liberty SBS Self-Adhering Cap Sheet:** Polyester reinforced self-adhering SBS modified bitumen cap sheet. Designed to be used with the Liberty SBS Self-Adhering Base/Ply or Liberty MA Mechanically Attached Base Sheet.

**Ruberoid SA Cap Sheet:** Polyester reinforced self-adhering SBS modified bitumen cap sheet. Designed to be used with the Ruberoid SA Base/Ply or Liberty MA Mechanically Attached Base Sheet.

**Ruberoid SA FR Cap Sheet:** Polyester reinforced self-adhering SBS modified bitumen cap sheet manufactured with fire retardants. Designed to be used with the Ruberoid SA Base/Ply or Liberty MA Mechanically Attached Base Sheet.

## LIMITATIONS

**Roof Framing:** Roof framing shall be as specified in each assembly listed in this evaluation report.

**Roof Deck:** The roof deck shall be secured to the roof framing as specified in the assemblies listed in this evaluation report to resist the required uplift loads.

**Positive Drainage of Roof Deck:** Roof decks, in which this product is to be installed upon, shall be provided with positive drainage. A minimum roof slope after construction of  $\frac{1}{4}$  inch per foot is required.

**Design Wind Pressures:** The design wind uplift pressures shall be as specified in the assemblies listed in this evaluation report.

## INSTALLATION INSTRUCTIONS

**General Installation Requirements:** International Residential Code (IRC) and International Building Code (IBC) requirements shall be satisfied and the manufacturer's installation instructions followed, unless otherwise specified by this product evaluation report.

**Installation:** Installation shall be in accordance with the following assemblies. Refer to the manufacturer's specifications for additional installation requirements.

**Fastener Penetration:** Fasteners specified in the assemblies listed in this evaluation report shall be long enough to penetrate through the roof deck.

### Assembly No. 1

Design Pressure: -45 psf

Deck: Minimum  $1\frac{5}{32}$ " plywood.

**Attachment:** Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d common wire nails spaced a maximum of 6 inches on center along the panel edges and 6 inches on center along intermediate framing members.

Fire Barrier: (Optional). Minimum 0.25" thick DensDeck, DensDeck Prime, DensDeck DuraGuard Roof Board, SECUROCK Gypsum-Fiber Roof Board, or SECUROCK Glass-Mat Roof Board may be loose laid over the deck or a coating of FireOut Fire Barrier Coating may be applied to the deck at a rate of 1 gal/sq.

Base Sheet: Liberty MA Mechanically Attached Base Sheet is secured to the deck with minimum 12 gauge annular ring shank nails having not less than 20 rings per inch and heads not less than  $\frac{3}{8}$ " in diameter applied through minimum  $1\frac{5}{8}$ " diameter tin caps (minimum 32 gauge), spaced 8 inches on center along the nominal  $3\frac{1}{4}$  inch wide side laps and in three staggered rows in the field of the sheet equally spaced.

Ply: (Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self adhered to the base sheet within nominal  $3\frac{1}{4}$  inch wide side laps.

Cap Ply: Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet, or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

### Assembly No. 2

- Design Pressure: -60 psf
- Deck: Minimum  $\frac{15}{32}$ " plywood.  
Attachment: Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d common wire nails spaced a maximum of 6 inches on center along the panel edges and a maximum of 6 inches on center along the intermediate framing members.
- Fire Barrier: (Optional). Coating of FireOut Fire Barrier Coating may be applied to the deck at a rate of 1 gal/sq.
- Insulation: (Optional when base sheet secured with Drill-Tec AccuTrac Flat Plates, required when base sheet secured with Drill-Tec 3" Steel Plates). May consist of one or more of the following, any combination, loose laid over the deck: Minimum 0.25" thick DensDeck, DensDeck Prime, DensDeck DuraGuard Roof Board, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Glass-Mat Roof Board, minimum 0.5" thick EnergyGuard, EnergyGuard RH, EnergyGuard RN, EnergyGuard Perlite Recover Board, Structodek High Density Fiberboard Roof Insulation, minimum 0.75" thick EnergyGuard Perlite Roof Insulation, minimum 1.5" thick EnergyGuard RM.
- Base Sheet: Liberty MA Mechanically Attached Base Sheet is secured to the deck with Drill-Tec 3" Steel Plates or Drill-Tec AccuTrac Flat Plates and Drill-Tec #14 Fasteners spaced 8 inches on center in the minimum 3 inch wide side laps and 8 inches on center in two staggered rows in the field of the sheet equally spaced.
- Ply: (Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self adhered to the base sheet within nominal  $3\frac{1}{4}$  inch wide side laps.
- Cap Ply: Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

### Assembly No. 3

- Design Pressure: -45 psf
- Deck: Minimum  $\frac{15}{32}$ " plywood.  
Attachment: Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d common wire nails spaced a maximum of 6 inches on center along the panel edges and a maximum of 6 inches on center along the intermediate framing members.
- Fire Barrier: (Optional). Minimum 0.25" thick DensDeck, DensDeck Prime, DensDeck DuraGuard Roof Board, SECUROCK Gypsum-Fiber Roof Board, or SECUROCK Glass-Mat Roof Board may be loose laid over the deck or a coating of FireOut Fire Barrier Coating may be applied to the deck at a rate of 1 gal/sq.
- Insulation: Minimum 1.5" thick EnergyGuard or EnergyGuard RM insulation secured to the deck with Drill-Tec 3" Steel Plates or Drill-Tec AccuTrac Recessed Plates and Drill-Tec #14 Fasteners applied with a contributory area of 2.0 sq ft per fastener.
- Base Sheet: Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet is self adhered to the insulation within nominal  $3\frac{1}{4}$  inch wide side laps.
- Ply: (Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self adhered to the base sheet within nominal  $3\frac{1}{4}$  inch wide side laps.
- Cap Ply: Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

#### Assembly No. 4

Design Pressure:	-52.5 psf
Deck:	Minimum 15/32" plywood. <u>Attachment:</u> Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d common wire nails spaced a maximum of 6 inches on center along the panel edges and intermediate framing members.
Insulation:	(Optional). May consist of one or more of the following, any combination, loose laid: Minimum 0.5" thick EnergyGuard, EnergyGuard RH, EnergyGuard RN, EnergyGuard Perlite Recover Board, Structodek High Density Fiberboard Roof Insulation, minimum 0.75" thick EnergyGuard Perlite Roof Insulation, minimum 1.5" thick EnergyGuard RM.
Cover Board:	Minimum 0.5" thick DensDeck DuraGuard Roof Board or SECUROCK Gypsum-Fiber Roof Board secured to the deck with Drill-Tec 3" Steel Plates and Drill-Tec #14 Fasteners applied within a maximum contributory area of 2 sq ft per fastener.
Base Sheet:	Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet is self adhered to the insulation within nominal 3 1/4 inch wide side laps.
Ply:	(Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self adhered to the base sheet within nominal 3 1/4 inch wide side laps.
Cap Ply:	Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet, or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

#### Assembly No. 5

Design Pressure:	-60 psf
Deck:	Minimum 1 9/32" plywood. <u>Attachment:</u> Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d ring shank nails spaced a maximum of 6 inches on center along the panel edges and 4 inches on center along the intermediate framing members.
Fire Barrier:	(Optional). Coating of FireOut Fire Barrier Coating may be applied to the deck at a rate of 1 gal/sq.
Insulation:	(Optional when base sheet secured with Drill-Tec AccuTrac Flat Plates, required when base sheet secured with Drill-Tec 3" Steel Plates). May consist of one or more of the following, any combination, loose laid over the deck: Minimum 0.25" thick DensDeck, DensDeck Prime, DensDeck DuraGuard Roof Board, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Glass-Mat Roof Board, minimum 0.5" thick EnergyGuard, EnergyGuard RH, EnergyGuard RN, EnergyGuard Perlite Recover Board, Structodek High Density Fiberboard Roof Insulation, minimum 0.75" thick EnergyGuard Perlite Roof Insulation, minimum 1.5" thick EnergyGuard RM.
Base Sheet:	StormSafe Anchor Sheet is mechanically secured to the deck with Drill-Tec 3" Steel Plates or Drill-Tec AccuTrac Flat Plates and Drill-Tec #12 Fasteners spaced 9 inches on center along the 4 inch wide side laps and in three rows in the field of the sheet.
Ply:	(Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self-adhered to the base sheet within nominal 3 1/4 inch wide side laps.
Cap Ply:	Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

**Assembly No. 6**

Design Pressure:	-45 psf
Deck:	Minimum 15/32" plywood. <u>Attachment:</u> Secured to roof framing spaced a maximum of 24 inches on center with minimum 8d common wire nails spaced a maximum of 6 inches on center along the panel edges and intermediate framing members.
Insulation:	(Optional). May consist of one or more of the following, any combination, loose laid: Minimum 0.5" thick EnergyGuard, EnergyGuard RH, EnergyGuard RN, EnergyGuard Perlite Recover Board, Structodek High Density Fiberboard Roof Insulation, minimum 0.75" thick EnergyGuard Perlite Roof Insulation, minimum 1.5" thick EnergyGuard RM.
Cover Board:	Minimum 0.25" thick DensDeck DuraGuard Roof Board or SECUROCK Gypsum-Fiber Roof Board secured to the deck with Drill-Tec 3" Steel Plates and Drill-Tec #14 Fasteners applied within a maximum contributory area of 2 sq ft per fastener.
Base Sheet:	Liberty SBS self-adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet is self adhered to the insulation within nominal 3 1/4 inch wide side laps.
Ply:	(Optional). Liberty SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet may be self adhered to the base sheet within nominal 3 1/4 inch wide side laps.
Cap Ply:	Liberty SBS Self-Adhering Cap Sheet, Ruberoid SA Cap Sheet, or Ruberoid SA FR Cap Sheet is self-adhered to the base sheet or optional ply (when present) within nominal 4 inch wide side laps.

**Note:** The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.