

UL Evaluation Report

UL ER1306-02

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UL Category Code: ULFB

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DIVISION: 07 00 00 THERMAL AND MOISTURE PROTECTION

Sub-level 2: 07 50 00 – Membrane Roofing

Sub-level 2: 07 51 00 – Built-Up Bituminous Roofing

Sub-level 3: 07 51 13 – Built-Up Asphalt Roofing

Sub-level 2: 07 52 00 – Modified Bituminous Membrane Roofing

Sub-level 3: 07 52 13 – Atactic-Polypropylene Modified Bituminous Membrane Roofing

Sub-level 3: 07 52 16 – Styrene-Butadiene-Styrene Modified Bituminous Sheet Roofing

COMPANY:

GAF

1 Campus Dr.

Parsippany NJ 07054

www.gaf.com



1. SUBJECT:

GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet, GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet

GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® FlexPly™ 6 5L

GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Perforated Venting Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet

Ruberoid® HW Smooth, Ruberoid® HW 25 Smooth

Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR, Ruberoid® EnergyCap™ HW Plus Granule FR

RUBEROID® 20 Smooth, Ruberoid® Mop Smooth, RUBEROID® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth

Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® EnergyCap 30 Granule FR, Ruberoid® Mop Granule, Tri-Ply SBS Granule, Intec Flex PRF, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap Mop™ Plus Granule FR

Ruberoid® Torch Smooth, Tri-Ply APP Smooth

Ruberoid® Torch Granule, Tri-Ply APP Granule, Ruberoid® Torch Plus Granule FR, Ruberoid® EnergyCap™ Torch Granule FR, Ruberoid® EnergyCap™ Torch Plus Granule FR

Liberty™ SBS Self-Adhering Base/Ply Sheet

2. SCOPE OF EVALUATION

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)
- ICC ES Acceptance Criteria for Roof-Covering Systems (AC75), Dated July 2010 (Editorially revised April 2014)
- ICC ES Acceptance Criteria for Quality Documentation (AC10), Dated June 2014

The products were evaluated for the following properties:

- Roofing Systems for Exterior Fire Exposure (ANSI/UL 790, ASTM E108)
- Roofing Systems, Wind Uplift Resistance (FM 4474)
- Physical Properties
 - ASTM D2178 Type IV
 - ASTM D2178 Type VI
 - ASTM D3909
 - ASTM D4601 Type II
 - ASTM D4897 Type II
 - ASTM D6163 Type I Grade G
 - ASTM D6163 Type I Grade S
 - ASTM D6163 Type II Grade S
 - ASTM D6164 Type I Grade G
 - ASTM D6164 Type I Grade S
 - ASTM D6164 Type II Grade G
 - ASTM D6164 Type II Grade S

- ASTM D6222 Type I Grade G
 - ASTM D6222 Type I Grade S
 - ASTM D6222 Type II Grade G
 - ASTM G155
- Impact Resistance (FM 4470)

3. REFERENCED DOCUMENTS

- ANSI/UL 790, Standard Test Methods for Fire Tests of Roof Coverings, Eighth Edition including revisions through July 29, 2014
- ASTM D2178-04, Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
- ASTM D3909-97b, Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced With Mineral Granules
- ASTM D4601-04, Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing
- ASTM D4897-01, Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing
- ASTM D6163-00 (2008), Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements
- ASTM D6164-11, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements
- ASTM D6222-11, Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements
- ASTM E108-2011, Test Methods for Fire Tests of Roof Covering
- ASTM G155-05a, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
- FM 4470-2012, Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction
- FM 4474-2011, Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures
- ICC ES Acceptance Criteria for Membrane Roof-Covering Systems (AC75), Dated July 2010
- ICC ES Acceptance Criteria for Quality Documentation (AC10), Dated June 2014

4. USES

The styrene-butadiene-styrene (SBS) modified bitumen membranes, built-up roofing felts and base sheets described in this report are used as roof coverings in mechanically fastened or fully adhered Class A, B, or C roof assemblies installed on combustible or non-combustible roof decks.

5. PRODUCT DESCRIPTION

The BUR membrane roofing systems described in this report consist of single-ply roofing membranes, base sheets and ply sheets, insulation where used, barrier board or slip sheet where used, flashing, mechanical fasteners and adhesives that are installed on a combustible or non-combustible roof deck.

The roofing assemblies incorporating the membranes comply with the following properties when installed as described in this report.

Fire Classification: Roofing assemblies covered under this report have been tested for fire classification Class A, B, or C in accordance with ANSI/UL790 or ASTM E108, as required by [Section 1505.1](#) of 2015, 2012, 2009 and 2006 IBC and [Section R902.1](#) of the 2015, 2012, 2009 and 2006 IRC.

The roofing assemblies incorporating the membranes comply with the following properties when installed as described in this report.

Wind Uplift Resistance: Roofing assemblies covered under this report have been tested for wind uplift resistance in accordance with FM 4474, and therefore qualify for use under Roofing membranes [Section 1504.3.1](#) of the 2015, 2012, 2009 and 2006 IBC.

The roofing assemblies shall be designed to resist the design wind load pressures for components and cladding in accordance with [Section 1609](#) of the 2015, 2012, 2009 and 2006 IBC and [Section R905.1](#) of the 2015, 2012, 2009 and 2006 IRC.

Physical Properties: The roofing membranes covered under this Report have been tested for physical properties in accordance with ASTM D2178, ASTM D2178, ASTM D3909, ASTM D4601, ASTM D4897, ASTM D6163, ASTM D6164, ASTM D6222 and ASTM G155, and therefore qualify for use under [Section 1507.10.2](#) and [Section 1504.6](#) of the 2015, 2012, 2009 and 2006 IBC and [Section R905.9.2](#) of the 2015, 2012, 2009 and 2006 IRC.

Impact Test: The single-ply roofing membranes covered under this Report have been tested for impact resistance in accordance with "Resistance to Foot Traffic Test" in Section 5.5 of FM 4470 and therefore qualify for use under [Section 1504.7](#) of the 2015, 2012, 2009 and 2006 IBC.

5.1 Built-up Roofing Felts and Membranes:

- 5.1.1 **GAFGLAS® Ply 4 or Tri-Ply® Ply 4:** A smooth surfaced BUR roofing felt with nonwoven fiberglass reinforcement coated with asphalt. The roofing felts are supplied in rolls 39.4 inches (1 m) wide by 161.8 feet (49.3 m) long and comply with ASTM D2178, Type IV.
- 5.1.2 **GAFGLAS® FlexPly™ 6 or GAFGLAS® FlexPly™ 6 5L:** A smooth-surfaced BUR roofing felt with nonwoven fiberglass reinforcement coated with asphalt. The roofing felts are supplied in rolls 39.4 inches (1 m) wide by 161.8 feet (49.3 m) long and comply with ASTM D2178, Types IV and VI.
- 5.1.3 **GAFGLAS® #75 Base Sheet or Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet:** A smooth-surfaced BUR roofing base sheet with nonwoven fiberglass reinforcement coated with asphalt. The base sheets are supplied in rolls 39.4 inches (1 m) wide by 97.5 feet (29.7 m) long and comply with ASTM D4601, Type II.
- 5.1.4 **RUBEROID® 20 Smooth:** A SBS-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 49.2 feet (15 m) long and complies with ASTM D6163, Type I, Grade S.

- 5.1.5 RUBEROID® Mop Smooth 1.5:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 48.9 feet (14.9 m) long and complies with ASTM D6164, Type I, Grade S.
- 5.1.6 GAFGLAS® Stratavent® Nailable Venting Base Sheet:** A mineral-surfaced BUR roofing base sheet with nonwoven fiberglass reinforcement coated with asphalt available for nailable substrates. The base sheet is supplied in rolls 39.4 inches (1 m) wide by 40.8 feet (12.4 m) long and complies with ASTM D4897, Type II.
- 5.1.7 GAFGLAS® Stratavent® Perforated Venting Base Sheet:** A mineral-surfaced BUR roofing base sheet with nonwoven fiberglass reinforcement coated with asphalt available for non-nailable substrates. The base sheet is supplied in rolls 39.4 inches (1 m) wide by 40.8 feet (12.4 m) long and complies with ASTM D4897, Type II.
- 5.1.8 GAFGLAS® Mineral-Surfaced Cap Sheet or Tri-Ply® BUR Granule Cap Sheet:** A mineral-surfaced BUR roofing cap sheet with nonwoven fiberglass reinforcement coated with asphalt. The cap sheets are supplied in rolls 39.4 inches (1 m) wide by 32.5 feet (9.9 m) long and comply with ASTM D3909.
- 5.1.9 GAFGLAS® EnergyCap Mineral-Surfaced Cap Sheet:** A mineral-surfaced BUR roofing cap sheet with nonwoven fiberglass reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The cap sheet is supplied in rolls 39.4 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D3909.
- 5.1.10 RUBEROID® Mop Smooth:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade S.
- 5.1.11 RUBEROID® Mop Plus Smooth:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade S.
- 5.1.12 RUBEROID® Mop Granule or Tri-Ply® SBS Granule or Intec Flex PRF:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade G.
- 5.1.13 RUBEROID® Mop Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade G.
- 5.1.14 RUBEROID® Mop Plus Granule:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.
- 5.1.15 RUBEROID® Mop Plus Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.

- 5.1.16 RUBEROID® EnergyCap™ Mop Plus Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.
- 5.1.17 RUBEROID® 30 Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.8 feet (15 m) long and complies with ASTM D6163, Type I, Grade G.
- 5.1.18 RUBEROID® 30 Granule:** A SBS-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.8 feet (15 m) long and complies with ASTM D6163, Type I, Grade G.
- 5.1.19 RUBEROID® EnergyCap™ 30 Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.8 feet (15 m) long and complies with ASTM D6163, Type I, Grade G.
- 5.1.20 RUBEROID® Torch Smooth or Tri-Ply® APP Smooth:** An APP-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.3 feet (9.8 m) long and complies with ASTM D6222, Type I, Grade S.
- 5.1.21 RUBEROID® Torch Granule or Tri-Ply® APP Granule:** An APP-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.3 feet (9.8 m) long and complies with ASTM D6222, Type I, Grade G.
- 5.1.22 RUBEROID® EnergyCap™ Torch Granule FR:** An APP-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.3 feet (9.8 m) long and complies with ASTM D6222, Type I, Grade G.
- 5.1.23 RUBEROID® Torch Plus Granule FR:** An APP-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.3 feet (9.8 m) long and complies with ASTM D6222, Type II, Grade G.
- 5.1.24 RUBEROID® EnergyCap™ Torch Plus Granule FR:** An APP-Modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.3 feet (9.8 m) long and complies with ASTM D6222, Type II, Grade G.
- 5.1.25 RUBEROID® HW Smooth:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade S.
- 5.1.26 RUBEROID® HW 25 Smooth:** A SBS-modified bitumen roofing membrane with nonwoven fiberglass reinforcement coated with asphalt. The membrane is supplied in rolls 39.4 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6163, Type I, Grade S.

- 5.1.27 RUBEROID® HW Granule:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade G.
- 5.1.28 RUBEROID® HW Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type I, Grade G.
- 5.1.29 RUBEROID® HW Plus Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.
- 5.1.30 RUBEROID® EnergyCap™ HW Plus Granule FR:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt and surfaced with a factory-applied white roof coating. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.
- 5.1.31 RUBEROID® HW Plus Granule:** A SBS-modified bitumen roofing membrane with nonwoven polyester reinforcement coated with asphalt. The membrane is supplied in rolls 39.6 inches (1 m) wide by 32.5 feet (9.9 m) long and complies with ASTM D6164, Type II, Grade G.
- 5.1.32 Liberty™ SBS Self-Adhering Base/Ply Sheet:** A SBS-modified bitumen roofing base sheet with nonwoven fiberglass reinforcement coated with asphalt. The base sheet is supplied in rolls 39.4 inches (1 m) wide by 66 feet (20.1m) long and complies with ASTM D4601, Type II.

5.2 Insulation:

Foam plastic insulation when used shall have a flame spread index of not more than 75 when tested at the maximum thickness intended for the use in accordance with ANSI/UL 723 or ASTM E 84 to qualify for use under [Section 2603.3](#) and Exception 3 of the 2015, 2012, 2009 and 2006 IBC. To qualify for use under [Section 2603.4.1.5](#) of the 2015, 2012, 2009 and 2006 IBC, a thermal barrier is not required for foam plastic insulation that is part of a Class A, B or C roof-covering assembly, provided the assembly with foam plastic insulation complies with FM 4450 or UL 1256.

5.3 Fasteners:

Fasteners used to mechanically fasten insulation and membranes to the roof deck, shall be corrosion resistant and shall be one of the fasteners identified in the Tables of this Report.

5.4 Asphalts and Adhesive:

Hot roofing asphalt, when specified in the roofing assemblies, shall conform to ASTM D312, Type III or Type IV. The adhesive used to adhere GAF's BUR membranes to the insulation or roofing substrate shall be as noted in the Tables of this Report.

6. INSTALLATION

GAF BUR roofing felts, base sheets, membranes and cap sheets shall be installed in accordance with the applicable code, this report and the manufacturer's published installation instructions. The built-up roof covering materials shall be installed in accordance with [Section 1507.10](#) of the 2015, 2012, 2009 and 2006 IBC or [Section R905.9](#) of the 2015, 2012, 2009 and 2006 IRC as applicable, except as noted in this report.

The manufacturer's published installation instructions shall be available at all times on the jobsite during installation.

The slope of the roof on which the membranes are installed shall be a minimum of 1/4:12 (2% slope) and shall not be more than the maximum slope indicated in the Tables of this Report.

Penetrations and terminations of the roof covering shall be flashed and made watertight in accordance with the requirements of the membrane manufacturer, [Section 1503.2](#) of 2015, 2012, 2009 and 2006 IBC or [Section R903.2](#) of 2015, 2012, 2009 and 2006 IRC and applicable code.

7. FIRE CLASSIFICATION

7.1 New Construction: Roof assemblies utilizing GAF GAFGLAS® and Tri-Ply® Built-Up Roofing roof coverings are described in UL Certification Category for Roofing Systems, ([TGfU](#)), File R1306 and in Tables of this Report.

7.2 Reroofing: The existing roof shall be inspected in accordance with the provisions and limitations of [Section 1510](#) of the 2015, 2012, 2009 and 2006 or [Section R907](#) of the 2015, 2012, 2009 and 2006 IRC, as applicable. The existing deck shall be inspected to verify that the structure to be reroofed is structurally sound and adequate to support and secure the roofing membrane. Prior to installation of new roof coverings, inspection by and approval from the code official having jurisdiction is required.

GAF BUR roof coverings may be installed over existing Classified Class A roof assemblies as described in the Tables of this Report.

Class A, B or C roof coverings may be installed over existing classified roof assemblies under the following conditions without additional roof classification tests, provided the resulting classification is the lower of the new and existing roof classifications under the following conditions:

- New uninsulated roof coverings installed only over existing uninsulated assemblies.
- New insulated roof coverings installed over existing uninsulated assemblies only.

8. WIND RESISTANCE

8.1 New Construction: The allowable wind uplift pressures for the roof assemblies are noted in the Tables in this Report. Metal edge securement for all systems shall be designed in accordance with ANSI/SPRI ES-1, complying with [Section 1504.5](#) of 2015, 2012, 2009 and 2006 IBC. For certifications of metal edge securement systems in accordance with ANSI/SPRI ES-1, See UL Online Certifications Directory Roof-edge Systems, Metal for Use with Low-slope Roofing Systems ([TGJZ](#)).

8.2 Reroofing: Roof covering systems employing mechanical fasteners shall be qualified, to the satisfaction of the code official, as to the adequacy of fasteners penetrating through existing roof coverings into structural substrates. Since the composition and/or conditions of any particular underlying existing roofing materials may vary and reroofing material may vary, reroofing with adhered systems is outside the scope of this report.

9. CONDITIONS OF USE

The GAF BUR roof covering materials described in this Report comply with, or are suitable alternatives to, what is specified in those codes listed in Section 2 of this Report, subject to the following conditions:

- 9.1 Materials and methods of installation shall comply with this Report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this Report, this Report governs.
- 9.2 GAF BUR roof covering materials system shall be installed by professional roofing contractors trained and approved by the manufacturer.
- 9.3 See UL Online Certification Directory Roofing Systems ([TGFU](#)) File R1306, and also refer to the Tables of this Report.
- 9.4 Above-deck thermal insulation board shall comply with the applicable standards listed in Table 1508.2 in [Section 1508.2](#) of 2015, 2012, 2009 and 2006 IBC.
- 9.5 Wind uplift pressures on any roof area, including edges and corner zones shall not exceed the allowable wind pressure for the roof covering installed in that particular area. Refer to the Tables of this Report.
- 9.6 The allowable wind uplift pressures listed in the Tables of this Report are for the roof systems only. The deck and framing to which the roofing system is attached shall be designed for the applicable components and cladding, wind loads in accordance with the applicable codes.
- 9.7 When application is over an existing roof, documentation of the wind uplift resistance of the composite roof construction shall be submitted to the code official.
- 9.8 The metal edge securement shall be designed and installed for wind loads in accordance with [Chapter 16](#) of 2015, 2012, 2009 and 2006 IBC and tested for resistance in accordance with Test Methods RE-1, RE-2 and RE-3 of ANSI/SPRI ES-1, except V_{ult} wind speed shall be determined from Figure 1609A, 1609B, or 1609C of 2015, 2012, 2009 and 2006 IBC as applicable.
- 9.9 The GAF BUR roofing felts, base sheets, membranes and cap sheets covered under this report are produced under the UL LLC Classification and Follow-Up Service Program, which includes audits in accordance with quality elements of ICC-ES Acceptance Criteria for Quality Documentation, AC10.

10. SUPPORTING EVIDENCE

- 10.1 Data in accordance with ICC-ES Acceptance Criteria for Membrane Roof-Covering Systems, AC75.
- 10.2 Manufacturer's descriptive product literature, including installation instructions.
- 10.3 UL Classification Reports in accordance with ANSI/UL 790. See UL Product Certification Category for Roofing Systems (TGFU), File R1306.
- 10.4 Data in accordance with FM 4474.
- 10.5 Data in accordance with FM 4470.

- 10.6** Data in accordance with ASTM E108, ASTM D2178 Type IV, ASTM D2178 Type VI, ASTM D4601 Type II, ASTM D4897 Type II, ASTM D3909, ASTM D6163 Type I Grade S, ASTM D6163 Type I Grade G, ASTM D6163 Type II Grade S, ASTM D6164 Type I Grade S, ASTM D6164 Type I Grade G, ASTM D6164 Type II Grade S, ASTM D6164 Type II Grade G, ASTM D6222 Type I Grade S, ASTM D6222 Type I Grade G, ASTM D6222 Type II Grade G, and ASTM G155.
- 10.7** Documentation of quality system elements in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10.

11. IDENTIFICATION

The GAF BUR roofing felts, base sheets, membranes and cap sheets described in this evaluation report are identified by a marking bearing the report holder's name (GAF), the plant identification, the product designation, the UL Classification Mark, and the evaluation report number UL ER1306-02. The validity of the evaluation report is contingent upon this identification appearing on the product or UL Classification Mark certificate.

12. USE OF UL EVALUATION REPORT

- 12.1** The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.
- 12.2** UL Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by UL.
- 12.3** The current status of this report, as well as a complete directory of UL Evaluation Reports may be found at UL.com via our On-Line Certifications Directory:

www.ul.com/erdirectory

APPENDIX A – ROOF COVER TABLES & FIRE CLASSIFICATIONS

1. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads.
2. Unless otherwise noted, all insulations are flat stock or tapered board of the minimum thickness noted in Tables 1-2.
3. Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite, gypsum-based roof board or mineral wool roof board that is UL Classified.
4. Unless otherwise noted, insulation adhesive application shall be hot asphalt (HA) applied at a coverage rate of 20-25 lbs/square. If applying to concrete deck, the deck shall be primed with Matrix 307 Premium Asphalt Primer or ASTM D41 primer applied at 0.75 – 1.0 gal/sq.
5. Note: GAF Spec Numbers stated are for reference only.
6. In Tables 1-2, "SECUROCK Roof Board" refers to United States Gypsum Co. "SECUROCK® Roof Board" (Type FRX-G) and "Dens Deck Prime" refers to Georgia- Pacific Gypsum LLC "DensDeck Prime® Roofboard".

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #1 (GAF Spec #s: NB3M/EC, NB3M/EC P6, NB4M/EC, NB4M/EC P6, NB5M/EC, NB5M/EC P6)

Cap Ply	Type G3 "GAFGLAS® Mineral-Surfaced Cap Sheet" or "Tri-Ply® BUR Granule Cap Sheet" or "GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet", fully adhered with hot roofing asphalt.
Plies	One or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "RUBEROID® 20 Smooth" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 4)	Class A @ 1:12 over C deck
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 21)	Class A @ 2:12 over NC deck

Roof Cover #2 (GAF Spec #s: I04M/EC, I04M/EC P6, I05M/EC, I05M/EC P6)

Cap Ply	Type G3 "GAFGLAS® Mineral-Surfaced Cap Sheet" or "Tri-Ply® BUR Granule Cap Sheet" or "GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet", fully adhered with hot roofing asphalt.
Plies	Two or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly 6", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 2)	Class A @ 2:12 over C or NC deck

Roof Cover #3 (GAF Spec #s: NB3G, NB3G P6)

Surfacing	Flood coat of hot asphalt applied at 60 lbs/sq (2.9 kg/m ²) followed by gravel applied at 400 lb/sq (20 kg/m ²) or slag applied at a rate of 300 lb/sq (15 kg/m ²)
Plies	Two plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet", mechanically fastened.
ANSI/UL790 Roofing System General Guide Information TFGU - ASPHALT FELT SYSTEMS (ORGANIC OR GLASS FIBER) WITH HOT ROOFING ASPHALT - Asphalt Glass Fiber Systems Class A	Class A @ 3:12

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #4 (GAF Spec #: I04G, I04G P6, IB3G, IB3G P6, IB4G, IB4G P6)

Surfacing	Flood coat of hot asphalt applied at 60 lbs/sq (2.9 kg/m ²) followed by gravel applied at 400 lb/sq (20 kg/m ²) or slag applied at a rate of 300 lb/sq (15 kg/m ²)
Plies	Two or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6" or Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 1)	Class A @ 3:12

Roof Cover #5 (GAFGLAS® FlexPly™ 6 5L option, GAF Spec #: I05G P6)

Surfacing	Flood coat of hot asphalt applied at 60 lbs/sq (2.9 kg/m ²) followed by gravel applied at 400 lb/sq (20 kg/m ²) or slag applied at a rate of 300 lb/sq (15 kg/m ²)
Plies	Four plies Type G1 "GAFGLAS® FlexPly™ 6 5L", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G1 "GAFGLAS® FlexPly™ 6 5L", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 1)	Class A @ 3:12

Roof Cover #6 (GAF Spec #: IB4G, IB4G P6)

Surfacing	Flood coat of hot asphalt applied at 60 lbs/sq (2.9 kg/m ²) followed by gravel applied at 400 lb/sq (20 kg/m ²) or slag applied at a rate of 300 lb/sq (15 kg/m ²)
Plies	Three or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply "GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 4)	Class A @ 3:12

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #7 (GAF Spec #: I03M/EC, I03M/EC P6, IB3M/EC, IB3M/EC P6, IB4M/EC, IB4M/EC P6)

Cap Ply	Type G3 "GAFGLAS® Mineral-Surfaced Cap Sheet" or "Tri-Ply® BUR Granule Cap Sheet" or "GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet", fully adhered with hot roofing asphalt.
Plies	One or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 4)	Class A @ 1:12 over C deck
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 21)	Class A @ 2:12 over NC deck

Roof Cover #8 (GAF Spec #: IB3M/EC, IB3M/EC P6, IB4M/EC, IB4M/EC P6)

Cap Ply	Type G3 "GAFGLAS® Mineral-Surfaced Cap Sheet" or "Tri-Ply® BUR Granule Cap Sheet" or "GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet", fully adhered with hot roofing asphalt.
Plies	Two or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 2)	Class A @ 2:12 over C or NC deck

Roof Cover #9 (GAF Spec #: IB4M/EC, IB4M/EC P6)

Cap Ply	Type G3 "GAFGLAS® Mineral-Surfaced Cap Sheet" or "Tri-Ply® BUR Granule Cap Sheet" or "GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet", fully adhered with hot roofing asphalt.
Plies	Two plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 4)	Class A @ 1:12 over C deck
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 21)	Class A @ 2:12 over NC deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #10 (GAF Spec #s: N11MGFR, N11MGPF, N11MGPFREC, N21MGFR, N21MGPF, N21MGPFREC, N1220MGFR, N1220MGPF, N1220MGPFREC)

Cap Ply	"RUBEROID® Mop Granule FR" or "RUBEROID® Mop Plus Granule FR" or "RUBEROID® EnergyCap™ Mop Plus Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6" or "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet" or "RUBEROID® 20 Smooth", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 10)	Class A @ 1/2:12 over C or NC deck

Roof Cover #11 (GAF Spec #s: I11MGFR, I11MGPF, I11MGPFREC, I21MGFR, I21MGPF, I21MGPFREC, I0220MGFR, I0220MGPF, I0220MGPFREC, I1220MGFR, I1220MGPF, I1220MGPFREC)

Cap Ply	"RUBEROID® Mop Granule FR" or "RUBEROID® Mop Plus Granule FR" or "RUBEROID® EnergyCap™ Mop Plus Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6" or "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "RUBEROID® 20 Smooth", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 10)	Class A @ 1/2:12 over C or NC deck

Roof Cover #12 (GAF Spec #s: I11MGFR, I11MGPF, I11MGPFREC, I21MGFR, I21MGPF, I21MGPFREC, I220MGFR, I220MGPF, I220MGPFREC)

Cap Ply	"RUBEROID® Mop Granule FR" or "RUBEROID® Mop Plus Granule FR" or "RUBEROID® EnergyCap™ Mop Plus Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6" or "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	"GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 10)	Class A @ 1/2:12 over C or NC deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #13 (GAF Spec #s: N122030FR, N122030FREC)

Cap Ply	"RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap™ 30 Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet" or "RUBEROID® 20 Smooth", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 16)	Class A @ 1/2:12 over C or NC deck

Roof Cover #14 (GAF Spec #s: I022030FR, I022030FREC, I122030FR, I122030FREC)

Cap Ply	"RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap™ 30 Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "RUBEROID® 20 Smooth", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 16)	Class A @ 1/2:12 over C or NC deck

Roof Cover #15 (GAF Spec #s: I1130FR, I1130FREC, I122030FR, I122030FREC)

Cap Ply	"RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap™ 30 Granule FR", fully adhered with hot roofing asphalt.
Plies	Optional one or more plies "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	"GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 16)	Class A @ 1/2:12 over C or NC deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #16 (GAF Spec #s: N11TG, N21TG)

Cap Ply	"RUBEROID® Torch Granule" or "Tri-Ply® APP Granule", torch applied.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt (required when using "GAFGLAS® Stratavent® Nailable Venting Base Sheet").
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 34)	Class A @ 1/2:12 over NC deck

Roof Cover #17 (GAF Spec #s: I11TG, I21TG)

Cap Ply	"RUBEROID® Torch Granule" or "Tri-Ply® APP Granule", torch applied.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 34)	Class A @ 1/2:12 over NC deck

Roof Cover #18 (GAF Spec #s: I21TG)

Cap Ply	"RUBEROID® Torch Granule" or "Tri-Ply® APP Granule", torch applied.
Plies	One or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	"GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 34)	Class A @ 1/2:12 over NC deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #19 (GAF Spec #s: N1225HGFR, N1225HGPFRR, N1225HGPFREC, N1225HGP, N1225HG)

Cap Ply	"RUBEROID® HW Granule FR" or "RUBEROID® HW Plus Granule FR" or "RUBEROID® EnergyCap™ HW Plus Granule FR" or "RUBEROID® HW Plus Granule" or "RUBEROID® HW Granule", torch applied.
Plies	One or more plies "RUBEROID® HW 25 Smooth", torch applied.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 55)	Class A @ 1:12 over NC deck

Roof Cover #20 (GAF Spec #s: I1225HGFR, I1225HGPFRR, I1225HGPFREC, I1225HGP, I1225HG)

Cap Ply	"RUBEROID® HW Granule FR" or "RUBEROID® HW Plus Granule FR" or "RUBEROID® EnergyCap™ HW Plus Granule FR" or "RUBEROID® HW Plus Granule", "RUBEROID® HW Granule" torch applied.
Plies	One or more plies "RUBEROID® HW 25 Smooth", torch applied.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 55)	Class A @ 1:12 over NC deck

Roof Cover #21 (GAF Spec #s: N11TGPGFR, N11TGPGFREC)

Cap Ply	"RUBEROID® Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR", torch applied.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", mechanically fastened.
Fire Barrier	"TOPCOAT® FireOut™ Fire Barrier Coating" or "FireOut™ Fire Barrier Coating", applied at a rate of 1-gal./100-ft. ² .
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 48)	Class A @ 1:12 over C deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #22 (GAF Spec #s: I11TGPGFR, I11TGPGFREC)

Cap Ply	"RUBEROID® Torch Plus Granule FR" , torch applied.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
Fire Barrier	Min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board with all butt joints in the barrier board staggered a minimum of 6-in. from plywood deck butt joints, mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 60)	Class A @ 1/2:12 over C or NC deck

Roof Cover #23 (GAF Spec #s: I11TGPGFR, I11TGPGFREC, I21TGPGFR, I21TGPGFREC)

Cap Ply	"RUBEROID® EnergyCap™ Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR", torch applied.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" or "GAFGLAS® Stratavent® Nailable Venting Base Sheet", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 46)	Class A @ 1:12 over NC deck

Roof Cover #24 (GAF Spec #s: I11TGPGFR, I11TGPGFREC, I21TGPGFR, I21TGPGFREC)

Cap Ply	"RUBEROID® EnergyCap™Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR", torch applied.
Plies	Optional one or more plies Type G1 "GAFGLAS® Ply 4" or "Tri-Ply® Ply 4" or "GAFGLAS® FlexPly™ 6", fully adhered with hot roofing asphalt.
Base Ply	One ply "GAFGLAS® FlexPly™ 6" or Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet" fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 46)	Class A @ 1:12 over NC deck

Roof Cover #25 (GAF Spec #s: I11MG)

Cap Ply	"RUBEROID® Mop Granule" or "Tri-Ply® SBS Granule" or "Intec Flex PRF", fully adhered with hot roofing asphalt.
Base Ply	One ply "GAFGLAS® FlexPly™ 6" or Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 37)	Class A @ 1/2:12 over NC deck

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #26 (GAF Spec #s: I11MG)

Cap Ply	"RUBEROID® Mop Granule" or "Tri-Ply® SBS Granule" or "Intec Flex PRF", fully adhered with hot roofing asphalt.
Base Ply	"GAFGLAS® Stratavent® Perforated Venting Base Sheet", loose laid.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 37)	Class A @ 1/2:12 over NC deck

Roof Cover #27 (GAF Spec #s: I022030FR(CA), I022030FREC(CA), I0220MGPF(CA), I0220MGPF(CA), I0230FR(CA), I0230FREC(CA), I02MGPF(CA), I02MGPF(CA))

Cap Ply	"RUBEROID® Mop Plus Granule FR" or "RUBEROID® EnergyCap Mop Plus Granule FR" or "RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap 30 Granule FR", fully adhered with Matrix 101 Premium SBS Membrane Adhesive applied at 1.5 – 2.0 gal/sq
Plies	Optional one ply "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One Ply "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
ASTM E108 Class A	Class A @ 1:12 over NC deck

Roof Cover #28 (GAF Spec #s: I0220MGFR(CA), I02MGFR(CA))

Cap Ply	"RUBEROID® Mop Granule FR", fully adhered with Matrix 101 Premium SBS Membrane Adhesive applied at 1.5 – 2.0 gal/sq
Plies	Optional one ply "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
Base Ply	One Ply "RUBEROID® 20 Smooth" or "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
ASTM E108 Class A	Class A @ 1/2:12 over NC deck

Roof Cover #29 (GAF Spec #s: I11TG, I11TGPFR, I11TGPFREC, I11TGFREC, I12TG, I12TGPFR, I12TGPFREC, I12TGFREC)

Cap Ply	"RUBEROID® Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR", torch applied
Plies	Optional One or more plies "RUBEROID® Torch Smooth" or "Tri-Ply® APP Smooth", torch applied
Base Ply	One ply Type G2 "GAFGLAS® #75 Base Sheet" or "Tri-Ply® #75 Base Sheet" or "GAFGLAS® #80 Ultima™ Base Sheet", fully adhered with hot roofing asphalt.
ASTM E108 Class A	Class A @ 3/4:12 over NC deck for "RUBEROID® EnergyCap™ Torch Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR" Class A @ 1:12 over NC deck for "RUBEROID® Torch Plus Granule FR"

APPENDIX A CONTINUED – ROOF COVER TABLES & FIRE CLASSIFICATIONS

Roof Cover #30 (GAF Spec #s: N1130, N1130FR, N1130FREC)

Cap Ply	"RUBEROID® 30 Granule" or "RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap™ 30 Granule FR", fully adhered with hot roofing asphalt.
Base Ply	One ply "RUBEROID® 20 Smooth", mechanically fastened.
ANSI/UL790 (Roofing Systems (TGFU): Class C Fully Adhered System No. 10)	Class C @ 1:12 over C or NC deck

Roof Cover #31 (GAF Spec #s: I1130, I1130FR, I1130FREC, I11MG, I11MPG, I022030, I022030FR, I022030FREC, I0220MG, I0220MPG)

Cap Ply	"RUBEROID® 30 Granule" or "RUBEROID® 30 Granule FR" or "RUBEROID® EnergyCap™ 30 Granule FR" or "RUBEROID® Mop Granule" or "Tri-Ply® SBS Granule" or "Intec Flex PRF" or "RUBEROID® Mop Plus Granule", fully adhered with hot roofing asphalt.
Base Ply	One ply "RUBEROID® 20 Smooth", "RUBEROID® Mop Smooth" or "RUBEROID® Mop Smooth 1.5" or "RUBEROID® Mop Plus Smooth", fully adhered with hot roofing asphalt.
ANSI/UL790 (Roofing Systems (TGFU): Class C Fully Adhered System No. 10 or 13)	Class C @ 1:12 over C or NC deck

Roof Cover #32 (GAF Spec #s: I02SA/TGFREC, I02SA/TGPFR, I02SA/TGPFREC)

Cap Ply	"RUBEROID® Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Granule FR", torch applied.
Base Ply	One ply "Liberty™ SBS Self-Adhering Base/Ply Sheet", self-adhered.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 74)	Class A @ 1/2:12 over NC deck

Roof Cover #33 (GAF Spec #s: I02SA/HGFR, I02SA/HGP, I02SA/HGPRF, I02SA/HGPFREC, I02SA/TGFREC, I02SA/TGPFR, I02SA/TGPFREC)

Cap Ply	"RUBEROID® HW Granule FR" or "RUBEROID® HW Plus Granule" or "RUBEROID® HW Plus Granule FR" or "RUBEROID® EnergyCap™ HW Plus Granule FR" or "RUBEROID® Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Plus Granule FR" or "RUBEROID® EnergyCap™ Torch Granule FR", torch applied.
Base Ply	One ply "Liberty™ SBS Self-Adhering Base/Ply Sheet", self-adhered.
ANSI/UL790 (Roofing Systems (TGFU): Class A Fully Adhered System No. 51 or 74 in conjunction with preamble statement relative to combustible roof deck)	Class A @ 1/2:12 over C or NC deck

**-Table 1- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-1	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	12 ga., 1.25-inch annular ring shank nails and Drill-Tec Plates in Note 1	9-inch o.c. at the 4- inch lap and 9- inch o.c. in two staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-37.5
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	
					None	N/A	#1, #3, #10, #13, #21, or #30	

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-2	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	32 ga., 1-5/8-inch dia. tin caps with 12 ga. annular ring shank nails	8-inch o.c. at min. 4- inch laps and 8-inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-45.0
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	
					None	N/A	#1, #3, #10, #13, #21, or #30	

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-3	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	16-inch o.c. at the min. 4-inch lap and 16-inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-52.5
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	
					None	N/A	#1, #3, #10, #13, #21, or #30	
C-4	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	12-inch o.c. at the min. 4-inch lap and 12-inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-67.5
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, #18	

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-5	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	12-inch o.c. at the min. 4-inch lap and 12-inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	-60.0
					None	N/A	#1, #3, #10, #13, #21, or #30	
C-6	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	8-inch o.c. at the min. 4-inch lap and 8-inch o.c. in three, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-75.0
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
C-7	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	8-inch o.c. at the min. 4-inch lap and 8-inch o.c. in three, equally spaced, staggered center rows	None	N/A	#1 #3, #10, #13, #21, or #30	-97.5

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

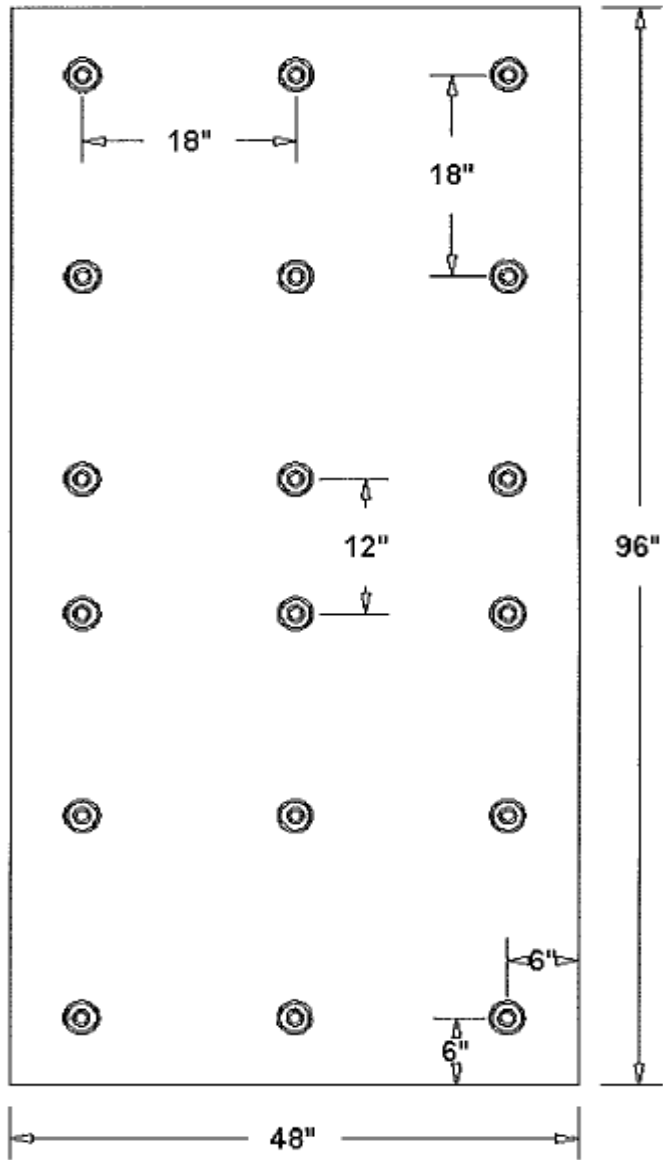
System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-8	Min. 19/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	32 ga., 1-5/8-inch dia. tin caps with 12 ga. annular ring shank nails	8-inch o.c. at min. 4-inch laps and 8-inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#2, #4, #5, #24, or #25 (GAFGLAS FlexPly 6 only for Base/Ply layers)	-52.5

**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

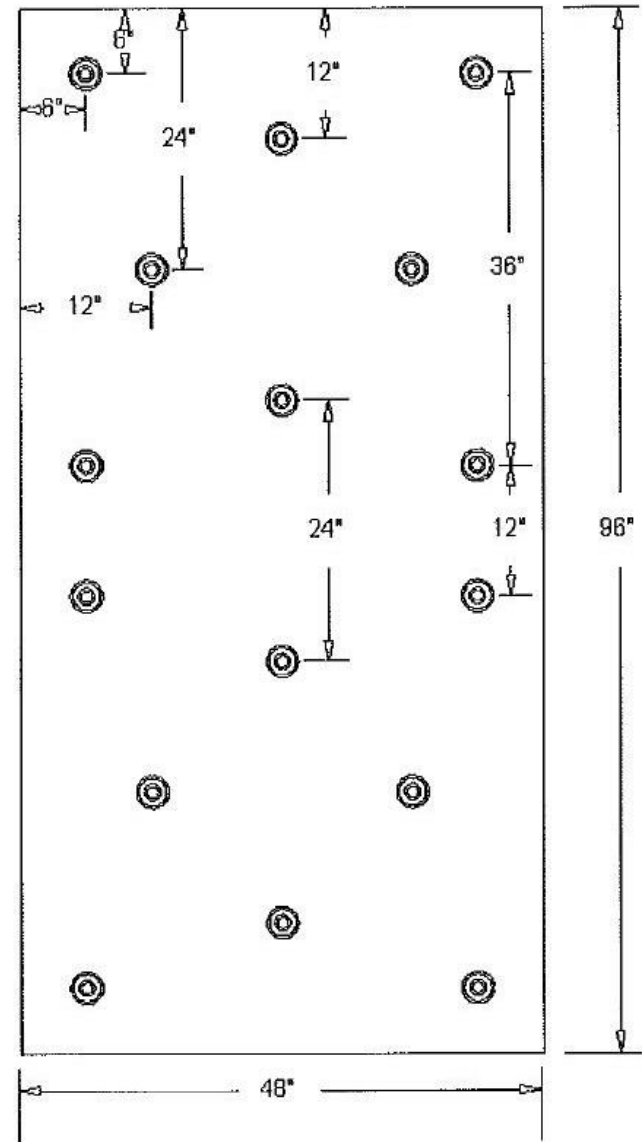
System No.	Deck	Base Insulation Layer			Top Insulation Layer			Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Fasteners	Attach		
C-9	Min. 19/32-inch plywood at max. 24-inch span	(Optional) One or more layers, any combination	N/A	Loose Laid	Min. 0.25-inch SECUROCK Roof Board	See Note 1	18 Fasteners per 48"x96" Board (See Note 2)	#2, #4, #5, #24, or #25 (GAFGLAS FlexPly 6 only for Base/Ply layers), or #33	-60.0
C-10	Min. 19/32-inch plywood at max. 24-inch span	(Optional) One or more layers, any combination	N/A	Loose Laid	Min. 0.25-inch Dens Deck Prime	See Note 1	18 Fasteners per 48"x96" Board (See Note 2)	#2, #4, #5, #6, #7, #8, #9, #11, #12, #14, #15, #17, #18, #20, #22, #24, #25, #27, #28, #29, or #31	-52.5
C-11	Min. 15/32-inch plywood at max. 24-inch span	(Optional) One or more layers, any combination	N/A	Loose Laid	Min. 1.5-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	See Note 1	16 Fasteners per 48"x96" Board (See Note 3)	#6, #9, #12, #15, or #18	-45.0
C-12	Min. 15/32-inch plywood at max. 24-inch span	Min. 1.5-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation (Max. 48"x48" boards)	GAF 2-Part Insulation Adhesive	3-inch wide ribbons spaced 12-inch o.c.	Min. 0.25-inch SECUROCK Roof Board	GAF 2-Part Insulation Adhesive	3-inch wide ribbons spaced 12-inch o.c.	#2, #4, #5, #6, #7, #8, #9, #11, #12, #14, #15, #17, #18, #20, #22, #24, #25, #27, #28, #29, #31, or #33	-52.5
					None	N/A	N/A	#6, #9, #12, #15, or #18	

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

Note 2: 18 Fasteners per 48"x96" board attachment pattern:



Note 3: 16 Fasteners per 48"x96" board attachment pattern:



**-Table 1 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Combustible Roof Deck**

System No.	Deck	Anchor Sheet			Insulation		Roof Cover (See App. A)	MDP (psf)
		Type	Fasteners	Attach	Type	Attach		
C-13	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	32 ga., 1-5/8-inch dia. tin caps with 12 ga. annular ring shank nails	6-inch o.c. at min. 4- inch laps and 6- inch o.c. in two, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-52.5
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	
					None	N/A	#1, #3, #10, #13, #21, or #30	
C-14	Min. 15/32-inch plywood at max. 24-inch span	GAFGLAS #75 Base Sheet, Tri-Ply #75, Base Sheet, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet, RUBEROID 20 Smooth	See Note 1	8-inch o.c. at min. 4- inch laps and 8- inch o.c. in three, equally spaced, staggered center rows	Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31	-82.5
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Roof Board	HA	#6, #9, #12, #15, or #18	
					Min. 1-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra Polyiso Insulation	HA	#6, #9, #12, #15, or #18	

Note 1: Wood Deck: Drill-Tec #14 Fastener with Drill-Tec 3" Standard Steel Plate, or Drill-Tec AccuTrac Flat Plate. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.

**-Table 2- Wind Resistance
GAF Built-Up Roofing Secured to Non-Combustible Roof Deck**

System No.	Deck	Base Insulation Layer			Top Insulation Layer			Roof Cover (See App. A)			MDP (psf)
		Type	Fasteners	Attach	Insulation	Fasteners	Attach	Base	Ply	Cap	
NC-1	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation (one or more layers)	See Note 4	1 per 4 ft2	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	N/A	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31			-37.5
NC-2	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation (one or more layers)	See Note 4	1 per 2.6 ft2	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	N/A	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31			-45.0
NC-3	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation (one or more layers)	See Note 4	1 per 4 ft2	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	N/A	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31			-45.0

Note 4:

Steel Deck: Drill-Tec #12 Fastener, Drill-Tec #14 Fastener or Drill-Tec XHD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec ASAP 3S, Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate or Drill-Tec Extra Heavy Duty ASAP Roofing Fastener - Insulation. Minimum 0.75-inch steel penetration and engage the top flute of the steel deck.

Concrete Deck: Drill-Tec #14 Fastener or Drill-Tec CD-10 with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only) or Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate. Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

**-Table 2 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Non-Combustible Roof Deck**

System No.	Deck	Base Insulation Layer			Top Insulation Layer			Roof Cover (See App. A)			MDP (psf)
		Type	Fasteners	Attach	Insulation	Fasteners	Attach	Base	Ply	Cap	
NC-4	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	Min. 2-inch EnergyGuard Polyiso Insulation (one or more layers)	See Note 4	1 per 4 ft2	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation followed by min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board, min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or EnergyGuard Perlite Recover Board or min. 0.75-inch EnergyGuard Perlite Roof Insulation (homogeneous)	N/A	HA	#2, #4, #5, #7,#8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31			-45.0
NC-5	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation (one or more layers)	See Note 4	1 per 4 ft2	Min. 1.5-inch EnergyGuard Polyiso Insulation	N/A	HA	Venting Base Sheet	#6, #9, #12, #15, #18, or #26		-45.0
NC-6	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination	N/A	Loose Laid	Min. 2-inch EnergyGuard Polyiso Insulation (Max. 48"x48" boards)	See Note 4	1 fastener per 4 ft2	Venting Base Sheet	#6, #9, #12, #15, #18, or #26	#32	-37.5
NC-7	Min. 22 ga. type B, Grade 33 steel or min. 2,500 psi concrete	(Optional) One or more layers, any combination	N/A	Loose Laid	Min. 2-inch EnergyGuard Polyiso Insulation	See Note 4	1 fastener per 3.2 ft2	Venting Base Sheet	#6, #9, #12, #15, #18, or #26	#32	-45.0

Note 4:

Steel Deck: Drill-Tec #12 Fastener, Drill-Tec #14 Fastener or Drill-Tec XHD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec ASAP 3S, Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate or Drill-Tec Extra Heavy Duty ASAP Roofing Fastener - Insulation. Minimum 0.75-inch steel penetration and engage the top flute of the steel deck.

Concrete Deck: Drill-Tec #14 Fastener or Drill-Tec CD-10 with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only) or Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate. Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

**-Table 2 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Non-Combustible Roof Deck**

System No.	Deck	Base Insulation Layer			Base Sheet			Roof Cover (See App. A)		MDP (psf)
		Type	Fasteners	Attach	Type	Fasteners	Attach	Ply	Cap	
NC-8	Min. 22 ga. Type B, Grade 33 steel	One or more layers, any combination	N/A	Loose Laid	GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet or RUBEROID 20 Smooth	See Note 4	18-inch o.c. at the 2-inch lap and 18-inch o.c. in three equally spaced staggered center rows	#4, #5, #7,#8, #16, #19, or #23		-45.0
NC-9	Structural Concrete	One or more layers, any combination	N/A	Loose Laid	GAFGLAS #75 Base Sheet, Tri-Ply #75 Base Sheet, GAFGLAS Stratavent Nailable Venting Base Sheet or RUBEROID 20 Smooth	See Note 4 (Drill-Tec #14 only)	18-inch o.c. at the 2-inch lap and 18-inch o.c. in three equally spaced staggered center rows	#4, #5, #7,#8, #16, #19, or #23		-45.0
NC-10	Min. 22 ga. Type B, Grade 33 steel	One or more layers, any combination	N/A	Loose Laid	RUBEROID Mop Smooth 1.5	See Note 4	24-inch o.c. at the 3-inch lap and 24-inch o.c. in two equally spaced staggered center rows	#2, #4, #5, #7,#8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31		-45.0
NC-11	Structural Concrete	One or more layers, any combination	N/A	Loose Laid	RUBEROID Mop Smooth 1.5	See Note 4 (Drill-Tec #14 only)	24-inch o.c. at the 3-inch lap and 24-inch o.c. in two equally spaced staggered center rows	#2, #4, #5, #7,#8, #11, #14, #17, #20, #22, #24, #25, #27, #28, #29, or #31		-45.0

Note 4:

Steel Deck: Drill-Tec #12 Fastener, Drill-Tec #14 Fastener or Drill-Tec XHD Fastener with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only), Drill-Tec ASAP 3S, Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate or Drill-Tec Extra Heavy Duty ASAP Roofing Fastener - Insulation. Minimum 0.75-inch steel penetration and engage the top flute of the steel deck.

Concrete Deck: Drill-Tec #14 Fastener or Drill-Tec CD-10 with Drill-Tec 3" Standard Steel Plate, Drill-Tec 3" Steel Plate or Drill-Tec AccuTrac Flat Plate or Drill-Tec AccuTrac Recessed Plate (insulation only) or Drill-Tec Heavy Duty ASAP Roofing Fastener Assembled with a 3" Metal Plate. Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

**-Table 2 Continued- Wind Resistance
GAF Built-Up Roofing Secured to Non-Combustible Roof Deck**

System No.	Deck	Primer	(Optional) Vapor Retarder	Base Insulation Layer		Top Insulation Layer		Roof Cover (See App. A.)			MDP (psf)
				Type	Attach	Insulation	Attach	Base	Ply	Cap	
NC-12	Structural Concrete	ASTM D41	One or two plies, GAFGLAS Ply 4, Tri-Ply Ply 4 or GAFGLAS FlexPly 6 in hot asphalt	Min. 0.5-inch EnergyGuard Polyiso Insulation (one or more layers)	HA	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or min. 0.75-inch EnergyGuard Perlite Roof Insulation or min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board	HA	#2, #4, #5, #7, #8, #11, #14, #17, #20, #22, #24, #25, #29, or #31			-150.0
NC-13	Structural Concrete	ASTM D41	One or two plies, GAFGLAS Ply 4, Tri-Ply Ply 4 or GAFGLAS FlexPly 6 in hot asphalt	Min. 0.5-inch EnergyGuard Polyiso Insulation (one or more layers)	HA	(Optional) Additional layer(s) base insulation	HA	Venting Base Sheet	#6, #9, #12, #15, #18, or #26		-150.0
NC-14	Structural Concrete	ASTM D41	One or two plies, GAFGLAS Ply 4, Tri-Ply Ply 4 or GAFGLAS FlexPly 6 in hot asphalt	Min. 0.5-inch EnergyGuard Polyiso Insulation (one or more layers)	HA	Min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board	HA	Venting Base Sheet	#6, #9, #12, #15, #18, or #26		-150.0
NC-15	Structural Concrete	ASTM D41	One or two plies, GAFGLAS Ply 4, Tri-Ply Ply 4 or GAFGLAS FlexPly 6 in hot asphalt	Min. 0.5-inch EnergyGuard Polyiso Insulation (one or more layers)	HA	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation or min. 0.75-inch EnergyGuard Perlite Roof Insulation or min. 0.25-inch Dens Deck Prime or SECUROCK Gypsum- Fiber Roof Board	HA	#27, or #28			-97.5

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