



DESIGNER SHINGLES

System Specification
Section - 07310

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

PART I GENERAL

1.01 SECTION INCLUDES

- A. Asphalt roofing shingles.
- B. Leak barrier and roof deck protection.
- C. Metal flashing associated with shingle roofing.
- D. Attic ventilation.
- E. [DecoTech™ Solar System](#).

1.02 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Framing, wood decking, and roof sheathing.
- B. Section 07620 - Flashing and Sheet Metal: Sheet metal flashing not associated with shingle roofing; gutters and downspouts.
- C. Section 08630 - Unit Skylights: Skylights

1.03 REFERENCES American Society for Testing and Materials (ASTM) - Annual Book of ASTM Standards

- 1. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 2. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 3. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction.
 - 4. ASTM D 3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
 - 5. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
 - 6. ASTM D 3462 – Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules.
 - 7. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
 - 8. ASTM D 7158 - Standard Test Method for Wind-Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method).
 - 9. [ASTM E 903 – Standard Test Method for Solar Absorptance, Reflectance, and Transmission of Materials Using Integrating Spheres](#).
- B. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide (TFWZ.R21)
 - 1. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
 - 2. UL 997 - Wind Resistance of Prepared Roof Covering Materials.
 - 3. UL 2218 – Impact Resistance of Prepared Roof Coverings Materials.
 - C. Asphalt Roofing Manufacturers Association (ARMA)
 - D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
 - E. National Roofing Contractors Association (NRCA)
 - F. American Society of Civil Engineers (ASCE).

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- 1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- G. U.S. Green Building Council (USGBC)
 - 1. Leadership in Energy and Environmental Design (LEED)
- H. ENERGY STAR
- I. Cool Roof Rating Council (CRRC)
- J. Miami Dade County
- 1.04 DEFINITIONS
 - A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.
- 1.05 **LEED CERTIFICATION**
 - A. **Provide a roofing system that will achieve or aid in the qualification of points satisfying**
 - 1. **Sustainable Site credit 7.2 - Heat Island Effect - Roof**
 - 2. **Materials & Resource credit 5 - Local and Regional Materials**
- 1.06 SUBMITTALS
 - A. Submit copies of GAF product data sheets, detail drawings and samples for each type of roofing product.
 - B. **L.E.E.D. submittal: Coordinate with Section 01115 - Green Building Requirements, for LEED certification submittal forms and certification templates.**
- 1.07 QUALITY ASSURANCE
 - A. Manufacturer Qualifications: Provide all primary roofing products, including shingles, underlayment, leak barrier, and ventilation, by a single manufacturer.
 - B. Installer Qualifications: Installer must be approved for installation of all roofing products to be installed under this section.
- 1.08 REGULATORY REQUIREMENTS
 - A. Provide a roofing system achieving an Underwriters Laboratories (UL) Class A fire classification.
 - B. Install all roofing products in accordance with all federal, state and local building codes.
 - C. All work shall be performed in a manner consistent with current OSHA guidelines.
- 1.09 PREINSTALLATION MEETING
 - A. General: For all projects in excess of 250 squares of roofing, a pre-installation meeting is strongly recommended.
 - B. Timing: The meeting shall take place at the start of the roofing installation, no more than 2 weeks into the roofing project.
 - C. Attendees: Meeting to be called for by manufacturer's certified contractor. Meeting's mandatory attendees shall include the certified contractor and the manufacturer's representative. Non-mandatory attendees shall include the owner's representative, architect or engineer's representative, and the general contractor's representative.
 - D. Topics: Certified contractor and manufacturer's representative shall review all pertinent requirements for the project, including but not limited to, scheduling, weather considerations, project duration, and requirements for the specified warranty.
- 1.10 DELIVERY, STORAGE, AND HANDLING

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- A. Store all products in manufacturer's unopened, labeled packaging until they are ready for installation.
- B. Store products in a covered, ventilated area, at temperature not more than 110 degrees F (43 degrees C); do not store near steam pipes, radiators, or in direct sunlight.
- C. Store bundles on a flat surface. Maximum stacking height shall not exceed GAF's recommendations. Store all rolls on end.
- D. Store and dispose of solvent-based materials in accordance with all federal, state and local regulations.

1.11 WEATHER CONDITIONS

- A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with GAF's recommendations

1.12 WARRANTY Provide to the owner a **GAF® Shingle and Accessory Limited Warranty**.

1. Manufacturing defects: *****choose one*****

a Single family detached homes owned by individuals:

- 1. GAF Designer Shingles: Lifetime limited warranty with a 10-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are covered for 40 years with a 5-year Smart Choice® Protection Period (non-prorated).*

b Any other type of owner or building:

- 1. GAF Designer Shingles: 40 years with a 10-year Smart Choice® Protection Period (non-prorated) on both shingles and GAF Accessories.

2. Wind Warranty Coverage:

- a 15-year limited warranty for 130 mph with the special installation of **6** nails per shingle and GAF Starter Strip Products installed at the eaves AND rakes. Otherwise, wind warranty is 110 mph without special installation described above.

3. Algae Warranty Coverage:

- a StainGuard® labeled Shingles: 10 year limited warranty with 1-year Smart Choice® Protection Period (non-prorated).

- B. Provide to the owner a **GAF® Roofing System Limited Warranty**. Requires the installation of GAF Shingles which carry a Lifetime limited warranty and at least three (3) qualifying GAF Accessory Products. Four (4) accessories are required for the WindProven™ Limited Warranty coverage with LayerLock-labeled shingles. Visit **www.gaf.com** for a complete list of qualifying GAF Shingles and Accessory Products.

1. Manufacturing defects: *****choose one*****

a Single family detached homes owned by individuals:

- 1. GAF Designer Shingles: Lifetime limited warranty with a 10-year Smart Choice® Protection Period (non-prorated).

b Any other type of owner or building:

- 1. 40 years with a 5-year Smart Choice® Protection Period (non-prorated)

2. Wind Warranty Coverage:

- a 15-year limited warranty for 130 mph with the special installation of **6** nails per shingle and GAF Starter Strip Products installed at the eaves AND rakes. Otherwise, wind warranty is 110 mph without special installation described above.

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3. Algae Warranty Coverage:
 - a StainGuard® labeled Shingles: 10 year limited warranty with 1-year Smart Choice® Protection Period (non-prorated)

C. Provide to the owner a GAF® Weather Stopper® System Plus Ltd Warranty:

1. Eligibility requirements: Roofs installed by a GAF® Certified Contractor or Certified GAF® Master Elite™ Roofing Contractor only. Requires at least 3 qualifying accessory products in addition to GAF shingles (4 accessories required for WindProven™ Limited Wind Warranty). Visit www.gaf.com for a complete list of qualifying GAF Shingles and Accessory Products.
2. Manufacturing defects: *****choose one*****
 - a Single family detached homes owned by individuals:
 1. GAF Designer Shingles: Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated).*
 - b Any other type of owner or building:
 1. GAF Designer Shingles: 40 years with a 20-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a 40-year limited warranty with a 20-year Smart Choice® Protection Period (non-prorated).*
3. Wind Warranty Coverage:
 - a 15-year limited warranty for 130 mph with the special installation of **6** nails per shingle and GAF Starter Strip Products installed at the eaves AND rakes. Otherwise, wind warranty is 110 mph without special installation described above.
4. Algae Warranty Coverage:
 - a StainGuard® labeled Shingles: 10 year limited warranty with 1-year Smart Choice® Protection Period (non-prorated).

D. Provide to the owner a GAF® Weather Stopper® Silver Pledge™ Ltd Warranty:

1. Eligibility requirements: Roofs installed by a GAF® Certified GAF® Master Elite™ Roofing Contractor only. Requires at least 4 qualifying accessory products in addition to GAF shingles.
2. Manufacturing defects: *****choose one*****
 - a Single family detached homes owned by individuals:
 1. GAF Designer Shingles: Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated).*
 - b Any other type of owner or building:
 1. GAF Designer Shingles: 40 years with a 20-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a 40-year limited warranty with a 20-year Smart Choice® Protection Period (non-prorated).*
3. Workmanship:
 - a Ten (10) years

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4. Wind Warranty Coverage:
 - a 15-year limited warranty for 130 mph with the special installation of **6** nails per shingle and GAF Starter Strip Products installed at the eaves AND rakes. Otherwise, wind warranty is 110 mph without special installation described above.

5. Algae Warranty Coverage:
 1. StainGuard® labeled Shingles: 10 year limited warranty with 1-year Smart Choice® Protection Period (non-prorated).

E. Provide to the owner a GAF® Weather Stopper® Golden Pledge® Ltd Warranty:

1. Eligibility requirements: Roofs installed by a GAF® Certified GAF® Master Elite™ Roofing Contractor only. Requires at least 5 qualifying accessory products in addition to GAF shingles.
2. Manufacturing defects: *****choose one*****
 - a Single family detached homes owned by individuals:
 1. GAF Designer Shingles: Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a Lifetime limited warranty with a 50-year Smart Choice® Protection Period (non-prorated).*
 - b Any other type of owner or building:
 1. GAF Designer Shingles: 40 years with a 20-year Smart Choice® Protection Period (non-prorated). *GAF Accessories installed with lifetime shingles are also covered with a 40-year limited warranty with a 20-year Smart Choice® Protection Period (non-prorated).*
3. Workmanship:
 - a Thirty (30) years.
4. Wind Warranty Coverage:
 - a 15-year limited warranty for 130 mph with the special installation of **6** nails per shingle and GAF Starter Strip Products installed at the eaves AND rakes. Otherwise, wind warranty is 110 mph without special installation described above.
5. Algae Warranty Coverage:
 1. StainGuard® labeled Shingles: 10 year limited warranty with 1-year Smart Choice® Protection Period (non-prorated).

F. The DecoTech™ Limited Warranty:

1. Covers manufacturing defects in the DecoTech™ Solar Roofing System:
 - a DecoTech™ Solar Module(s), including racking and mounting hardware.
 - b Metal flashing components installed around the DecoTech™ Solar Modules.
 - c Warranted against blow-offs/wind damage for 10 years.
 - d Warranted against manufacturing defects that adversely affect their solar power generation for 25 years.
 - e See warranty specimen for full details and exclusions.
 - f Contractor shall be trained to install the DecoTech™ Solar Roofing System.
2. Duration: Twenty-Five (25) years, with the first 10 years non-prorated.

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G. The DecoTech™ Addendum to the Golden Pledge™ Limited Warranty:

1. Covers manufacturing defects in the DecoTech™ Solar Roofing System:
 - a Installed by a GAF Master Elite™ Contractor trained to install a DecoTech™ Solar System.
 - b DecoTech™ Solar Module(s), including racking and mounting hardware.
 - c Metal flashing components installed around the DecoTech™ Solar Modules.
 - d Warranted against blow-offs/wind damage for 10 years.
 - e Warranted against manufacturing defects that adversely affect their solar power generation for 25 years.
 - f Coverage for misapplication of your DecoTech™ Materials as long as there is coverage for misapplication of Covered Flashings under the Golden Pledge® Limited Warranty.
 - g See warranty specimen for full details and exclusions.
2. Duration: Twenty-Five (25) years, with the first 10 years non-prorated.

PART II PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: GAF, 1 Campus Drive, Parsippany NJ 07054. Tel: 1-973-628-3000.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.02 VENTILATED ROOF INSULATION PANELS

- A. **Preassembled panel with one layer of oriented strand board, built-in ventilation space maintained by wood spacers blocks, and isocyanurate insulation on the bottom, [ThermaCal® 1 Ventilated Roof Insulation Panel](#) by GAF-Cornell.**
 1. 7/16", 5/8", 3/4" OSB or plywood *****Select A Thickness*****
 2. 1", 1-1/2", 2" wood spacers blocks *****Select A Thickness*****
- B. **Preassembled panel with two layer of oriented strand board, built-in ventilation space maintained by wood spacers blocks, and isocyanurate insulation on the bottom, [ThermaCal® 2 Ventilated Roof Insulation Panel](#) by GAF-Cornell.**
 1. 7/16", 5/8", 3/4" OSB or plywood *****Select A Thickness*****
 2. 1", 1-1/2", 2" wood spacers blocks *****Select A Thickness*****

2.03 SHINGLES

- A Ultra-Premium, ultra-thick triple-layer construction provides maximum dimensionality, resulting in a truly realistic wood-shake look with a strong fiberglass reinforced Micro Weave core, **Glenwood® Lifetime Designer Shingles**, by GAF®.
 1. Shingle Size: 12 1/4" x 36 5/16"
 2. Shingle Exposure: 4 1/2 "
 3. Bundle Application Exposure: 11.35 sq. ft. (1.05 sq. m)
 4. Coverage: 9 bundles of 10 shingles, when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. Passes UL 2218, Class 4 Impact Test

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7. CRRC Rated Color: **Golden Prairie**
 - a Can be used to comply with 2016 Title 24, Part 6, Cool Roof Requirements of the California Code of Regulations
 8. Color: **As selected from manufacturers' full range.**
- B** Ultra-Premium, special cut tabs and bold profile provide a rugged hand-split shake appearance with a strong fiberglass reinforced Micro Weave core, **Grand Canyon** Lifetime Designer Shingles, by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 5 "
 3. Bundle Application Exposure: 16.67 sq. ft. (1.55 sq. m)
 4. Coverage: 6 bundles of 12 shingles, when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. Color: **As selected from manufacturers' full range**
- C** Value Collection, granule surfaced, thick tabs and bold profile provide a bold unique appearance, self-sealing with a strong fiberglass reinforced Micro Weave core, **Camelot II** Lifetime Designer Shingles, by GAF®.
1. Shingle Size: 17" x 34 1/2"
 2. Shingle Exposure: 7 1/2 "
 3. Bundle Application Exposure: 25.16 sq. ft. (2.34 sq. m)
 4. Coverage: 4 bundles of 14 shingles, when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. Color: **As selected from manufacturers' full range.**
- D** Special cut tabs and bold profile provide a rugged hand-split shake appearance with a strong fiberglass reinforced Micro Weave core, **Grand Sequoia®** Lifetime Designer Shingles, by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 5 "
 3. Bundle Application Exposure: 19.44 sq. ft. (1.81 sq. m)
 4. Coverage: 5 bundles (4 bundles of 14 and 1 bundle of 16), when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. Color: **As selected from manufacturers' full range**
- E** Impact resistant, special cut tabs and bold profile provide a rugged hand-split shake appearance with a strong fiberglass reinforced Micro Weave core, **Grand Sequoia® AS** ArmorShield Lifetime Designer Shingles, by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 5 "
 3. Bundle Application Exposure: 19.44 sq. ft. (1.81 sq. m)
 4. Coverage: 5 bundles (4 bundles of 14 and 1 bundle of 16), when applied according to instructions, will cover 1 square.
 5. Passes UL 2218, Class 4 Impact Test
 6. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 7. Color: **As selected from manufacturers' full range**

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- F Special cut tabs and bold profile provide a rugged hand-split shake appearance with a strong fiberglass reinforced Micro Weave core, **Grand Sequoia® RS Reflector Series Lifetime Designer Shingles**, by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 5 "
 3. Bundle Application Exposure: 19.44 sq. ft. (1.81 sq. m)
 4. Coverage: 5 bundles (4 bundles of 14 and 1 bundle of 16), when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. CRRC Rated Colors: **Forest Brown, Ocean Gray, Sandalwood, Charcoal,**
 - a Can be used to comply with 2016 Title 24, Part 6, Cool Roof Requirements of the California Code of Regulations
 7. Color: **As selected from manufacturers' full range.**
- G Special cut tabs give the appearance of staggered slate, granule surfaced, self-sealing asphalt shingle with a strong fiberglass reinforced Micro Weave core, **Woodland® Lifetime Designer Shingles** by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 6 1/2" – 7 1/8"
 3. Bundle Application Exposure: 25.28 – 27.71 sq. ft. (2.35 – 2.57 sq. m)
 4. Coverage: 4 bundles of 14, when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration.
 6. Color: **As selected from manufacturers' full range.**
- H Bold shadow lines and dovetail tapered cut-outs create the appearance of depth and dimension, granule surfaced, self-sealing asphalt shingle with a strong fiberglass reinforced Micro Weave core, **Slateline® Lifetime Designer Shingles**, by GAF®.
1. Shingle Size: 17" x 40"
 2. Shingle Exposure: 7 1/2"
 3. Bundle Application Exposure: 33.33 sq. ft. (3.10 sq. m)
 4. Coverage: 3 bundles of 16, when applied according to instructions, will cover 1 square.
 5. StainGuard® Protection: 10-year limited warranty against blue-green algae discoloration
 6. Color: **As selected from manufacturers' full range.**

***** APPLIES TO ALL SHINGLE *****

7. UL Listed to ANSI/UL 790 Class A, ICC (ESR-1475) and (ESR-3267), Miami Dade County Approved, Florida Building Code Approved, ICC AC438, CSA A123.5, Texas Department of Insurance Approved,
8. Complies with ASTM D 7158, Class H; Complies with ASTM D 3161, Class F; Complies with ASTM D 3018, Type 1; Complies with ASTM D 3462;

2.04 HIP AND RIDGE SHINGLES

- A. High profile self sealing hip and ridge cap shingle matching the color of selected roof shingle. Each bundle covers approx. 20 lineal feet (6.10m). **Timbertex® Premium Ridge Cap Shingles**, by GAF.

*****FOR USE WITH REFLECTOR SERIES PRODUCT*****

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- B. Distinctive self sealing hip and ridge cap shingle complementing the color of selected roof shingle. Each bundle covers approx. 31 lineal feet (9.45m) with an 8 inch (203mm) exposure. **Ridglass™ 10” Ridge Cap Shingles** by GAF.
 - C. Distinctive self sealing hip and ridge cap shingle complementing the color of selected roof shingle. Each bundle covers approx. 31 lineal feet (9.45m) with an 8 inch (203mm) exposure **Ridglass™ 8” Ridge Cap Shingles** by GAF.
 - D. Distinctive self sealing hip and ridge cap shingle complementing the color of selected roof shingle. Each bundle covers approx. 25 lineal feet (7.62mm) with a 6 2/3 inch (169mm) exposure. **Seal-A-Ridge® Ridge Cap Shingles** by GAF.
 - E. UL 2218, Class 4, distinctive self sealing hip and ridge cap shingle complementing the color of Timberline ArmorShield II roof shingles. Each bundle covers approx. 25 lineal feet (7.62mm) with a 5 inch (127mm) exposure. **Seal-A-Ridge® ArmorShield™ SBS Modified IR Ridge Cap Shingles** by GAF®.
 - F. Distinctive hip and ridge cap shingle complementing the color of selected roof shingle. Each bundle covers approx. 33.3 lineal feet (10.15m) with a 5 5/8 inch (147mm) exposure. **Z® Ridge Shingles** by GAF.
 - G. Bullnose style hip and ridge cap shingle matching the color of selected roof shingle, available in 8” and 10” widths. Each bundle covers approx. 20 lineal feet (6.10m) with a 8” exposure. **Timbercrest™ Premium SBS-Modified Ridge Cap Shingles**, by GAF.
- 2.05 STARTER STRIP ***Choose One***
- A. Self sealing starter shingle designed for premium roof shingles. Each bundle covers approx. 100 lineal feet (30.48m) for English and metric shingles or 50 lineal feet (15.24m) for oversized shingles. **WeatherBlocker™ Eave/Rake Starter Strip** by GAF.
 - B. Self sealing starter shingle designed for all roof shingles. Each bundle covers approx. 120 lineal feet (36.58m). **ProStart™ Starter Strip** by GAF.
 - C. Pre-cut, color coordinated starter strip shingle designed as a second starter course for shingles with large cut-outs. Each bundle covers approx.. 60 lineal feet (18.29 m) **Starter-Match® Starter Strip** by GAF®.
 - D. Self adhered starter roll designed for shingles with an exposure less than 6”. Each roll is 9” x 33’ (228 mm x 10m). **QuickStart® Peel & Stick Starter Roll** by GAF.
- 2.06 LEAK BARRIER
- A. Self-adhering, self sealing, bituminous leak barrier surfaced with fine, skid-resistant granules. Approved by UL, Dade County, ICC, State of Florida and Texas Department of Insurance. **WeatherWatch® Leak Barrier**, by GAF.
 - 1. 1.5 square roll approx. 150 sq ft (13.9 sq.m.), 36” X 50’ (0.9m x 20.3m)
 - 2. 2 square roll approx 200 sq ft (18.6 sq.m.), 36” X 66.7’ (0.9m x 20.3m)
 - B. Self-adhering, self sealing, bituminous leak barrier surfaced with a smooth polyethylene film. Approved by UL, Dade County, ICC, State of Florida and Texas Department of Insurance, **StormGuard® Leak Barrier**, by GAF.
 - 1. Roll contains approx.. 200 sq ft (18.6 sq.m.), 36” X 66.7’ (0.9m x 20.3m)
- 2.07 SHINGLE UNDERLAYMENT
- A. Water repellent, breather type cellulose/glass fiber composite roofing underlayment. Meets or exceed ASTM D226 and D4869 and approved by UL, Miami Dade county and the Florida Building Code, **Shingle-Mate® Roof Deck Protection**, by GAF.
 - 1. 4 square roll approx. 432 sq. ft (40.1 sq m) , 36” x 144’ (0.91 m m x 43.9 m)

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- B. Premium, water repellant, breather type non-asphaltic underlayment. UV stabilized polypropylene construction. Meets or exceeds ASTM D226 and D4869. Approved by Dade County, Florida Building Code, and ICC.. **Deck-Armor™** Premium Breathable Roof Deck Protection, by GAF.
 - 1. 4 square roll approx. 400 sq. ft (37.2 sq m) , 48" x 100' (1.22 m x 30.5 m)
 - 2. 10 square roll approx. 1003 sq. ft (92.9 sq m) , 48" x 250' (1.22 m x 76.2 m)
- C. Superior quality, water repellant, non-asphaltic underlayment. UV stabilized polypropylene construction. Meets or exceeds ASTM D226 and D4869. Each roll contains approximately 10 squares (1003 sq. ft.) of material and is 54" x 223'. **TigerPaw™** Roof Deck Protection, by GAF
 - 1. 10 square roll approx. 1003 sq. ft (92.9 sq m) , 48" x 250' (1.22 m x 76.2 m)
- D. Non-woven fiberglass mat underlayment coated on both sides using a highly filled polymer. Provides a fire barrier and water resistant. Approved by Dade County, Florida Building Code, and ICC approval. **VersaShield® Fire-Resistant Roof Deck Protection** by GAF.
 - 1. 3.5 square roll approx. 350 sq.ft. (32.5 sqm), 42" x 100' (1.07 m x 30.5 m)
- E. #15 Roofing Underlayment – By Others: Water repellent breather type cellulose fiber building paper. Meets or exceeds the requirements of ASTM D-4869 Type I.
- F. #30 Roofing Underlayment - By Others: Water repellent breather type cellulose fiber building paper. Meets or exceeds the requirements of ASTM D-4869 Type II.
- G. High-traction, moisture resistant synthetic underlayment. UV stabilized polypropylene construction. Meets or exceeds ASTM D226 and D4869. Each roll contains approximately 10 squares (1000 sq. ft.) of material and is 48" x 250'. **FeltBuster®** High-Traction Synthetic Roofing Felt, by GAF.
 - 1. 4 square roll approx. 400 sq. ft (37.2 sq m) , 48" x 100' (1.22 m x 30.5 m)
 - 2. 10 square roll approx. 1003 sq. ft (92.9 sq m) , 48" x 250' (1.22 m x 76.2 m)

**Use of FeltBuster™ underlayment will require a layer of VersaShield underlayment installed over the deck to achieve a Class A Fire Rating for the shingles.*

2.08 ROOFING CEMENT

- A. Asphalt Plastic Roofing Cement meeting the requirements of ASTM D 4586, Type I or II.
- B. Roof Cement: ASTM D 4586, **Matrix™ 203 Plastic Roof Cement**.
- C. Roof Cement: ASTM D 4586. **Matrix™ 204 Wet/Dry Roof Cement**.

2.09 ROOF ACCESSORIES

- A. Exterior acrylic rust resistant aerosol roof accessory paint. Each 6 oz can is available in boxes of 6 and in a wide variety of colors to compliment the roof. **Shingle-Match™** Roof Accessory Paint by GAF.
- B. UV stable solid molded PVC compression collar, Kynar PVDF coated 24 guage galvanized flange, **Ultimate Pipe Flashing** by Lifetime Tool.

2.10 ATTIC VENTILATION

- A. Ridge Vents
 - 1. Flexible rigid plastic ridge ventilator designed to allow the passage of hot air from attics, while resisting snow infiltration. For use in conjunction with eave/soffit ventilation products. Each package contains 20 lineal feet (6.10m) of vent. **Cobra® Ridge Runner™** Ridge Vent by GAF.
 - a Net Free Ventilation (per foot): 12.5 sq inches (8065 sq.m/m)

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- b Product Size: 11.5 in x 20 ft. (292 mm x 1.22 m)
 - 2. Flexible ridge ventilator designed to allow the passage of hot air from attics. For use in conjunction with eave/ soffit intake ventilation products. Provides 16.9 inches (1430 mm/m) NFVA (Hand Nail version) and 14.1 inches (1193 mm/m) NFVA (Nail Gun) per lineal foot. **Cobra® Exhaust Vent**, by GAF.
 - a Net Free Ventilation (per foot):
 - 1. (Hand Nail version) 16.9 inches (1430 mm/m) NFVA
 - 2. (Nail Gun version) 14.1 inches (1193 mm/m) NFVA
 - b Roll size: 20 ft. x 8in.; 20 ft. x 10.5 in.; 50 ft. x 10.5 in.; 20 ft. x 11.75 in.
 - 3. Rigid plastic ridge ventilator designed to allow the passage of hot air out of attics. For use in conjunction with eave/ soffit intake ventilation products. Each package contains 40 lineal feet (12.19m) of vent. **Cobra® Rigid Vent 3™** ridge vent (includes 3" (76mm) galvanized ring shank nails), by GAF
 - a Net Free Ventilation (per foot): 18.0 sq inches (11613 sq.mm/m)
 - b Product Size: 9 in x 4 ft. (229 mm x 1.22 m); 11.5 in x 4 ft. (292 mm x 1.22 m)
 - 4. Rigid plastic ridge ventilator designed to allow the passage of hot air from attics while prohibiting snow infiltration. For use in conjunction with eave/ soffit intake ventilation products. Each package contains 40 lineal feet (12.19m) of vent. **Cobra® Snow Country Advanced™** Ridge Vent (includes 3" (76mm) galvanized ring shank nails), by GAF.
 - a Net Free Ventilation (per foot): 18.0 sq inches (11613 sq.mm/m)
 - b Product Size: 9 in x 4 ft. (229 mm x 1.22 m); 11.5 in x 4 ft. (292 mm x 1.22 m)
 - 5. Rigid plastic ridge ventilator designed to allow the passage of hot air from attics while prohibiting snow infiltration. For use in conjunction with eave/ soffit intake ventilation products. Each package contains 40 lineal feet (12.19m) of vent. **Cobra® Snow Country™** Ridge Vent (includes 3" (76mm) galvanized ring shank nails), by GAF.
 - a Net Free Ventilation (per foot): 18.0 sq inches (11613 sq.mm/m)
 - b Product Size: 11.5 in x 4 ft. (292 mm x 1.22 m)
- B. Hip Vents
- 1. Rigid plastic ridge ventilator designed to allow the passage of hot air out of attics. For use in conjunction with eave/ soffit intake ventilation products. Provides 9 sq inches in NFVA per lineal foot. **Cobra® Hip Vent** (includes 3" (76mm) galvanized ring shank nails), by GAF
- C. Fascia and Soffit/Under Eave Vents
- 1. Flexible rigid plastic ridge ventilator designed to allow the passage of hot air out of attics at the roof top along the eaves. For use in conjunction with ridge ventilation products. Provides 9.0 sq inches (11613 sq.mm/m) in NFVA per lineal foot. Each package contains 40 lineal feet (12.19m) of vent, **Cobra® IntakePro™** Rooftop Intake Vent (includes 1-3/4" (44.5 mm) coil nails), by GAF®
 - 2. Surface mounted closeable soffit vent with intrgal screen to help prevent wildfire embers from being drawn into the attic. 16.5" x 9" (419 mm x 229 mm) paintable finish providing 56 sq. in. (36,131 sq mm) of NFA, **MasterFlow® EmberShield® Closeable Soffit Vent** by GAF
 - 3. Surface mounted, soffit vent. **MasterFlow® Undereave Vent** by GAF.
 - a Aluminum; 16 x 4, 16 x 8

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b **Plastic; 12 x 4 (oval)**

4. Continuous aluminum 8ft section soffit vent. **MasterFlow® Undereave Vent Aluminum Continuous** Vent by GAF.

D. Solar Powered Vents

1. Solar powered roof exhaust vent designed to remove damaging heat and moisture from attics. Each vent provides 500 CFM and is solar powered to eliminate related utility costs. **MasterFlow® Green Machine™ Solar Powered Roof Exhaust** Vent, by GAF.
2. Solar powered gable mounted exhaust ventilators designed to remove damaging heat and moisture from attics. Each vent provides 500 CFM and is solar powered to eliminate related utility costs. **MasterFlow® Green Machine™ Solar Powered Gable** Vent, by GAF.

E. Dual Powered Vents

1. Dual powered roof exhaust vent designed to remove damaging heat and moisture from attics. Each vent provides 500 CFM and is solar and electric powered to provide continuous operation and reduce related utility costs. **MasterFlow® Green Machine™ Dual Powered Roof Exhaust** Vent, by GAF.
2. Dual powered gable mounted exhaust ventilators designed to remove damaging heat and moisture from attics. Each vent provides 500 CFM and is solar and electric powered to provide continuous operation and reduce related utility costs. **MasterFlow® Green MasterFlow® Dual Powered Gable** Vent, by GAF.

F. Powered Vents

1. Powered, rooftop mounted exhaust ventilators designed to evacuate hot air from attics. Each vent permits the passage of 1000 to 1600 c.f.m. Thermostat and/or humidistat controlled. **MasterFlow® Power Attic Vent Series** power roof ventilators, by GAF.
 - a **ERV4 For attic up to 1,600 sq.ft. providing 1,000 CFM airflow**
 - b **ERV5 For attic up to 2,200 sq.ft. providing 1,250 CFM airflow**
 - c **ERV6 For attic up to 2,800 sq.ft. providing 1,500 CFM airflow**
2. Powered, gable mounted exhaust ventilators designed to evacuate hot air from attics. Each vent permits the passage of 1280 to 1600 c.f.m. Thermostat and/or humidistat controlled. **MasterFlow® Power Attic Vent EGV Series** power roof ventilators, by GAF.
 - a **EGV5 For attic up to 2,300 sq.ft. providing 1,450 CFM airflow**
 - b **EGV6 For attic up to 3,000 sq.ft. providing 1,600 CFM airflow**

G. Roof Louvers

1. Rooftop mounted, square-top designed, high-impact resin exhaust ventilator designed to evacuate hot air from attics. Each vent provides 60 sq in NFVA. **MasterFlow® Roof Louver RT65** Plastic Square-Top, by GAF.
2. Rooftop mounted, slant-back designed, metal exhaust ventilator designed to evacuate hot air from attics. Each vent provides 60 sq in NFVA. **MasterFlow® Roof Louver SSB960A** Metal Slant-Back , by GAF.
3. Rooftop mounted, slant-back designed, high-impact resin exhaust ventilator designed to evacuate hot air from attics. Each vent provides 65 sq in NFVA. **MasterFlow® Roof Louver IR65** Plastic Slant-Back , by GAF.

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

4. Rooftop mounted, low-profile square-top designed, high-impact resin exhaust ventilator designed to evacuate hot air from attics. Each vent provides 37 sq in NFVA. **MasterFlow® Roof Louver IR61 Plastic Slant-Back**, by GAF.
5. Rooftop mounted, square-top metal utility ventilator designed to evacuate hot air from attics, bathrooms, and kitchen ducts. Each vent provides 50 sq in NFVA. **MasterFlow® Roof Louver RV50 Metal Round Throat**, by GAF.

H. Gable Louvers

1. Surfaced mounted, flush or recessed one piece integral construction in thermoformed plastic or aluminum. **MasterFlow®Gable Wall Louver** by GAF.
 - a **Plastic; 8 x8, 12 x 12, 12 x 18, 18 x 24**
 - b **Aluminum; 12 x 12, 12 x 18, 14 x 24, 18 x 24, 24 x 30**
2. Circular surfaced mounted, one piece integral construction high-impact white plastic mini vent. **MasterFlow®Circular Louver** by GAF.
 - a **Plastic; 2", 3", 4"**

I. Wind Turbines

1. Rooftop mounted, stainless dual bearing, high performance exhaust vents. **MasterFlow®Wind Turbine** by GAF.
 - a **12" Aluminum – Internally Braced**
 - b **12" Galvanized – Internally Braced**
 - c **12" Galvanized – Externally Braced**
 - d **14" Aluminum - Internally Braced**

J. Whole House Fans **attic spaces greater than 1000sq.ft only**

1. Interior ceiling mounted belt drive deluxe house fan for homes up to 3,000 sq. ft.. Super quiet 1/3 hp permanent split capacitor motor providing 6,000 CFM airflow, wall switch operated. **MasterFlow®Whole House Fan 30" Drive Belt** by GAF.
2. Interior ceiling mounted direct drive standard house fan for homes up to 2500 sq. ft.. Super quiet 1/4 hp permanent split capacitor motor providing 4,500 CFM airflow, chain switch operated. **MasterFlow®Whole House Fan 24" Direct Drive** by GAF.

2.11 VENTILATION ACCESSORIES

A. Chimney Cap

1. Protective chimney cap, **MasterFlow® Chimney Cap** by GAF.
 - a **Stainless Steel Fixed Size; 9 x 9, 9 x 13, 13 x 13**
 - b **Galvanized Steel Fixed Size; 9 x 9, 9 x 13, 13 x 13**
 - c **Metal Adjustable**

B. Foundation Vent

1. Foundation ventilation to help remove damaging moisture and prevent structural decay and mold growth, **MasterFlow® Foundation Vent by GAF**
 - a **Power - High Density Polyethylene Vent; 16 x 8**
 - b **Automatic - High Density Polyethylene Vent; 16 x 8**
 - c **Grate style - Aluminum; 16 x 8 with Lintel & slide action**
 - d **Grill Style with Lintel - Aluminum; 16 x 8 with 1 3/8 Lintel and damper**

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

- e **Grill style - Aluminum; 16 x 8 with damper**
- f **Block Style - Aluminum; 15 3/8 x 8 x 2 3/4 with movable louvers**
- g **Plastic Slider with Lintel – Plastic: 16 x 8 with Lintel**
- h **Plastic replacement – Plastic : 16 x 8 with metal mesh**

2.12 NAILS

- A. Standard round wire, zinc-coated steel or aluminum; 10 to 12 gauge, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) to 7/16 inch (11mm) in diameter. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through plywood or oriented strand board by at least 1/8 inch (3.18mm).

2.13 METAL FLASHING .24 gauge hot-dip galvanized steel sheet, complying with ASTM A 653/A 653M, G90/Z275.

- B. 16-oz/sq ft (0.56mm) copper sheet, complying with ASTM B 370.
- C. 0.032-inch (0.8mm) aluminum sheet, complying with ASTM B 209.

PART III EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until the roof deck has been properly prepared.
- B. If roof deck preparation is the responsibility of another installer, notify the architect or building owner of unsatisfactory preparation before proceeding.

3.02 PREPARATION Remove all existing roofing down to the roof deck.

- B. Verify that the deck is dry, sound, clean and smooth. It shall be free of any depressions, waves, and projections. Cover with sheet metal, all holes over 1 inch (25mm) in diameter, cracks over 1/2 inch (12mm) in width, loose knots and excessively resinous areas.
- C. Roof slope should be a minimum 2:12
- D. Replace damaged deck with new materials.
- E. Clean deck surfaces thoroughly prior to installation of eaves protection membrane and underlayment.
- F. Wood decks must be well-seasoned and supported, having a maximum 1/8" (3 mm) spacing using a minimum nominal 1" (25 mm) thick lumber maximum 6" (152 mm) width, having adequate nail-holding capacity and a smooth surface

3.03 PREPARATION Use minimum 3/8" (10 mm) plywood or OSB decking as recommended by APA-The Engineered Wood Assn.

- B. Clean deck surfaces thoroughly prior to installation of eaves protection membrane and underlayment.
- C. At areas that receive eaves protection membrane, fill knotholes and cracks with latex filler.
- D. Roof slope should be a minimum 2:12
- E. Install crickets on the upslope side of all chimneys in the north, any chimney wider than 24" (610mm), and on all roofs steeper than 6/12.

3.04 PREPARATION Verify that the deck is structurally sound and free of deteriorated decking. All deteriorated decking shall be removed and replaced with new materials.

- B. Roof slope should be a minimum 2:12
- C. Verify that the existing shingles are dry, sound, clean and smooth. All curled, buckled or loose tabs shall be nailed down or removed.

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

- D. Clean shingle surfaces thoroughly prior to installation of eaves protection membrane and underlayment.

3.04 SUBSTRATE INSTALLATION

- A The structural roof deck shown in the plans shall be smooth and level and free of water or debris before the nail base insulation is installed. Apply vapor retarder if required.

NOTE: GAF recommends that the designer carefully considers the need for a vapor/air retarder.

- B Installation shall follow the GAF written installation instructions.
- C Fasten with ThermaCal® Fasteners to the supporting roof deck shown in the plans.
- D Protect nail base insulation work from exposure to moisture damage and deterioration, primarily by prompt installation of the roofing, sheet metal and waterproofing work.

3.05 INSTALLATION OF UNDERLAYMENTS

A. General:

1. Install using methods recommended by GAF, in accordance with local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.

B. Eaves:

1. Install eaves edge metal flashing tight with fascia boards; lap joints 2 inches (51mm) and seal with plastic cement or high quality urethane sealant; nail at the top of the flange.
2. In the north, and on all roofs between 2/12 and 4/12 (low slopes) install GAF leak barrier up the slope from eaves edge a full 36 inches (914mm) or to at least 24 inches (610 mm) beyond the interior "warm wall". Lap ends 6 inches (152mm) and bond.

C. Valleys:

1. Install eaves protection membrane at least 36 (914mm) inches wide and centered on the valley. Lap ends 6 inches (152mm) and seal.

******* FOR OPEN VALLEY ONLY*******

2. Where valleys are indicated to be "open valleys", install metal flashing over GAF leak barrier before GAF roof deck protection is installed; DO NOT nail through the flashing. Secure the flashing by nailing at 18 inches (457 mm) on center just beyond edge of flashing so that nail heads hold down the edge.

D. Hips and Ridges:

1. Install GAF leak barrier along entire lengths. If ridge vents are to be installed, position the GAF leak barrier so that the ridge slots will not be covered.

E. Roof Deck:

1. Install one layer of GAF roof deck protection over the entire area not protected by GAF leak barrier at the eaves or valley. Install sheets horizontally so water sheds and nail in place.
2. On roofs sloped at 4:12 or greater, lap horizontal edges at least 2 inches (51mm) and at least 2 inches (51mm) over eaves protection membrane.
3. On roofs sloped between 2:12 to less than 4:12, lap horizontal edges at least 19 inches (482 mm) and at least 19 inches (482mm) over eaves protection membrane.
4. Lap ends at least 4 inches (102 mm). Stagger end laps of each layer at least 36 inches (914 mm).

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

5. Lap GAF roof deck protection over GAF leak barrier in valley at least 6 inches (152mm).

F. Deck-Armor™ Application

1. Deck-Armor shall be installed over a clean, dry deck.
2. Install Weather Watch® or StormGuard® Leak Barrier at eaves, valleys, rakes, skylights, dormers and other vulnerable leak areas.
3. Lay Deck-Armor™ over deck and overlap 3" (76mm) at side laps and 6" (152mm) at end laps.
4. For exposure to rain or snow, overlap 12" (305mm) at end laps.
5. For side and end laps: fasten Deck-Armor 12" (305mm) o.c. (6" (152mm)o.c. for high wind areas).
6. For middle of the roll: fasten Deck-Armor 24" (610mm) o.c. (12" (305mm) o.c. for high wind areas).
7. For exposure to rain or snow, completely cover all side laps, end laps and fasteners with tape.
8. For long term exposure see complete Deck-Armor installation instructions for side lap detail.
9. If roof may be exposed to high winds, apply tape over all fasteners at the center of the roll to prevent rain or snow from entering at the fasteners.
10. For slopes between 2:12 to less than 4:12, a double application of Deck-Armor is required. See complete Deck-Armor installation instructions for more information.

G. Penetrations:

1. Vent pipes: Install a 24 inch (610 mm) square piece of eaves protection membrane lapping over roof deck underlayment; seal tightly to pipe.
2. Vertical walls: Install eaves protection membrane extending at least 6 inches (152mm) up the wall and 12 inches (305mm) on to the roof surface. Lap the membrane over the roof deck underlayment.
3. Skylights and roof hatches: Install eaves protection membrane from under the built-in counterflashing and 12 inches (305mm) on to the roof surface lapping over roof deck underlayment.
4. Chimneys: Install eaves protection membrane around entire chimney extending at least 6 inches (152mm) up the wall and 12 inches (305mm) on to the roof surface. Lap the membrane over the roof deck underlayment.
5. Rake Edges: Install metal edge flashing over eaves protection membrane and roof deck underlayment; set tight to rake boards; lap joints at least 2 inches (51mm) and seal with plastic cement; secure with nails.

3.06 INSTALLATION OF SHINGLES

A. General:

1. Install in accordance with GAF's instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
2. Minimize breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4 degrees C).

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

3. Handle carefully in hot weather to avoid scuffing the surfacing, or damaging the shingle edges.
- B. Placement and Nailing: Beginning with the starter strip, trim shingles so that they "nest" within the shingle located beneath it. This procedure will yield a first course that is typically 3" (76mm) to 4" (102mm) rather than a fully exposed shingle.
2. For maximum wind resistance along rakes, install any GAF starter strip containing sealant or cement shingles to underlayment and each other in a 4" (102mm) width of asphalt plastic roof cement.
 3. Laterally, offset the new shingles from the existing keyways, to avoid waves or depressions caused by excessive dips in the roofing materials.
 4. Using the bottom of the tab on existing shingles, align subsequent courses.
 5. *Note: DO NOT install standard sized shingles (5" exposure) over metric (5 5/8" exposure) shingles, as it will overexpose the shingles and reveal the nails. Use standard alignment methods to assure proper shingle placement.
 6. Secure with 4, 5, or 6 nails per shingle per GAF's instructions or local codes.
 7. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
 8. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
 9. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
- C. Valleys Install valleys using the "open valley" method:
- a Snap diverging chalk lines on the metal flashing, starting at 3 inches (76mm) each side of top of valley, spreading at 1/8 inch per foot (9mm per meter) to the eaves.
 - b Run shingles to chalk line.
 - c Trim last shingle in each course to match the chalk line; do not trim shingles to less than 12 inches (305mm) wide.
 - d Apply a 2 inch (51mm) wide strip of plastic cement under ends of shingles, sealing them to the metal flashing.
2. Install valleys using the "closed cut valley" method:
- a Run the first course of shingles from the higher roof slope across the valley at least 12 inches (305mm).
 - b Run succeeding courses of shingles from the lower roof slope across the valley at least 12 inches (305mm) and nail not closer than 6 inches (152mm) to center of valley.
 - c Run shingles from the upper roof slope into the valley and trim 2 inches (51mm) from the center line.
- D. Penetrations
1. All Penetrations are to be flashed according to GAF, ARMA and NRCA application instructions and construction details.
- E. Skylights and Roof Hatches
1. Consult the manufacturer of the skylight or roof hatch for specific installation recommendations.

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2. Skylights and roof hatches shall be installed with pre-fabricated metal flashings specifically designed for the application of the unit.

3.07 INSTALLATION OF ATTIC VENTILATION

A. General

1. Ventilation must meet or exceed current F.H.A., H.U.D. and local code requirements.

B. Ridge / Soffit ventilation

1. Install ridge vent along the entire length of ridges:
2. Cut continuous vent slots through the sheathing, stopping 6 inches (152mm) from each end of the ridge.
3. On roofs without ridge board, make a slot 1 inch (25mm) wide, on either side of the peak (2" (51mm) overall).
4. On roofs with ridge board, make two slots 1-3/4 inches (44.5mm) wide, one on each side of the peak (3 1/2" (89mm) overall).
5. Install ridge vent material along the full length of the ridge, including uncut areas.
6. Butt ends of ridge vent material and join using roofing cement.
7. Install eaves vents in sufficient quantity to equal or exceed the ridge vent area.

C. Roof and Gable Louvers:

1. Cut vent hole through sheathing as specified by the manufacturer for the type of vent to be installed.
2. Install a 24 inches (610mm) square of leak barrier, centered around the hole for roof louvers
3. Install according to manufacturers instructions for flashing vent penetrations
4. Install eave vents in sufficient quantity to equal or exceed the exhaust vent area, calculated as specified by manufacturer.

D. Powered (& Solar Powered) Ventilators & Roof turbines:

1. Cut vent hole through sheathing as specified by the manufacturer for the type of vent to be installed.
2. On rooftop applications, install a 36 inches (914mm) square of leak barrier, centered around the hole
3. Install according to manufacturers instructions for flashing vent penetrations
4. Install eave vents in sufficient quantity to equal or exceed the exhaust vent area, calculated as specified by manufacturer

E. Whole House Fans

1. Install at desired locations in ceiling below attic space per manufacturer recommended location and application instructions.

3.08 INSTALLATION OF VENTILATION ACCESSORIES

A. Chimney Caps

1. Install chimney caps to manufacturer recommendations

B. Foundation Vents

1. Install foundation vents per manufacturer recommendations and applications.

3.09 PROTECTION

GAF DESIGNER SHINGLES GUIDE SPECIFICATION

- A. Protect installed products from foot traffic until completion of the project.
- B. Any roof areas that are not completed by the end of the workday are to be protected from moisture and contaminants.

END OF SECTION