



SECTION 07311

ASPHALT SHINGLES

\*\* NOTE TO SPECIFIER \*\*

GAF; steep slope granular surfaced reinforced fiberglass shingles.

This section is based on the products of GAF Materials Corporation, which is located at:

1361 Alps Rd.

Wayne NJ 07470

Technical Questions: 1-888-ROOF-411

Certified Contractors: 1-888-532-5767

Eastern Sales Office: 732-297-0091

Central Sales office: 815-372-9701

Southeast Sales Office: 813-248-6202

Southwest Sales Office: 214-637-1060

Western Sales Office: 909-360-4200

Website-Email: [technicalquestions@gaf.com](mailto:technicalquestions@gaf.com)

The GAF Weather Stopper<sup>®</sup> 5 Part Roofing System is a complete roofing system, including deck protector underlayment, leak barrier waterproof underlayments, attic ventilation, quality shingles, hip and ridge shingles. Weather Stopper System components have earned the Good Housekeeping seal of approval.

GAF Systems Plus enhanced limited warranty provides material and installation labor if there is a manufacturing defect in GAFMC's Weather Stopper<sup>®</sup> System components. Available only if roof is installed by GAFMC Certified Contractors (see limited warranty for complete coverage and restrictions).

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PART 1 GENERAL

1.1 SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\*

To qualify for the GAF Smart Choice<sup>®</sup> System Plus Ltd. Warranty the roofing system must include GAF Shingles (excluding Sentinel 20 year ltd. Warranty) and two of GAF's Weather Stopper<sup>®</sup> System Components.

Delete items below not required for project.\*\*\*

- A. Asphalt roofing shingles.

- B. Moisture shedding underlayment, eave, valley and ridge protection, both shingle underlayments and waterproof underlayments.
- C. Metal flashing associated with shingle roofing.
- D. Attic ventilation including ridge vents, intake vents, and off-ridge vents as needed.

## 1.2 RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\*

Delete any sections below not relevant to this project; add others as required.\*\*\*

- 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.

## 1.1 REFERENCES

\*\* NOTE TO SPECIFIER \*\*

Delete references from the list below that are not actually required by the text of the edited section.\*\*\*

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 1998.
- B. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 1996.
- C. ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction; 1992.
- D. ASTM D 3018 - Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules; 1990 (Reapproved 1994).
- E. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method); 1997.
- F. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 1993.
- G. UL 790 - Tests for Fire Resistance of Roof Covering Materials; 1995.
- H. UL 997 - Wind Resistance of Prepared Roof Covering Materials; 1995.

## 1.2 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, showing compliance with requirements.

### \*\* NOTE TO SPECIFIER \*\*

Delete selection samples if colors have already been selected.\*\*\*

- C. Selection Samples: Two complete sets of color cards representing manufacturer's full range of available colors and patterns.
- D. Manufacturer's installation instructions, showing required preparation and installation procedures.

## 1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the roofing system products specified in this section, with minimum of 25 years experience.
- B. Installer Qualifications: Certified or Authorized by shingle manufacturer for steep slope installation, certified to install enhanced warranty projects.

## 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened labeled packaging until 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, in sunlight, or x locations.
- C. Store bundles on flat surface to maximum height recommended by manufacturer; store rolls on end.
- D. Store and dispose of solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

## 1.5 WARRANTY

- A. Provide GAF Materials Corporation Smart Choice System Plus Limited Warranty, available through GAF certified contractors.

## PART 2 PRODUCTS

## 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: GAF Materials Corporation, 1361 Alps Rd. Wayne NJ 07470. Tel: 1-888-532-5767 Email: [www.GAF.com](http://www.GAF.com)

\*\* NOTE TO SPECIFIER \*\*

Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.\*\*\*

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.
1. When submitting request for substitution, provide complete product data specified above under Submittals, for each substitute product.

## 2.2 MATERIALS

- A. Shingles: 25 year minimum ltd., warranty, granular surfaced glass fiber mat reinforced asphalt shingles complying with ASTM D 3018 and ASTM D 3161; UL 790 Class A rated with UL 997 Wind Resistance Label.

\*\* NOTE TO SPECIFIER \*\*

Delete all but one of the following styles of shingles.\*\*\*

1. GAF Grand Slate, with GAF Timbertex hip and ridge, or Pacific Ridge in the western US.
2. GAF Grand Canyon and Grand Sequoia, with Grand Canyon and Grand Sequoia hip and ridge
3. GAF Country Mansion and Country Estates, with Timbertex hip and ridge, and Pacific Ridge hip and ridge caps in the western US
4. GAF Slateline shingles, with GAF Timbertex hip and ridge, or Pacific Ridge hip and ridge cap in western US.
5. GAF Timberline Ultra, with GAF Timbertex hip and ridge, or GAF Pacific Ridge in western US.
6. GAF Timberline 40 Select, with GAF Timbertex hip and ridge or Pacific Ridge hip and ridge in the western US.
7. GAF Timberline 30, with Timbertex Hip and Ridge, or Pacific Ridge in western US.
8. GAF Royal Sovereign, and Jumbo Royal Sovereign with Royal Sovereign shingles cut to hip and ridge.
9. GAF Marquis WeatherMax, with Marquis WeatherMax cut to hip and ridge.

\*\* NOTE TO SPECIFIER \*\*

Delete one of the following two paragraphs. Insert color, if already selected.\*\*\*

1. Color: As selected by Architect from manufacturer's full range.
2. Color: \_\_\_\_\_.

\*\* Note to specifier\*\*

To qualify for the GAF Smart Choice<sup>®</sup> System Plus Ltd. Warranty two Weather Stopper<sup>®</sup> System Components must be installed in the roofing system. Delete any of the following which do not apply

- B. Eave Protection Membrane: Self-adhesive rubberized asphalt sheet, with strippable release film and selvage edge for adhesion.
  - 1. Total Thickness: 58 mils (1.5 mm).
  - 2. Product: GAF Weather Watch; bonded to skid-resistant fine granules (a Weather Stopper<sup>®</sup> System Component).
  - 3. Product: GAF StormGuard; bonded to skid-resistant polyethylene (a Weather Stopper System Component).
- C. Roof Deck Underlayment: Water repellent breather type cellulose/glass fiber composite building paper; GAF Shingle-Mate underlayment (a Weather Stopper System Component).
- D. Nails: Standard round wire shingle type, zinc-coated steel or aluminum; 10 to 12 gauge, barbed or deformed shank, with heads 3/8 inch (9.5 mm) to 7/16 inch (11 mm) in diameter; length sufficient to penetrate at least 3/4 inch (19 mm) into solid wood or just through plywood or oriented strand board.
- E. Plastic Cement: ASTM D 4586, Type I or II.
- F. Ridge Vent: GAF Cobra Ridge Vent, GAF Cobra Rigid Vent II, or GAF Cobra Snow Country (all Weather Stopper System Components).
- G. Soffit Vents: GAF Cobra Fascia Vent or appropriate intake ventilation; use style appropriate for conditions.
- H. Passive Ventilation: GAF MasterFlow on roof passive ventilation, (roof louvers) used only as additional exhaust ventilation, or when Cobra Ridge vents cannot be installed due to architecture (a Weather Stopper System Component).
- I. Power Ventilation: GAF Attic Pro power ventilation fans, used only when Cobra Ridge Vents cannot be installed due to architecture (a Weather Stopper System Component).
- J. Metal Flashing: Use one of the following:
  - 1. 24 gauge hot-dip galvanized steel sheet, complying with ASTM A 653/A 653M, G90/Z275.
  - 2. 16 oz/sq ft (0.56 mm) copper sheet, complying with ASTM B 370.
  - 3. 0.032 inch (0.8 mm) aluminum sheet, complying with ASTM B 209.
  - 4. Use metal flashings at:

- a. Eave edges.
- b. Rake edges.
- c. Stepped flashing at chimneys, side walls, and dormers.

\*\* NOTE TO SPECIFIER \*\*

Delete the following paragraph if open valleys will not be used.\*\*\*

- d. Valleys.

- H. Plumbing Vent Boots: Lead when accepted by codes, aluminum when lead is not accepted by codes.

## PART 3 EXECUTION

### 3.1 EXAMINATION

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

### 3.2 REMOVAL OF EXISTING ROOFING

- A. Remove all existing roofing down to the roof deck.
- B. Verify that deck is dry, sound, clean and smooth, free of depressions, waves, and projections.
- C. Cover with sheet metal all holes over 1 inch (25 mm) diameter, cracks over 1/2 inch (12 mm) in width, loose knots and excessively resinous areas.
- D. Replace damaged deck with new materials.

### 3.3 PREPARATION

- A. Clean deck surfaces thoroughly prior to installation of eave protection membrane and underlayment.
- B. At areas to receive eave protection membrane, fill knot holes and cracks with latex filler.
- C. At chimneys, install cricket on upslope side on all chimneys in the north, any chimney wider than 24", and on all roofs steeper than 6/12.

### 3.4 INSTALLATION OF UNDERLAYMENTS

- A. Install using methods recommended by manufacturer in accordance with local building code.

- B. Eaves:
1. Place eave edge metal flashing tight with fascia boards; lap joints 2 inches (50 mm) and seal with plastic cement; nail at top of flange.
  2. In the north, and on all roofs between 2/12 and 4/12 (low slopes), install eave protection membrane up the slope from eave edge a full 36 inches or to at least 24 inches (610 mm) beyond the interior "warm wall"; lap ends 6 inches (150 mm) and bond.

- C. Valleys:
1. Install eave protection membrane at least 36 inches wide centered on valley; lap ends 6 inches (150 mm) and seal.
  2. Where valleys are indicated to be "open valleys", install metal flashing over eave protection membrane before roof deck underlayment is installed; DO NOT NAIL THROUGH flashing; secure by nailing at 18 inches (457 mm) on center just beyond edge of flashing so that nail heads hold down edge.

- D. Underlayment: Install one layer of roof deck underlayment over entire area not protected by eave or valley membrane; run sheets horizontally lapped so water sheds; nail in place.

\*\* NOTE TO SPECIFIER \*\*

Delete one of the following two paragraphs, unless both slopes are included in project.\*\*\*

1. On roofs sloped at more than 4 in 12, lap horizontal edges at least 2 inches (50 mm) and at least 2 inches (50 mm) over eave protection membrane.
  2. On roofs sloped between 2 in 12 and 4 in 12, lap horizontal edges at least 19 inches (480 mm) and at least 19 inches (485 mm) over eave protection membrane.
  3. Lap ends at least 4 inches (100 mm); stagger end laps of each layer at least 36 inches (915 mm).
  4. Lap underlayment over valley protection at least 6 inches (150 mm).
- E. At vent pipes, install a 24 inch (610 mm) square piece of eave protection membrane lapping over roof deck underlayment; seal tightly to pipe.
- F. At vertical walls, install eave protection membrane extending at least 6 inches (150 mm) up the wall and 12 inches (305 mm) on to the roof surface lapping over roof deck underlayment.
- G. At skylights and roof hatches, install eave protection membrane from under the built-in counterflashing and 12 inches (305 mm) on to the roof surface lapping over roof deck underlayment.

- H. At chimneys, install eave protection membrane around entire chimney extending at least 6 inches (150 mm) up the wall and 12 inches (305 mm) on to the roof surface lapping over roof deck underlayment.
- I. At rake edges, install metal edge flashing over eave protection membrane and roof deck underlayment; set tight to rake boards; lap joints at least 2 inches (50 mm) and seal with plastic cement; secure with nails.
- J. Install ridge vent along entire length of ridges:
  - 1. Cut continuous vent slot through sheathing, stopping 6 inches (150 mm) from each end of ridge.
  - 2. On roofs without ridge board, make slot 2 inches (50 mm) wide, centered on ridge.
  - 3. On roofs with ridge board, make two slots 1-3/4 inches (42 mm) wide, one on each side.
  - 4. Install ridge vent material full length of ridge, including uncut areas.
  - 5. Butt ends of lengths of ridge vent material and join using plastic cement.
  - 6. Install eave vents in sufficient quantity to equal or exceed the ridge vent area, calculated as specified by manufacturer.

### 3.5 INSTALLATION OF SHINGLES

- A. Install in accordance with manufacturer's instructions and requirements of local building code.
  - 1. Avoid 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).
  - 2. Handle carefully in hot weather to avoid damaging shingle edges.
  - 3. Secure with 4, 5, or 6 nails per shingle as per manufacturers instructions or local codes.
- B. Make hips and ridges using shingles required by manufacturer.
- C. At ridges, install ridge shingles over ridge vent material; use nails of specified length; do not drive nails home, leaving 3/4 inch (19 mm) slot open between ridge and roof shingles.

#### \*\* NOTE TO SPECIFIER \*\*

Delete all but one of the following three styles of valleys. Open valleys and closed cut valleys are suitable for all styles of shingles. Do not make woven valleys with laminated shingles such as Timberline Series, Country Mansion, Country Estates, Grand Sequoia, Grand Canyon, Grand Slate.

- D. Make valleys using "open valley" technique:

1. Snap diverging chalk lines on metal flashing, starting at 3 inches (75 mm) each side of top of valley, spreading at 1/8 inch per foot (9 mm per meter) to eave.
  2. Run shingles to chalk line, trim last shingle in each course to match chalk line; do not trim shingles to less than 12 inches (305 mm) width.
  3. Apply 2 inches (50 mm) wide strip of plastic cement under ends of shingles, sealing to metal flashing.
- E. Make valleys using "closed cut valley" technique:
1. Run the first, and only the first, course of shingles from the higher roof slope across the valley at least 12 inches (305 mm).
  2. Run all courses of shingles from the lower roof slope across the valley at least 12 inches (305 mm) and nail not closer than 6 inches (150 mm) to center of valley.
  3. Run shingles from the upper roof slope into valley and trim 2 inches (50 mm) from center of valley.
- F. Make valleys using "woven valley" technique:
1. Run shingles from both roof slopes at least 12 inches (305 mm) across center of valley, lapping alternate sides in a woven pattern.
  2. Nail not closer than 6 inches (150 mm) to center of valley.

### 3.6 Low Sloped Areas, less than 2/12 pitch.

- A. Low sloped areas adjacent to shingle roofing to be waterproofed with GAF Liberty Self Adhering Low Slope Roofing Membranes. Maximum 15 squares per low slope area. Note: these areas may add up to over 15 squares, but are limited to 15 squares individually.
- B. Low slope areas must have positive drainage, or 1/2"/12 minimum.
- C. GAF Liberty Base Sheet is installed over the entire roofing area.
- D. GAF Liberty CAP Sheet is installed over entire deck.
- E. Wood decks are to be primed prior to installation of the Liberty System.
- F. GAF or USI Matrix SBS adhesives are to be used. Do not allow solvent based adhesives to come in contact with the GAF Liberty System.
- G. Follow Manufacturers application instructions.

### 3.7 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION