

**SECTION 07 31 13
ASPHALT SHINGLES**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section.

1.2 SECTION INCLUDES

- A. Granular surfaced asphalt shingle roofing
- B. Moisture shedding underlayment, eave, valley and ridge protection

1.3 REFERENCES

- A. ASCE 7 – Minimum Design Loads for Buildings and Other Structures
- B. ASTM D224 – Standard Specification for Smooth-Surfaced Asphalt Roll Roofing (Organic Felt)
- C. ASTM D226/D226M – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
- D. ASTM D228/D228M – Standard Test Methods for Sampling, Testing, and Analysis of Asphalt Roll Roofing, Cap Sheets and Shingles Used in Roofing and Waterproofing
- E. ASTM D6380 – Standard Specification for Asphalt Roll Roofing (Organic Felt)
- F. ASTM D2178/D2178M – Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
- G. ASTM D3018/D3018M – Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules
- H. ASTM D3462/D3462M – Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules
- I. ASTM D4586/D4586M – Standard Specification for Asphalt Roof Cement, Asbestos Free
- J. NRCA - Roofing Manual
- K. UL 790 – Standard Test Methods of Fire Tests for Roof Coverings
- L. UL 580 – Tests for Wind Uplift Resistance for Roof Assemblies
- M. FBC - Florida Building Code

1.4 SUBMITTALS

- A. Product Data: Submit specifications, installation instructions, and general recommendations from manufacturers of roofing system materials, for type of roofing required.
 - 1. Include data substantiating that materials comply with requirements, including list of materials proposed for use and manufacturer's product data sheets for other products.
 - 2. Provide sample copies of specified warranties, including evidence of application for warranty from Manufacturer.
 - 3. Include sample copy of maintenance instructions for use during construction complete Manufacturer's instructions for periodic inspection and maintenance of roofing system.
- B. Shop Drawings: Submit complete installation details, sheet layout, flashing, roof slopes, details at each different perimeter condition, special conditions, and current FBC Product Approval System showing compliance with wind loading meeting ASCE 7.
- C. Samples: Submit 12" x 12" square of asphalt shingle showing a complete range of manufacturer's colors.
- D. Certificates:
 - 1. At completion of work, submit Manufacturers certification that roofing system is installed per Manufacturer's warranty requirements.

- E. Safety Provisions:
 - 1. Submit fall protection plan/system for use both during construction and Owners use after construction for roof repair, meeting OSHA requirements.
- 1.5 QUALITY ASSURANCE
 - A. Manufacturer: Obtain primary roofing materials from a single manufacturer, with at least 10-years of documented experience in the roofing material business.
 - 1. Provide secondary materials as recommended by manufacturer of primary materials.
 - B. Installer: Company specializing in installation of roofing system with minimum 5-years documented experience and approved in writing by manufacturer of accepted roofing system.
 - C. The job supervisor shall have minimum of 5-years documented experience in roofing supervising projects of this magnitude.
 - D. All work shall conform to NRCA Roofing Manual and to manufacturers strict instructions.
 - E. Requirements of Regulatory Agencies:
 - 1. Underwriter's Laboratories, Inc.: Class A fire hazard classification.
 - 2. FBC Product Approval System for asphalt shingle system.
 - F. Inspections: Provide on-site inspections by primary material Manufacturer's representative during and after installation of roofing system.
- 1.6 PRE-INSTALLATION CONFERENCE
 - A. Prior to start of roofing installation and accessory work, conduct an on-site meeting with installer, architect, owner, manufacturer's representative, the District building inspector, and other parties with a direct involvement in the process.
- 1.7 DELIVERY, STORAGE AND HANDLING
 - A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible, including required fire resistance classification labels.
 - B. Store and handle material per manufacturer's requirements.
 - C. Rooftop Storage: Disperse material to avoid concentrated loading.
- 1.8 PROJECT CONDITIONS
 - A. Proceed with roofing work only if existing weather conditions permit work in accordance with manufacturers' recommendations and warranty requirements.
- 1.9 WARRANTIES
 - A. Installer's Warranty: Provide written warranty signed by the roofing Installer and the Contractor agreeing to replace or repair defective components and workmanship of the total roofing system for a period of two-years after the date of Substantial Completion of the Project.
 - B. Manufacturer's Warranty: Provide written warranty signed by the Manufacturer of the primary roofing materials agreeing to replace or repair defective roof membrane and flashing materials and workmanship as required to maintain the roofing system in a watertight condition at no expense to the Owner for a period of 30-years after date of Substantial Completion of the Project.
 - 1. In addition, provide written warranty signed by the manufacturer of primary roofing materials agreeing to allow Owner to make emergency repairs to roof without voiding manufacturer's warranty.
 - 2. In conjunction with issuance of the above warranty, include:
 - a. Instructions detailing preventative maintenance required to maintain the warranty
 - b. List of substances, which may damage the membrane
 - c. Specifications on repair of the membrane Owner may do without voiding warranty.

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3. Warranty shall include coverage for damage to building resulting from failure of roof system to resist penetration of water with no dollar limit to the value of repairs or replacements covered.
4. Warranty shall include coverage, up to design wind loads, against damage due to wind uplift.
- C. Provide on-site inspections by roofing manufacturer's representative during installation of roofing.
- D. Manufacturer's Certification: Submit written certification signed by manufacturer stating that the roofing system manufacturer will provide warranties, inspection and Report Services specified herein.
- E. Provide acceptance letter from the roofing manufacturer that this specification meets the requirements of the 30-year warranty.

PART 2 PRODUCTS

2.1 ROOFING SYSTEM

- A. The asphalt roofing shingles as well as all accessories and appurtenances shall comprise the "Roofing System" and shall be part of a single source warranty.
 1. This roofing system shall be part of a single source warranty and meet all required FBC Product Approval System.
- B. Approved Source Manufacturers: Provide one of the following asphalt shingle - roofing systems, modified to meet the characteristics specified herein if required.
 1. ELK Corporation: Prestique I
 2. GAF: Timberline Series
 3. Owens Corning: Weather Guard HP Series
 4. Other pre-approved manufacturer
- C. Materials:
 1. Underlayment: Non-perforated 30# asphalt saturated felt, ASTM D226/D226M on a self-adhering ice and water shield.
 2. Do not install asphalt shingles on roof slopes less than 4 in 12.
- D. Approvals: Roofing system must meet current FBC Product Approval System in compliance with ASCE 7 wind requirements for the roofing system.

PART 3 EXECUTION

3.1 PRE-INSTALLATION REQUIREMENTS

- A. Do not start the installation of accessories or membrane without the presence of the Manufacturer's Technical Representative, no exceptions allowed.
 1. Due to the incompatibility of various materials with the roofing membrane only use materials and methods approved by the manufacturer.
- B. Install all vents, drains, curbs, nailers, blocking, insulation, and projections through the roof before starting membrane installation.

3.2 PREPARATION OF SUBSTRATE

- A. Roofing Membrane: The manufacturer's Technical Service Representative shall carefully inspect the substrate receiving the roofing and provide a written report.
- B. Install all nails, blocking, vertical surfaces, etc. prior to proceeding with membrane installation.

3.3 INSTALLATION OF ASPHALT SHINGLES

- A. Install in accordance with accepted roofing manufacturer's specification, roof deck manufacturer's recommendations.

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- B. Complete installation of roofing system up to line of termination of day's work.
 - 1. Install temporary water cut-offs at end of each day's work.
 - 2. Remove upon resumption of work.
 - C. Base Flashing:
 - 1. Install in accordance with requirements of roofing system manufacturer.
 - 2. Install where roofing system abuts vertical surfaces and at other locations detailed.
 - D. Flashings: Install metal flashings, then flash with plastic cement and felt in such a manner as to prevent leaks.
- 3.4 CLEANING
- A. Clean up debris, excess materials, and equipment and remove from site.
- 3.5 PROTECTION
- A. Restore to original condition or replace work or materials damaged during handling of roofing materials.
 - B. Do not throw or drop debris from roof.

END OF SECTION