

## **DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

### **Section 07310 - Shingles**

#### **Introduction**

Systems described in this Section are intended to be installed in situations where the roof slope is at least 4 inches per foot, and where the roofs are not intended to receive regular foot traffic for equipment maintenance.

Specify a complete roofing system, making the materials manufacturer responsible for the roofing and flashing system. Require the materials manufacturer to make periodic inspections of the work in progress to ensure that the completed work will qualify for the required warranties.

Do not use roof deck insulation as the only element in the overall building thermal resistance system. Refer to Section 07200.

This is a section where the consultant should use a "performance specification". Do not specify proprietary manufacturer's names or materials, and do not restrict vendors to a limited list.

Shingle roof repairs and modifications which are part of a renovation project (e.g. installation of a new exhaust fan) should follow these standards as much as possible. Existing roof warranties must not be compromised. The consultant must prepare a complete specification and details for the required repair work. Generic "flashing as required" notes (which often appear on engineering details for new exhaust fans) are not acceptable.

Be sure to coordinate specification requirements with roofing, flashing, and parapet wall details.

#### **Part 1 - General**

- Require that materials manufacturer(s) and installer(s) demonstrate 5 years of successful installations of similar systems.
- Require submittal of manufacturer's literature describing the system, and samples of proposed shingles.
- Require a pre-installation conference, scheduled after the substrates are complete, and including the Contractor, Architect, Owner, materials manufacturer, and installing subcontractor(s).
- Shingle roofing is a finish material, not a staging platform for further construction work. Include the following provisions:
  - Require the Contractor to install a "temporary roof" if he desires to "dry-in" the building to allow interior construction to begin or to provide a platform for further exterior construction
  - Describe this requirement as a "Contractor's Option", that is, if he wants to dry-in, he must do so only with a temporary roof
  - Reference the National Roofing Contractor's Association (NRCA) requirements for temporary roofs, including "sacrificial" insulation on metal decks
  - Specifically prohibit "phased roofing"
  - Require that finished roofs be protected with plywood sheets for any and all construction traffic, and that all equipment moving be accomplished with rollers
- Specify expanded warranties as follows:
  - 5 year warranty from the installer covering defects in installation
  - 30 year warranty from the materials manufacturer including defects in materials and installation, and guaranteeing to maintain the system in a waterproof condition for the life of the warranty
  - Full replacement value without proration

- Include all components of the roof assembly, from the deck up
- Include sealing of all perimeters, joints, and penetrations
- Both furnished on the University's special warranty form

### **Part 2 - Products**

- Expressly prohibit the use of asbestos-containing materials.
- Require that all primary and secondary materials be supplied by a single manufacturer, or approved by the primary materials manufacturer, to ensure single-point responsibility for the installation and warranty.
- Specify a manufacturer's standard shingle roofing system as follows:
  - UL Class A fire rating
  - UL Class 90 wind uplift rating
  - Minimum 15-lb asphalt saturated underlayment
  - 30 year fiberglass-reinforced asphalt shingles
- Limit roof insulation to 2" thick. Specify insulations which provide adequate load-bearing capacity at the 2" thickness.

### **Part 3 - Execution**

- Specifically require the roof to be installed in accordance with the manufacturer's recommendations.
- Refer to and describe the appropriate SMCNA details for each edge and penetration condition.
- Require the roofing installer to receive, accept, and install, all sheet metal flashings.
- Specifically prohibit:
  - Pitch pans
  - Guy wires fastened directly to the deck
- Specify (or detail) 3/4" plywood nailers at all parapet walls.
- Require a spray test after completion of the roofing system, to be witnessed by the Contractor, Architect, Owner, materials manufacturer, and installing contractor(s).

### **End of Section 07310**