	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 - Yale Design Standard Division: 07 00 00 Thermal and Moisture Protection	Section: 07 30 00 Requirements for Steep Slope Roofing
		Date: December 2023
		Author: Office of Facilities

PART 1 - INTRODUCTION

1.1 PURPOSE

This section contains general design criteria for asphalt shingles and roof tiles.

PART 2 - GENERAL DESIGN REQUIREMENTS

2.1 SYSTEM DESIGN AND PERFORMANCE REQUIREMENTS

Do not use asphalt singles or roof tiles on slopes less than 3:12.

2.2 SUBMITTALS

All typical flashing, corners, edges, gutters, valleys, dormers, ridges, and penetrations on roofs must be drawn at large scale as part of the construction documents.

2.3 PRODUCT STANDARDS

A. Fiberglass asphalt shingles:


1. ASTM D3018
2. Type 1
3. UL Class A
4. Minimum 25 year warranty

B. Slate roof shingles:

1. ASTM C406
2. Grade S1
3. Hard, dense, sound commercial standard slate

C. Clay roof tiles:

1. ASTM C1167
2. Grade 1
3. Vitrified clay tile and special trim tile

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2.4 MATERIALS

A. Roofing felt:

1. ASTM D226 or ASTM D2626
2. Unperforated • Asphalt felt
3. Use 15 or 30 lb felt for asphalt or organic shingles
4. Use 40 lb felt for roof tiles

B. Fasteners:

1. 11 gauge, ring shank copper nails for slate and tile
2. Hot-dipped galvanized roofing nails for shingles, with a minimum 3/8" diameter head
3. Staples are not acceptable

C. Ice and water protection:

1. Sheet membrane of rubberized asphalt bonded to sheet polyethylene
2. 40 mil total membrane thickness

D. Plastic cement:

1. ASTM D2822
2. Asphaltic type with mineral fiber components

E. Mortar:


1. ASTM C270
2. Type N
3. Cement/lime mortar
4. Masonry cement is not permitted.

2.5 ACCESSORIES OR SPECIAL FEATURES

Provide aesthetically appropriate gutters and downspouts where water runoff will affect pedestrian traffic.

2.6 EXTRA MATERIALS

- A. Provide at least three unopened bundles of additional shingles in each color. Yale University will specify the delivery location.
- B. Deliver the quantity of slate or clay tiles specified by Yale University to the specified location.

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2.7 SPECIAL REQUIREMENTS

Provide special provisions for steep slope roofs as required by the manufacturer and/or local codes.

2.8 INSTALLTION GUIDELINES

- A. Install asphalt shingles, slate shingles, and clay tiles over dry surfaces free of ridges, warps, and voids.
- B. Install ice and water protection according to manufacturer’s instructions and local building codes. In addition, install ice and water shield at eaves, valleys, walls and dormers.
- C. Provide a mock-up for roof tile installations.
- D. Follow the manufacturer’s instructions for attaching asphalt shingles.
- E. Provide a starter course for asphalt shingles at eaves, 1/2" beyond the fascia.
- F. Extend asphalt shingles 1/2" beyond the face of rake edge fascia boards.

Date	Description of Change	Pages / Sections Modified	ID
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