

Figure 8-1. Types of Clay Tile

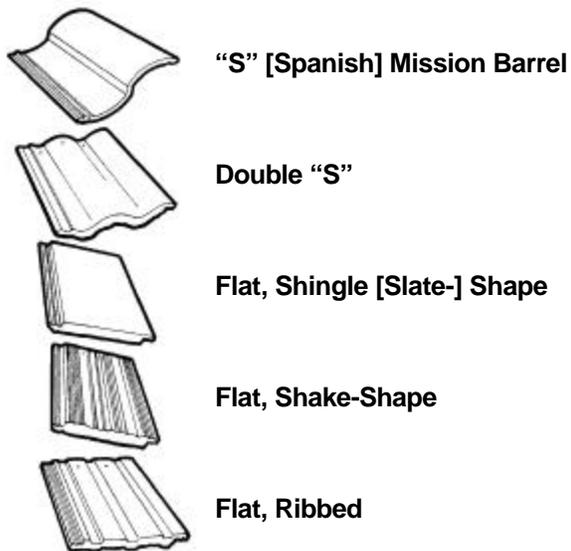


Figure 8-2. Types of Concrete Tile

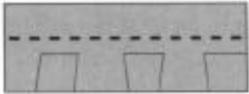
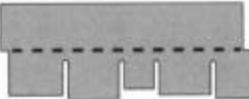
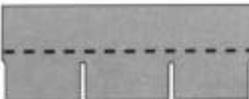
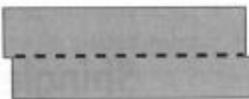
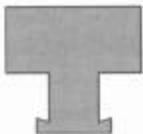
Table I: Typical asphalt shingles								
Product	Configuration	Appx. shipping weight per square (lbs.)	Shingles per square	Bundles per square	Width (in.)	Length (in.)	Exposure (in.)	ASTM fire and wind ratings
Laminated self-sealing random tab shingle 	Various edge, surface texture and application treatments	240-360	64-90	3-5	11 $\frac{1}{2}$ - 14 $\frac{1}{4}$	36-40	4-6 $\frac{1}{8}$	Class A or C fire rating. Many wind resistant.
Multi-tab self-sealing square tab strip shingle 	Various edge, surface texture and application treatments	240-300	65-80	3-4	12-17	36-40	4-8	Class A or C fire rating. Many wind resistant.
Multi-tab self-sealing square tab strip shingle 	Three-tab or four-tab	200-300	48-80	3-4	12-13 $\frac{1}{4}$	36-40	5-5 $\frac{1}{8}$	Class A or C fire rating. All wind resistant.
No-cutout self-sealing square tab strip shingle 	Various edge and surface texture treatments	200-300	65-81	3-4	12-13 $\frac{1}{4}$	36-40	5-5 $\frac{1}{8}$	Class A or C fire rating. All wind resistant.
Individual interlocking shingle (basic design) 	Several design variations	180-250	72-120	3-4	18-22 $\frac{1}{4}$	20-22 $\frac{1}{2}$	n/a	Class A or C fire rating. Many wind resistant.

Figure 8-3. Typical Asphalt Shingles

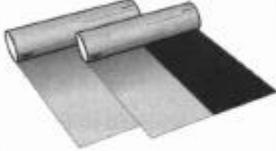
Table 2: Typical asphalt rolls								
Product	Appx. shipping weight per roll (lbs.)	Appx. shipping weight per square (lbs.)	Squares per pkg.	Width (in.)	Length (ft.)	Selvage (in.)	Exposure (in.)	ASTM fire and wind ratings
Mineral surface roll 	75-90	75-90	1	36-39 ³ / ₄	32.7-38	2-4	32-34	Some Class C
Mineral surface roll (double coverage) 	55-70	110-140	1/2	36-39 ³ / ₄	32.7-36	19	17	Some Class C
Smooth surface roll 	50-86	40-65	1-2	36-39 ³ / ₄	32.7-72	2-4	34-37 ³ / ₄	None
Non-perforated felt underlayment 	24-60	6-30	2-8	36	72-288	2-19	17-34	May be a component in a complete fire-rated system. Check with manufacturer for details.
Self-adhered eave and flashing membrane 	35-82	33-40	1-2 ¹ / ₄	36	36-75	2-6	34	May be a component in a complete fire-rated system. Check with manufacturer for details.

Figure 8-4. Typical Asphalt Rolls

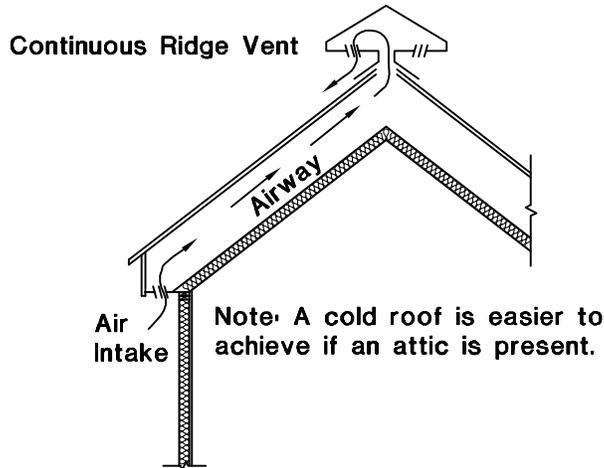
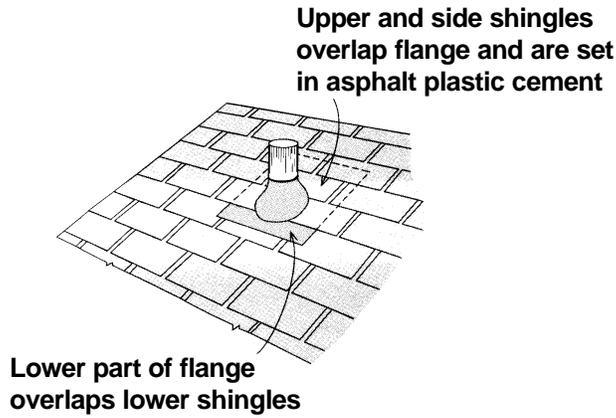


Figure 8-5. A Cold, Ventilated Roof Above a Cathedral Ceiling

	Cost 1=Low 5=High	Longevity	Min. Slope % in./ft.		Advantages	Disadvantages
Asphalt Shingles *Improve underlayment	2-3	10-25	33	4	Easy installation Available in a variety of weights, colors, or shadow lines Requires little maintenance	Organic shingles—Class C Glass fiber shingles—Class A
Asphalt Roll Roofing	1-2	5-15	8	1	Easy installation and repair	Poor fire resistance for some types; drab appearance.
Wood Shingles	3-4	10-20	25	3	Attractive rustic appearance; natural insulator	Flammable unless specially treated. Should be laid over open planks or spaced battens so they can dry.
Wood Shakes	3-5	10-25	33	4	Attractive rustic appearance; natural insulator	Flammable unless specially treated.
Slate	5	50-100	33	4	Attractive traditional appearance; fire resistant	Heavy; brittle; requires sturdy roof support. Tricky installation that requires special tools and skills; difficult to repair.
Tile Concrete	4-5	30-100	33	4	Attractive traditional appearance; fire resistant	Heavy; brittle; requires sturdy support; time consuming installation that requires special skills; availability of replacement pieces unreliable; difficult to repair.
Tile Clay	5	30-100	33	4	Attractive traditional appearance; fire resistant	Heavy; brittle; requires sturdy support; time consuming installation that requires special skills; availability of replacement pieces unreliable; difficult to repair.

Figure 8-6. Comparison of Steep Roofing Systems



Notes:

1. Lower shingle cut to fit over pipe and set in asphalt plastic cement
2. Preformed pipe flange placed over pipe and set in roof cement
3. Bead of roof cement or caulk used between pipe and collar of pipe flange.

Figure 8-7. Pipe Penetration

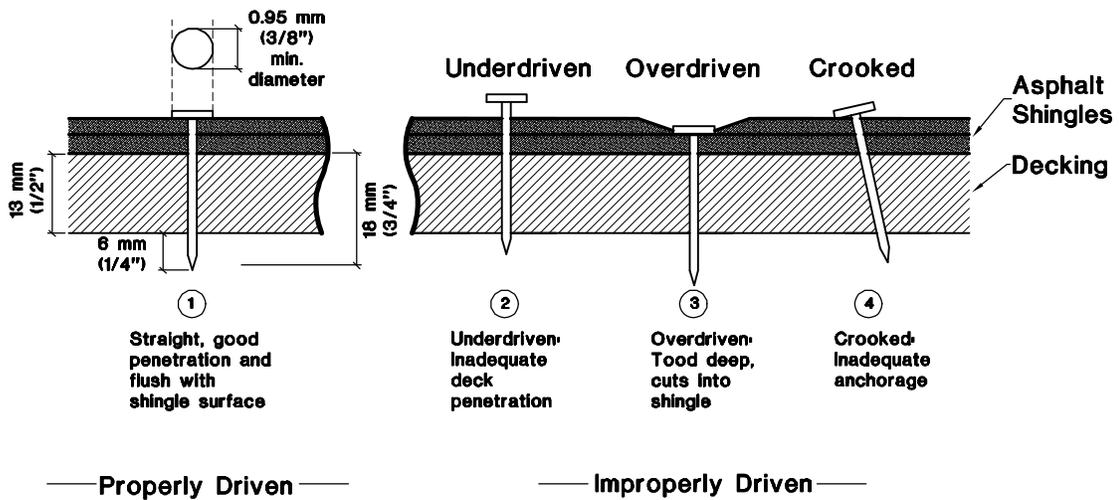
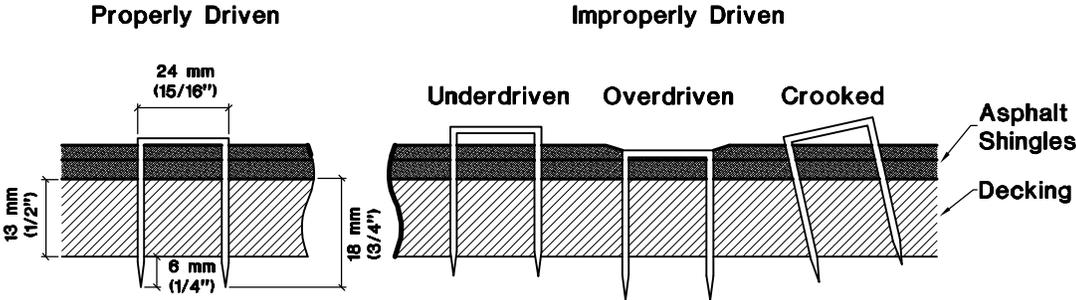


Figure 8-8a. Application of Roofing Nails



Note: Staples Not Recommended with Asphalt Shingles

Figure 8-8b. Application of Roofing Staples