

Roofing History

Wood Roofs

Throughout the history of building systems in North America, the materials and methods of construction of wood roofs have varied according to geography and technological advancements over the past four centuries. Both the availability of native materials and the science of building have had an equal impact on the methods of installation of wood roofing materials.

Early American roofs were constructed of framing and sheathing systems that were primarily imported from England. Consequently, they were heavily built - more prepared to carry the weight of slate or tile roofs than the lighter weight of thatch or wood shingles. The abundance of native timber began to change the roof framing systems and the application of wood shingles as the preferred roofing material. Hand-hewed principal rafter and purlin systems yielded to common rafter systems composed of mill sawn lumber. Roof sheathing transitioned from a vertical application (17th century and 18th century) to a horizontal application. Often, these horizontal sheathing boards were laid up with a defined space between each course, providing natural ventilation to the undersides of the wood shingles. This system, more than likely, prolonged the life of the wood roofing and perpetuated its use well into the 20th century.

As for the materials in use, they were initially hand-split shingles (relying on the common tree species in the area) that were smoothed and tapered with a drawknife. Modern “shakes” are typically more rustic than the hand treated shingles of preceding centuries, but are meant to imitate the conjecture of a more rustic period. Southern New England (Massachusetts, Rhode Island, and Connecticut) would have seen a greater use of oak and white cedar; eastern white pine would have predominated in northern New England states. By the turn of the 20th century, western red cedar shingles were readily available in the Northeast and their use remains extensive in the region.

Slate Roofs

In an effort to avoid devastating fires, slate saw growing use especially in cities and seaports. The building practices brought from England with the early settlers would have been familiar with slate, but the wide spread prevalence of wood encouraged the use of that material. While slate was quarried in New England in the 1600s, it was used for roofing rarely since the transportation from the quarry would have been very difficult. Soon after 1800, several devastating fires in cities encouraged – and in some cases mandated - the use of slate. In the first half of the 19th century, more slate quarrying opened up in Vermont, Maine and New York. By the end of the 19th century the prevalence of railroads led to the greater use of slate throughout New England.

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Metal Roofs

Metal roofing increased in use during the 19th century. Imported from England, sheet lead was available in the 17th century but its significant cost limited its use. Sheet copper was available in the United States in the late 18th century as a result of its increasing use in ship building. Availability did little to make the material affordable and the use of copper was limited to more challenging roof lines. Tin and eventually terne (a lead / tin alloy) plated iron and steel sheets were in use by the mid-19th century. Metal roofs are most prevalent in flat roofing situations although late 19th century technology provided for more decorative stamped metal “shingles” that would be applied to steeper pitched roofs. For longevity, metal roofing was most often painted.

Asphalt Roofs

Asphalt impregnated wool felts were introduced in the 1880s. This type of material was initially used as roll roofing, but manufacturing capabilities ultimately provided as individual shingles. By about 1915, asphalt shingles were available as strips of “three” shingles with notching mimicking the individual shingle breaks. This roofing material predominates to this day. From the outset, asphalt shingles were meant to appear visually as their wood and slate shingle predecessors. Asphalt shingles are available in various shades – brown for “wood”; red, black or green for “slate”.

FURTHER READING

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