

Vince Graye Slate & Tile Roofing

SLATE ROOFING

The following information has been actuated by the desire to supply reliable general information on slate roofing and some of the specific situations that must be dealt with when maintaining, repairing or deciding when a slate roof is not worth maintaining and/or repairing.

Slate is a metamorphic rock that is produced from clay and shale which have been compressed and deformed by earth pressures. Pressure rearranges the clay minerals into layers of rock known as slate. This rock or stone is formed by nature. It needs no heat to form it and no process to manufacture it other than the workmanship to extract (quarry) it from the ground in blocks. Workmen split slate into layers with hammers and chisels, to the desired thickness. The slate are then cut to various sizes of roofing shingles. The standard slate roofs are those composed of slate approximately 3/16 of an inch thick (commercial standard slate). In addition to standard uniform roofs, there are textural and graduated roofs. The color of slate is determined by its chemical and mineralogical composite. Slate is usually gray or gray/green, although there are many other colors.

Slate has certain characteristics and sometimes imperfections which are commonly accepted as affecting the appearance and "classification" or so called "grade" into which quarries divide their product. The lower grade of slate shingles are not as hard as the higher quality slate. The lower quality slate may have less strength and consist of greater porosity and less stable minerals, in addition to other imperfections such as excessive cracking along the grain of the slate shingles. After an average of approximately 70 years, the lower grade is usually worn out and needs to be removed from the roof. In some cases, this inferior slate may last beyond the average, especially when the slate is on a very steep roof. Some of the higher quality slate shingles can last for centuries.

Even when the highest quality of slate roofing shingles have been applied to a roof, the original workmanship is at least as important as the material itself, especially in certain areas of a roof such as where two slopes intersect (valleys), pocket areas, vertical wall/roof junctions, around vent pipes and chimneys, etc. These types of areas require "flashing", which should be a non-corrosive metal such as copper. These areas can be the weak areas on any roof. The problem with the above mentioned areas is that when highly durable slate shingles are used, these weak areas (where the flashing is located) will usually wear out and need replacement before the slate shingles wear out. It seems that the metal in the valley junctions usually wears out after approximately 50

to 80 years. Flashing at wall/roof junctions and chimneys should last longer than valleys, but often does not, due to poor original installation, which seems to be the most common cause of failure to chimneys and wall/roof junctions. Poor original workmanship may cause valleys or any flashing to fail prior to the normal time. In most cases, poor original workmanship to flashing areas is not detectable without removing slate and/or the flashing itself. Workmanship is essential, the more enduring the material, the more important the workmanship factor becomes. Slate, the most durable steep roofing material should only be applied, maintained and repaired by roofers that possess the experience and knowledge to do this particular work. It is a mistake to assume that those without such experience are qualified to properly work on slate roofs. On some basic situations, it may be possible for individuals that are not experienced to perform repairs on these roofs. However, there have been many cases when building owners have entrusted those that were not properly experienced to install or repair a slate roof. If done incorrectly, some situations can be corrected, however other situations can be a total disaster. When considering the repairs and restoration of a slate roof, a building owner needs an inspection from an experienced person, who will assess the problems, and weigh all of the alternatives. A common situation is that a building owner is interested in repairing a slate roof that is not worth repairing, usually due to the fact that the slate is of low quality. The reason could be that the slate is hard slate, but may have poor characteristics or the slate shingles may be installed with iron nails. Iron nails could rust, and the slate can then slide out of position. Non-corrosive nails should be used for slate application. When the slate is of good quality, and the workmanship is also good, it usually makes sense to restore the weak areas of the roof. General slate repairs (the replacement of broken and missing slate) are usually necessary on most roofs. As the slate roofs age, the need for general repairs can increase. The mitered slate shingles at the hip and ridge junctions can separate. When this occurs, the re-securing of the hip and ridge slate may become necessary, along with the caulking of the mitered joint.

Low sloped roof areas can prove to be a major problem, no matter what the material. When a roof has a low slope, or a very low slope (almost flat) the roofing material usually fails before the same material on a steep roof. There are many problems on the low sloped roof that do not normally exist on a steep roof.

A List of Items to Check When Inspecting A Slate Roof

1. What grade is the slate.
2. Does the slate appear to have any imperfections.
3. What condition does the flashing appear.
4. What type of nails are the slate applied with.
5. Is the workmanship obviously poor.
6. What condition are the hip and ridge junctions.
7. Are there any low sloped roof areas and if so, how do they appear.