



# TECH NOTES

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## WHY SHOULD YOUR CHOICE BE LUDOWICI ROOF TILE???

Let us look at the freeze-thaw and salt intrusion as it related to long-term tile performance. Ludowici is the only tile manufacturer with proven long-term performance under any weathering condition. Why is it that Ludowici is so enduring?

The overriding physical characteristic that ultimately determines long-term performance is moisture absorption (largely determined by density of cell structure). Ludowici's research on longevity has clearly identified this fact – if the tile has an absorption rate over 2% to 3%, it will fail. Ludowici tiles average 1% or less for moisture absorption.

Specifiers may be tempted to defer to ASTM C1167-96, Standard Specification for Clay Roof Tiles, to determine standards of performance in selecting tile. A close inspection of this standard, however, helps confirm Ludowici's research and the fact that such standards are typically written to include the "lowest common denominator manufacturer" through the consensus style standards procedure.

### "5. Performance Requirements

- Note 1 – Frost is of profound importance in mechanical weathering where its effectiveness is dependent on the frequency of temperature fluctuation across the freezing point in the presence of water. The ability of a tile to resist failure in a wet and freezing environment is, therefore, of paramount importance. If a tile fails in such an environment, its use will result in an unacceptable deterioration of appearance or more likely, a total failure to function (that is, protect the underlying structure from rain), or both. Such a tile is completely unacceptable for use regardless of its other properties such as strength.
- Note 2 – The resistance of clay roof tiles to weathering cannot be predicted with complete assurance using any of the physical tests prescribed. However, practical experience has demonstrated satisfactory performance of clay roof tiles, some for hundreds of years, and this experience forms the basis of the prescriptive requirements of Table 2. There is generally excellent correlation between field performance and the requirements. However, it is possible that some tiles that meet this specification are not suitable for severe climates. Furthermore, it is also possible for other tiles that do not meet this specification to show acceptable serviceability to the most severe climates. The best indication of clay roof tile durability is the service record of experience with the specified product in the environment of its intended use."

The last sentence makes a clear point about tile selection and points directly to Ludowici in any climate, locale or environment. Visit old tile projects in any part of the country and you will find other tiles deteriorated (even in the desert!). Ludowici will always retain its performance and beauty.

So, performance is the greatest indicator of longevity and beauty and moisture absorption is the key indicator of resistance to deterioration through freeze-thaw cycling. It is also an indicator of several other performance concerns: resistance to salt intrusion (particularly in shore areas), airborne pollutants and color retention. Salt intrusion can be as destructive as moisture. Soluble salt enters the clay cell structure and is deposited and forms crystals as the tile dries. These crystals expand, creating great force (as on a concrete driveway) eventually causing the top surface to erode away.

Ludowici tiles are fired at 2100° creating a very dense, vitrified (glass-like) cell structure. This creates a barrier to moisture, salt, airborne pollutants and the effects of freeze-thaw cycling. This is in fact why Ludowici is considered “the perfume of tile” and is recognized as the world’s finest roofing tile (other issues also have an impact including raw materials, fillers, glazing materials, rate of speed through the kiln, etc.).

We are suggesting here that you and your clients appreciate the basis for performance so that you can hold any tiles under consideration to these standards – moisture absorption and service record (60 years +). Without a standard for performance, color and cost will be meaningless if you have to replace the tile in 20 years.

Color and cost are, however, important considerations also. To push cost aside, Ludowici 18-3/8” Spanish tile can be purchased and installed starting at \$8.00 - \$10.00 per square foot – less than a brick veneer! Tile style, color and finish will each impact the ultimate cost of the installation (copper flashings are also in addition). Ludowici tile can be purchased starting at about \$300 per square going up to over \$1500 per square.

Ludowici has an extremely broad range of color, style and texture capability. Do not think of us as simply clay red or Spanish. We can create color blends, special “process flashing” or “feathered flashing” with sprayed on glazes. We can add lion’s head hip starters or create custom sculpted hip starters (such as dolphins) to meet a client’s demands. We can work within a very broad range of matte colors; create effects to “age” the tile. You can use your imagination and creativity – don’t limit your choices to catalog pictures.

You can also be conservative. Go with the traditional colors and styles; Spanish Clay Red. Or, as many Delaware homes have, move away from cedar shakes with a short lifetime and use the Ludowici Williamsburg style for the lasting look of cedar shakes.

Ludowici. The tile solution for unquestioned long-term beauty and performance. Call us for additional information, pricing and/or samples.