



Life Cycle of Ludowici Terra Cotta Tiles

TECHNICAL SUPPORT DOCUMENT



LUDOWICI®

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How long do Ludowici terra cotta tiles last? The answer can be found by looking at a few key factors like: history, strength, water absorption, salt intrusion and warranty.

1. HISTORICAL PERFORMANCE

Ludowici tiles have been installed across North America since 1888 — that's more than 137 years of proven performance in every type of climate, including harsh freeze-thaw regions. Many of these roofs are only now being renovated, not because the tiles failed, but because waterproofing membranes and flashing systems need replacement. In many cases, the tiles themselves remain in excellent condition and are reused.

It's worth noting that tiles manufactured in the late 1800s and early 1900s were made with less advanced clay processing and firing techniques, resulting in lower breaking strength and higher water absorption than tiles produced today. Yet, many of those tiles have still performed for well over a century.

2. BREAKING STRENGTH

Today, tiles produced at Ludowici's New Lexington, Ohio manufacturing facility achieve some of the highest breaking strength values in the world, with test results that significantly exceed ASTM C1167 Grade 1 requirements. These performance improvements are the result of advancements in clay refinement, manufacturing precision, forming technology, and longer, higher-temperature firing cycles. Compared to tiles produced in earlier eras, modern Ludowici tiles deliver substantially improved strength, durability, and overall performance. Copies of applicable test reports are available upon request through a Ludowici representative.

3. WATER ABSORPTION

The number one factor in clay tile deterioration is water absorption combined with freeze-thaw cycles. Modern Ludowici tiles produced in the New Lexington, Ohio factory have water absorption rates of less than 2%, among the lowest of any clay tiles globally. By comparison, tiles from the early 1900s had higher absorption rates, yet still lasted more than 100 years. This means today's tiles, engineered with advanced processing and firing, are built to last even longer.



Maximized Life Cycle

Terra cotta can last 100+ years. It's an investment that helps avoid the inconvenience, cost, and disruption of re-roofing.



Dependable Quality

As a 130+ year old company, we manufacture each tile to exceed ASTM 1167 Grade 1 standards.



Proven Durability

Terra cotta, used as a natural roofing solution for centuries, truly stands the test of time. Each Ludowici tile is backed by a 75-year material and color-fast warranty.

WHY LOW MOISTURE ABSORPTION MATTERS

- ◆ Helps maintain breaking strength
- ◆ Prevents salt intrusion
- ◆ Reduces chances of mold & mildew
- ◆ Low impact freeze-thaw cycles

4. SALT INTRUSION

Salt intrusion from coastal areas can also compromise the structural integrity of terra cotta products, particularly when materials have high water absorption rates and are repeatedly exposed to cycles of saturation and drying. Over time, this can lead to surface deterioration such as spalling or flaking — especially in freeze-thaw conditions, where salt accelerates the breakdown process.

Ludowici's terra cotta produced in the New Lexington, Ohio factory is fired at 2,100°F, resulting in a dense, vitrified material with exceptionally low porosity. This makes the tiles naturally resistant to salt intrusion and highly durable in marine environments, effectively withstanding the corrosive effects of salt-laden air.



5. WARRANTY & EXPECTED LIFE SPAN

Every Ludowici tile comes with a 75-year material warranty, ensuring protection against manufacturing defects. When combined with over a century of proven performance, today's superior manufacturing standards point to an expected lifespan of 200+ years or more.

CONCLUSION

While many of our oldest tiles have already lasted 100+ years, the tiles we produce today are stronger, denser, and more durable than ever before. With proper installation and maintenance, Ludowici terra cotta tiles are truly a multi-century investment.



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This document is intended as a general technical reference only. Refer to current Tile Roofing Industry Alliance (TRIA) and National Roofing Contractors Association (NRCA) resources, applicable OSHA safety regulations, and all national, state, and local building code requirements. Consultation with the project's design professional or Engineer of Record is recommended where applicable.