



Roof & Wall Decking Requirements

TECHNICAL SUPPORT DOCUMENT




LUDOWICI®

Roof & Wall Decking Requirements

What type and thickness of roof or wall decking is required behind Ludowici terra cotta tiles? The answer depends on selecting a decking system capable of satisfying two critical performance criteria: (1) deck deflection requirements and (2) attachment anchor/method pullout resistance requirements. These performance criteria must also comply with three governing sources: (1) Ludowici minimum recommendations, (2) project-specific requirements established by the Architect or Engineer of Record, and (3) applicable local and national building code requirements. The table below illustrates this relationship:

CRITERIA	LUDOWICI MINIMUM RECOMMENDATIONS	ARCHITECT/ENGINEER OF RECORD REQUIREMENTS BASED ON BUILDING DESIGN/USAGE	BUILDING CODE REQUIREMENTS (LOCAL & NATIONAL)
DECK / SHEATHING DEFLECTION	L/240 MAXIMUM DEFLECTION	CONSULT ARCHITECT/ENGINEER OF RECORD	PER APPLICABLE LOCAL AND NATIONAL BUILDING CODE REQUIREMENTS
ATTACHMENT ANCHOR/METHOD PULLOUT RESISTANCE	180 LBS MINIMUM PULLOUT RESISTANCE PER FASTENER	CONSULT ARCHITECT/ENGINEER OF RECORD	PER APPLICABLE LOCAL AND NATIONAL BUILDING CODE REQUIREMENTS

Various roof and wall decking/sheathing materials may potentially be used behind Ludowici terra cotta tile systems, provided the selected substrate is capable of meeting the required structural deflection criteria and attachment pullout resistance requirements for the specific project conditions.

As an example, Ludowici’s installation manual suggests a minimum deck thickness of ¾” plywood to help provide adequate structural support for terra cotta tile installations. This recommendation is primarily influenced by the weight of the tile system, which can range from approximately 600 to 2,000 pounds per square depending on the tile profile and installation configuration. However, this recommendation does not necessarily mean that ¾” plywood is the only acceptable decking option. Alternate deck materials and thicknesses may also be suitable, provided they satisfy all applicable structural, performance, deck deflection, and attachment pullout resistance requirements outlined in the table above.

Final deck material selection, thickness, fastening design, and overall structural adequacy should always be reviewed in accordance with applicable local and national building codes, project-specific loading requirements, and the recommendations of the Authority Having Jurisdiction (AHJ), Architect, and/or Engineer of Record. Any alternate decking system should be reviewed and approved by the project design professional prior to installation.



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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.