

Roof Tile System – Technical Guide

Storage and service rooms are functional spaces that require **durable roofing protection, moisture control, and low-maintenance performance** rather than high interior comfort.

These rooms are exposed to:

- External weather conditions
- Moisture accumulation
- Limited ventilation
- Long-term maintenance challenges

Therefore, the roof tile system should prioritize:

- ✓ Durability
- ✓ Waterproofing
- ✓ Ventilation
- ✓ Corrosion resistance

According to international tile roofing standards, the main failure points in service room roofs are **poor drainage, inadequate ventilation, and untreated structural components**, not the roof tiles themselves.

1. Technical Recommendations

1.1 Structural System

Use a **hot-dip galvanized steel structure** as the primary support system.

Recommended:

- Galvanized hollow steel sections
- Galvanized purlins
- Corrosion-resistant connectors

The structure must be designed to resist:

- Roof tile dead load
- Wind uplift

- Occasional maintenance loads

Since service rooms often experience humidity, **untreated steel is not acceptable** due to long-term internal corrosion risk.

All hollow sections should be protected with **end caps (plugs)** to prevent:

- Water ingress
 - Internal rust
 - Insect accumulation
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1.2 Roof Slope

International installation standards recommend:

- **Minimum slope: 25°**
- **Preferred slope: 30°**

This ensures:

- Proper water shedding
- Reduced leakage risk
- Better tile performance

Low slope installations increase dependence on underlayment and significantly raise leakage risk.

1.3 Roof Layer Composition

The recommended roof assembly is:

1. Galvanized steel structure
2. Vapor barrier (optional for storage)
3. Waterproof membrane
4. Battens (treated timber or galvanized steel)
5. Roof tiles

6. Ridge and side closures

The waterproof membrane is essential because tile roofs are **water-shedding systems, not waterproof systems by themselves.**

1.4 Drainage Requirements

Install:

- Aluminum gutters or galvanized gutters
- Minimum gutter slope: **1–2%**

The drainage system must direct water away from:

- Wall junctions
- Door openings
- Foundations

Poor drainage is one of the main causes of deterioration in service room extensions.