

Technical Recommendations (Design & Structure)

1 Structural System

- Use **hot-dip galvanized steel structure (highly recommended)**
 - Structure must resist:
 - Tile load + insulation
 - Moisture exposure (important in kitchens)
 - Avoid untreated steel or wood completely
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2 Roof System Layers (From bottom to top)

1. Galvanized steel structure
2. Vapor barrier (very important in kitchens)
3. Thermal insulation
 - Rock wool (best option)
 - Or rigid foam boards
4. Waterproof membrane (full coverage)
5. Battens (treated timber or galvanized steel)
6. Roof tiles
7. Ridge caps + closures

✓ Key difference from other spaces:

👉 Vapor barrier is **mandatory**, not optional

3 Thermal & Moisture Control

- Insulation thickness: **5–10 cm minimum**
- Use materials resistant to humidity
- Prevent **condensation buildup under the roof**

✓ Result:

- Prevents mold
 - Protects structure
 - Improves indoor comfort
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4 Ventilation System (Critical for Kitchens)

- Must include:
 - **Mechanical exhaust system (chimney or hood outlet)**
 - Roof outlet for hot air discharge

- Provide:
 - Proper sealing around exhaust duct خروج الهود

✓ Important:

Vent openings must be fully sealed with flashing to prevent leaks

💧 5 Waterproofing

- Use high-quality membrane (bituminous or synthetic)
- Ensure full sealing around:
 - Exhaust ducts
 - Roof penetrations
- No weak points allowed

