

HVAC LOAD CALCULATION

Simplified Manual J - Residential Heating & Cooling Load

PROPERTY INFORMATION:

Address: 27503 Sweetgum Drive, Wesley Chapel, FL
Square Footage: 2,800 sq ft
Year Built: 2015
Ceiling Height: 10 ft

' LOAD CALCULATION RESULTS:

Calculated Load: 44,250 BTU/hr
Recommended Tonnage: 3.7 tons
Acceptable Range: 3.3 - 4.2 tons

Equipment Match: 4 tons - ACCEPTABLE

CALCULATION BREAKDOWN:

Walls (conduction): 1,810 BTU/hr
Windows (conduction + solar): 16,428 BTU/hr
Ceiling/Roof: 1,704 BTU/hr
Doors: 450 BTU/hr
Infiltration (air leakage): 2,310 BTU/hr
Internal Gains (people, appliances, lights): 8,750 BTU/hr
Duct Gain (unconditioned space): 4,178 BTU/hr

+ Latent (humidity) gains:
Infiltration: 420 BTU/hr
Occupants: 1,400 BTU/hr
Appliances: 1,200 BTU/hr

Ø=Ü; RECOMMENDATIONS:

- Proper duct sealing and insulation saves 20-30% on energy bills.
- Programmable thermostat can reduce runtime by 10-15% with no comfort loss.

Methodology:

ACCA Manual J 8th Edition - Residential Load Calculation
Confidence Level: HIGH

DISCLAIMER: This is a preliminary load calculation based on building characteristics and industry standards. It is intended to verify appropriate equipment sizing for typical residential HVAC replacements. For new construction, significant renovations, or complex systems, a detailed room-by-room Manual J calculation by a licensed HVAC contractor or professional engineer may be required. Actual cooling/heating requirements may vary based on occupancy, fenestration, and other site-specific factors.