



PRINCE WILLIAM COUNTY
Department of Development Services – Building Development Division

HVAC CERTIFIED LOAD CALCULATIONS

Version 2015-07-04

NOTE: This form is to be used by licensed mechanical contractors, architects or engineers registered in Virginia. This form is only to be used on residential, one and two family dwelling units. If there is more than one zone per dwelling unit, submit separate sheets for each. A copy with an original signature of these approved Certified HVAC load calculations is to remain on the job site for the inspector's reference. Failure to have a copy with an original signature on the job site may result in a rejected inspection. Homeowners performing calculations for their own home shall complete this form and submit it for review by PWC Plan Review.

MEC Permit # _____ BLD Permit # _____

1. Owners Name: _____ House Type/Model: _____
 Subdivision: _____ Total Area: _____ SF
 Site Address: _____ Lot #: _____
 Contractor: _____ Tele. #: _____

Designed under IRC 20__ Code

2. Winter Design Conditions:
 Outside 0°F Inside 70°F Total heat loss (calculated) = _____ BTUH

3. Summer Design Conditions:
 Outside _____ °FDB _____ °FWB Inside _____ °FDB

Sensible Heat Gain (calculated) = _____ BTUH
 Total Heat Gain (calculated) = _____ BTUH

4. Equipment Data:

A. Heating

Input _____ BTUH
 Output _____ BTUH
 Type Fuel _____
 Type Flue _____

B. Cooling

Coil Capacity Sensible _____
 Coil Capacity Total _____
 Type Equipment _____
 Model # _____

C. Fan

Air Quantity _____ CFM
 Static Press _____
 CFM per Ton _____

Staff Use Only

Owner's Name: _____

Site Address: _____

5. All loads are calculated using Manual "J" or other approved methods.
6. All unfinished areas are to be figured in load calculations.
7. All ducts are to be designed, constructed and installed per International Residential Code
8. All ductwork to be insulated to the current International Residential Code.
9. Construction Data: (Use additional sheets as required).

Item _____ Sq.Ft.	Construction Description	R-Value _____
Exterior Wall _____	_____	_____
Windows _____	_____	_____
Doors _____	_____	_____
Floors _____	_____	_____
Roof _____	_____	_____
Perimeter Insul. _____	_____	_____
Slab Insul. _____	_____	_____
_____	_____	_____
_____	_____	_____

10. Air Distribution Data:

Room Name	Area-SF	CFM, Heat/Cool	Outlet	Branch Duct	Sensible Heatloss/Gain	Level*
Bsmt _____	_____	_____/_____	_____	_____	_____/_____	_____
Rec Rm _____	_____	_____/_____	_____	_____	_____/_____	_____
Hall _____	_____	_____/_____	_____	_____	_____/_____	_____
Foyer _____	_____	_____/_____	_____	_____	_____/_____	_____
Kitn _____	_____	_____/_____	_____	_____	_____/_____	_____
Din Rm _____	_____	_____/_____	_____	_____	_____/_____	_____
Liv Rm _____	_____	_____/_____	_____	_____	_____/_____	_____
Bath A _____	_____	_____/_____	_____	_____	_____/_____	_____
BR#1 _____	_____	_____/_____	_____	_____	_____/_____	_____
BR#2 _____	_____	_____/_____	_____	_____	_____/_____	_____
BR#3 _____	_____	_____/_____	_____	_____	_____/_____	_____
BR#4 _____	_____	_____/_____	_____	_____	_____/_____	_____
Bath B _____	_____	_____/_____	_____	_____	_____/_____	_____
Bath C _____	_____	_____/_____	_____	_____	_____/_____	_____
Hall B _____	_____	_____/_____	_____	_____	_____/_____	_____
Den _____	_____	_____/_____	_____	_____	_____/_____	_____
<u>Outdoor Air</u> _____	_____	_____/_____	_____	_____	_____/_____	_____
_____	_____	_____/_____	_____	_____	_____/_____	_____
_____	_____	_____/_____	_____	_____	_____/_____	_____
<u>Totals</u> _____	_____	_____/_____	_____	_____	_____/_____	_____

*B = basement 1 = 1st floor 2 = 2nd floor

Owner's Name: _____

Site Address: _____

Air Distribution Data (continued)

Main Duct Sizes:

Supply_____	Location_____	
Supply_____	Location_____	
Supply_____	Location_____	
Supply_____	Location_____	
Return_____	Location_____	Grill_____
Return_____	Location_____	Grill_____
Return_____	Location_____	Grill_____
Supply Riser_____	Location_____	
Supply Riser_____	Location_____	
Return Riser_____	Location_____	Grill_____
Return Riser_____	Location_____	Grill_____
Outside Air Duct_____	Location_____	Size _____

I certify that all of the above information given will meet all Virginia Uniform Statewide Building Code Requirements.

Signed: _____

Name Print/Type: _____

Please check and complete whichever of the following applies to you:

- Master Mechanical Tradesman License #: _____
- Virginia Registered Professional Engineer (stamp below)
- Virginia Registered Architect (stamp below)
- Homeowner

Notes: The County reserves the right to request a full HVAC heat loss, heat gain and energy envelope calculations and plans where they deem it necessary, as per the current Virginia Uniform Statewide Building code.

$$\text{Heat Factor} = \frac{\text{(CFM Capacity of Equipment in Heating Mode)}}{\text{(Total Heat Loss of the House)}}$$

$$\text{Cooling Factor} = \frac{\text{(CFM Capacity of Equipment in Cooling Mode)}}{\text{(Total Sensible Heat Gain of the House)}}$$