



PRINCE WILLIAM COUNTY  
Department of Development Services – Building Development Division

HVAC CERTIFIED LOAD CALCULATIONS

Version 2009-04-11

**NOTE:** This form is to be used by licensed mechanical contractors, architects or engineers registered in Virginia in lieu of submitting Manual J calculations and ductwork plans for review. 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. Until further notice, duct drawings for R-3 and R-4 will not be reviewed.

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 Chimney \_\_\_\_\_

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 Energy Conservation 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 _____	_____	_____/____	_____	_____	_____/____	_____
Outdoor Air _____	_____	_____/____	_____	_____	_____/____	_____
_____	_____	_____/____	_____	_____	_____/____	_____
_____	_____	_____/____	_____	_____	_____/____	_____
_____	_____	_____/____	_____	_____	_____/____	_____
Totals _____	_____	_____/____	_____	_____	_____/____	_____

\*B = basement      1 = 1<sup>st</sup> floor      2 = 2<sup>nd</sup> 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)

**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.

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

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