



**RESIDENTIAL HEAT LOSS AND HEAT GAIN CERTIFICATION
FORM FOR FORCED AIR SYSTEMS (PER ZONE)**

Property address: _____

Contractor: _____

License: _____

Telephone: _____

Building Permit: _____

Mechanical Permit: _____

Zone No. _____ Total zone area _____ sq ft

| Required Documentation | Attached |
|--|--------------------------|
| Manual J or MILAE Form (and supporting worksheets) | <input type="checkbox"/> |
| DEH performance data (heating, cooling, blower) | <input type="checkbox"/> |
| Manual B friction rate worksheet | <input type="checkbox"/> |
| Duct distribution system sketch | <input type="checkbox"/> |

HVAC LOAD CALCULATIONS (IRC M503.3)

| | | | |
|---------------------------------|---------------------|--|----------|
| Design Conditions | | Building Construction Information | |
| Winter Design Conditions | | Building | |
| Outdoor temperature | _____ °F | Orientation; front door facing (cross in circle below) | |
| Indoor temperature | _____ °F | N S E W NE NW SE SW | |
| Total heat loss | _____ Btu | Number of bedrooms | _____ |
| Summer Design Conditions | | Conditioned floor area | _____ |
| Outdoor temperature | _____ °F | Number of occupants | _____ |
| Indoor temperature | _____ °F | Windows | |
| Grains difference | _____ Δ Gr @ 50% RH | Base overhang depth | _____ ft |
| Sensible heat | _____ Btu | Internal shade | _____ |
| Latent heat | _____ Btu | Blinds, shades, etc. | _____ |
| Total heat gain | _____ Btu | Number of skylights | _____ |



HVAC EQUIPMENT SELECTION (IRC M503.3)

| | | | | | |
|--|-----------|---|---------------------------------|--------------------|-----------|
| Heating Equipment Data | | Cooling Equipment Data | | Blower Data | |
| Equipment type | _____ | Equipment type | _____ | Heating | _____ CFM |
| <small>Forced air, hot water, boiler, etc.</small> | | <small>air conditioner, heat pump, etc.</small> | | Cooling | _____ CFM |
| Mfg. & Model No. | _____ | Mfg. & Model No. | _____ | | |
| Heating output capacity @ 17°F | _____ Btu | Sensible cooling capacity | _____ Btu-1 st stage | | |
| 1 st stage | _____ Btu | Sensible cooling capacity | _____ Btu-2 nd stage | | |
| 2 nd stage | _____ Btu | Total cooling capacity | _____ Btu-1 st stage | | |
| Auxiliary heating output capacity | _____ Btu | Total cooling capacity | _____ Btu-2 nd stage | | |

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M503.4)

| | | | | | | |
|--|------------|-------------------------------------|------------|----------------------------|--------------------------|--------------------------|
| Design air-flow | _____ CFM | Largest supply duct | _____ ft | Duct materials used | | |
| External static pressure (ESP) | _____ INCH | Largest return duct | _____ ft | Duct board | Trunk | Branch |
| Component pressure losses (CPL) | _____ INCH | Total effective length (TEL) | _____ ft | Flex | <input type="checkbox"/> | <input type="checkbox"/> |
| Available static pressure (ASP) | _____ INCH | Friction rate (FR) | _____ INCH | Sheet metal | <input type="checkbox"/> | <input type="checkbox"/> |
| <small>ASP = ESP - CPL</small> | | Friction rate = (ASP x 100) / TEL | | Lined sheet metal | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | Other | <input type="checkbox"/> | <input type="checkbox"/> |

I hereby certify that the load calculations, equipment selection and duct system design were rigorously performed based on the building plans listed above; I understand the claims made on these forms will be subject to review and verification.

Print Name: _____ Date: _____

Signature: _____