GEW85-14
606.2.2.1, 606.2.2.2

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Revise as follows:

606.2.2.1 Ground source or geothermal heat pumps. The efficiency of ground source or geothermal heat pumps with a rated cooling capacity of 65,000 Btu/h or less shall comply with the provisions of Table 606.2.2.1 based on the applicable referenced test procedure.

TABLE 606.2.2.1
ENERGY-EFFICIENCY CRITERIA FOR
GROUND SOURCE HEAT PUMPS

PRODUCT TYPE[a]	MINIMUM EER	MINIMUM COP	TEST PROCEDURE
Water-to-Air Closed loop	~~14.1~~ 17.1	~~3.3~~ 3.6	ISO 13256-1
Water-to-Air Open loop	~~16.2~~ 21..1	~~3.6~~ 4.1	ISO 13256-1
Water-to-Water Closed loop	~~15.1~~ 16.1	~~3.0~~ 3.1	ISO 13256-2
Water-to-Water Open loop	~~19.1~~ 20.1	~~3.4~~ 3.5	ISO 13256-2
Direct Expansion (DX) or Direct GeoExchange (DGX)	~~15.0~~ 16.0	~~3.5~~ 3.6	AHRI 870

a. Efficiency values apply to systems with a maximum rated cooling capacity of 65,000 Btu/hour.

EER = Energy efficiency ratio, COP = Coefficient of performance.

606.2.2.2 Multi-stage ground source or geothermal heat pumps. The efficiency of multi-stage ground source or geothermal heat pumps shall comply with the provisions of Table 606.2.2.1 based on the applicable referenced test procedure.

Reason: This proposal updates the values in Table 606.2.2.1 to match the Tier 3 values for Energy Star geothermal heat pumps that went into effect in 2012. Information about these values can be found at the following web site: http://www.energystar.gov/index.cfm?c=geo_heat.pr_crit_geo_heat_pumps

In addition, there is the following language on the Energy Star web site: "Commercial (i.e., 3-phase) units are not eligible for qualification under the ENERGY STAR specification at this time." To make this table more technically accurate, there is new wording to show that these values are only for units that have capacities that are usually associated with single family homes.

Also, the web site only contains a definition for a geothermal heat pump, not a "ground source" heat pump, as shown below. To avoid market place confusion, the word geothermal has been added back in to this section.

Geothermal Heat Pump A geothermal heat pump uses the thermal energy of the ground or groundwater to provide residential space conditioning and/or domestic water heating. A geothermal heat pump model normally consists of one or more factory-made assemblies that include indoor conditioning and/or domestic water heat exchanger(s), compressors, and a ground-side heat exchanger. A geothermal heat pump model may provide space heating, space cooling, domestic water heating, or a combination of these functions and may also include the functions of liquid circulation, thermal storage, air circulation, air cleaning, dehumidifying or humidifying. A geothermal heat pump system generally consists of one or more geothermal heat pump models, the ground heat exchanger(s), the air and/or hydronic space conditioning distribution system(s), temperature controls, and thermal storage tanks.

Cost Impact: Will not increase the cost of construction

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