

December 10, 2020

Subject: Package Systems with Direct Expansion Refrigeration Coils and Direct Fired Gas Heaters

Manufacturers have inquired about the use of Direct Expansion Refrigeration Coils to be used in conjunction with Direct Gas-Fired Heaters. Intertek has reached the following conclusions:

A. Coils located upstream of (before) the burner

- The coil must conform to the requirements of UL 207/CSA C22.2 No. 140.3, UL 1995/CSA C22.2 No. 236, or UL 60335-2-40/CSA C22.2 No. 60335-2-40.
- The coil must be located sufficiently upstream of the burner to prevent damage to the coil from burner operation.
- Bird screen or other protective means will be required at the air inlet of the heater upstream of the coil.
- A purge cycle that precedes the firing of the direct fired burner must be incorporated into the controls to vent the chamber of any refrigerant that may leak.
- The direct fired heater must be tested and conform to the appropriate standard with the coils in place.
- Coils must conform to the temperature tests as required by the applicable HVAC equipment standard and Gas Appliance standard.

B. Coils located between the burner and blower (draw through)

- The coil must be located such that the flame, when it is at the longest extension, cannot contact the surface of the coil.
- The coil must conform to the requirements of UL 207/CSA C22.2 No. 140.3, UL 1995/CSA C22.2 No. 236, or UL 60335-2-40/CSA C22.2 No. 60335-2-40 and constructed for the temperatures that may be seen during heater cycling.
- A purge cycle that precedes the firing of the direct fired burner must be incorporated into the controls to vent the chamber of any refrigerant that may leak.
- The direct fired heater must be tested and conform to the appropriate gas appliance standard with the coils in place. (ANSI Z83.4/CSA 3.7, ANSI Z83.18, ANSI Z83.25/CSA 3.19)
- Coils must conform to the temperature tests as required by the applicable HVAC equipment standard and Gas Appliance standard.

Yours sincerely,

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