DX Evaporator Coils Guide Specifications

**1-0. General**

Coil Company evaporator coils are intended for use with a wide range of applications and refrigerant types. Coils are to be designed to maximize performance under specified conditions with minimal air-side pressure drop.

**1-1. Certification**

Coils shall be UL recognized as Refrigerant Containing Component. Coils to be used with refrigerant R-410A shall have undergone cycle testing and will be safely listen with 750 PSIG rating.

**1-2. Tubes**

Tubes and return bends shall be constructed from seamless UNS C12200 copper conforming to ASTM B224 and ASTM E527. Properties shall be O50 light annealed, with a maximum grain size of 0.040mm.

Seamless tubes are to be mechanically expanded into plate fins to form an everlasting bond between primary and secondary surfaces.

**Standard:**

3/8” diameter x (0.014, 0.022) wall thickness

1/2” diameter x (0.016, 0.025) wall thickness

5/8” diameter x (0.020, 0.025, 0.035, 0.049) wall thickness

**Optional Tube Materials – O.D. options vary:**

Stainless Steel

Cupro-Nickel

Carbon Steel

**1-3. Fins**

Secondary surface (fins) are of the plate-fin design using aluminum or copper, with die-formed collars. The fin design is to be flat, waffle, or sine-wave in a staggered tube pattern to meet performance requirements. Fins are to be free of oils and oxidations.

Collars will hold fin spacing at specified density and cover the entire tube surface. Aluminum properties are to be Alloy 1100 per ASTM B209, O (soft) temper. Copper is to be Alloy 11000 per ASTM B152-06 with soft (anneal) temper.

**1-4. Headers**

Headers are to be constructed of seamless UNS C12200, Type L copper material sized to match specified connection size. Headers are to have finished integral spin-closed ends designed to withstand test pressure.

**Optional Materials:**

Type K copper headers

**1-5. Connections**

Evaporator coils shall be designed with brass liquid distributors (as required) and copper sweat suction connections. Distributors shall be capped using soft-solder for ease of cap removal; suction connections shall be capped.

**1-6. Casing**

Coil casing material shall be of G90 galvanized steel, 16 gauge minimum. Heavier material, stainless steel, copper, or aluminum casings are to be provided as required.

Intermediate tube supports are to be provided on all coils 50” and longer fin length. Coil casings on top and bottom of coils are to have double-flange construction, allowing for vertical stacking of coils.

**1-7. Brazing**

All coils are to be brazed with minimum 5% silver content (BCup-3) filler material to insure joint integrity.

**1-8. Pressure Testing**

Coils shall be tested at 550 PSIG using dry nitrogen, submerged under water. Dual-operator verification shall determine that all coils are leak-free.

Coils shall be shipped with nitrogen charge to verify leak-free integrity and to prevent moisture migration into the coil.

**1-9. Operating Pressures**

Coils shall be certified to withstand 750 PSIG working pressures.

**1-10. Installation**

Coils are to be installed according to manufacturer’s instructions and applicable piping codes.

System piping and risers shall be designed for velocities that allow for proper oil return throughout the system.

Contact **Coil Company** [**www.coilcompany.com**](http://www.coilcompany.com) **610-251-0257** for specifications concerning other materials of construction.