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HEAT EXCHANGER COILS – INSTALLATION & STORAGE GUIDELINES

1. Brazing Process

- Use brazing rod per AWS BcuP-6 or another SIL-FOS brazing alloy with higher silver content.
- Do **NOT** use flux.

2. Adhesives, Paints, Process materials

The following materials should **NOT** come in any contact with the Coil, including while post-curing, out-gassing etc. (During any possible process of painting, adhering, joining etc.):
Acetylene, Ammonia, Ammonium nitrate, Black laquor-sulfate process, Chromic acid, Ferric chloride, Ferric sulfate, Hydrocyanic-acid, Hydrogen peroxide (over 10%), Hydrogen sulfide, Lime sulfur, Mercury, Mercury salts, Nitric acid, Piric acid, Potassium cyanide, Potassium dichromate, Silver salts, Sodium cyanide, Sodium dichromate, Sodium sulfide, Sodium thiosulfate, Sulfur, Sulfur chloride.

3. Drilling process

Holes may not be drilled in the end-plates without violating warranty.

4. Drain trays:

Must be kept clean and dry. Bottom of the coil must be kept dry at all times. A coil cannot sit OR be submerged in water.

5. Condensers:

May only be run dry. It is not allowed to put condensate or any other water on the coil outer surface.

6. Water Quality (for water carrying Coils)

- Low-Mineral Contents (treated water)
- Carbon Dioxide less than 15 ppm
- Sulfate less than 17 ppm.
- Chloride less than 20 ppm.
- PH to be kept in the range of 7.5 – 8.5

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7. Water Flow Conditions (for water carrying Coils)

- Local flow velocity in the coil should not exceed 2.5 m/s for cold water and 1.5 m/s for hot water
- Water circulation should occur at least once per 3 days.
- Temperature of water to be kept **always** above freezing point.
- Standard water coils maximum temperature should not exceed 90° C.
- Coils operating at higher temperatures, up to maximum of 175°c, should be designed accordingly. Please consult Lordan engineering department for the design of such coils.

8. Refrigerant Conditions (for refrigerant Coils)

The refrigerant + oil mixture (hence: "Refrigerant") used in the system will comply with the following conditions:

- Water content (Karl Fischer) = less than 0.06%
- T.A.N. (per ASTM D-664) = less than 0.01 mgKOH/gr.
- Copper corrosion (per ASTM D-130) = 1 a-pass.

9. Storage conditions

- Humidity range: 0% - 60%
- Temperature: -30°c - 50°c

After a coil is unplugged it must be used within 7 days if exposed to air. If not used, the coil should be thoroughly flushed with dry nitrogen (-30°c d.p), capped and filled to 0.5 bar pressure of dry nitrogen

If the coil is filled with water and then drained and kept in storage for more than few days, special procedure must be implemented to avoid internal corrosion:

1. Drying the coil with dry and preferably hot air
2. Flushing the oxygen out to a level of few ppm
3. Capping and filling the coil with dry nitrogen (-30°c d.p.) to an overpressure of 0.5 bar or higher

To prevent mold and bacteria growth coils should NOT be wrapped with plastic wrap or any other wrapping that will prevent air flow over the coil

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