SECTION 23 2117 – GLYCOL HEAT TRANSFER FLUID

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Ethylene Glycol
2. Glycol Feed Equipment

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 FREEZE PROTECTION FLUID

A. Ethylene glycol freeze protection fluid with special inhibitor formulation for HVAC application.

B. Manufacturers:

1. Dow Chemical "Dowtherm SR-1".
2. Interstate Chemical "Intercool NFE"
3. Union Carbide "Ucartherm"
4. *Covalent Laboratories "Coldflow THE" (Addendum 1 – 7/31/2023)*

2.2 AUTOMATIC GLYCOL FEED EQUIPMENT

A. Packaged automatic glycol feed unit consisting of at tank, pump piping devices, control panel, and sensors all mounted on a primed and painted steel frame.

1. Tank: 50 gallon polyethylene with 1/3 hinged PE cover supported by the assembly.
2. Control Panel: NEMA 4x panel with 8 foot power cord and plug, 2-position main power switch and light, 3-position (hand/off/auto) switch and light for pump, red low light and 15 amp fuse.

3. Pump: 1/3 HP gear pump providing 1.6 GPM at 100 psi. Pump suction PVC ball valve, flexible tubing and cast iron strainer. Pump discharge PVC ball valve, PVC spring check valve and 0.25" NPT back tap pressure gauge.
4. Pressure Switch: 0.25" NPT pressure switch
5. Pressure Relief Valve: 0-150 psig, PVC relief valve and gauge.

B. Manufacturers:

1. J.L. Wingert Co – Model GL50-E1
2. Neptune Chemical Pump Co.
3. Advantage Controls.

PART 3 - EXECUTION

3.1 REQUIREMENTS

A. The chilled water piping system shall be provided with 30% by volume, ethylene glycol.

B. Provide an extra 50 gallons of concentrated ethylene glycol. Place container(s) where so directed by the owner.

3.2 INSTALLATION

A. Prior to introduction of the glycol solution, the piping system shall be thoroughly cleaned and prepared in accordance with Section 23 500 HVAC Water Treatment.

B. Provide valved inlet connections, sampling valves, air vents, etc. Pump the solution into the piping, bleed air manually, circulate and test for correct concentration.

C. When concentrated ethylene glycol is mixed on the job site, it shall be thoroughly mixed in a drum or drums to the specified solution prior to introduction in the piping system.

D. Set glycol feed unit/tank and connect to the system where indicated on the drawings.

END OF SECTION 23 2117