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# ***SPECIFICATION FOR HEATING AND COOLING SYSTEM ANTIFREEZE PROTECTION***

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## **PART 1. GENERAL**

### **1.1 SYSTEM DESCRIPTION**

- 1.1.1. Non-toxic propylene glycol-based antifreeze shall be supplied by Noble Company to protect the \_\_\_\_\_(job name)\_\_\_\_\_ Heating/Cooling system from freeze damage.

### **1.2 QUALITY ASSURANCE**

- 1.2.1. NOBURST Hydronic Antifreeze System as provided by Noble Company is recommended for the \_\_\_\_\_(job name)\_\_\_\_\_.
- 1.2.2. Installers shall be experienced in (boiler/heating/cooling) system installation/servicing and knowledgeable of Noble Company's antifreeze products and installation procedures.

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## **PART 2. MATERIALS**

### **2.1 MATERIALS**

- 2.1.1. NOBURST System Pre-Cleaner in the amount of one (1) pint per fifty (50) gallons as provided by Noble Company.
- 2.1.2. Antifreeze fluid in the amount of (% of system capacity) gallons shall be (NOBURST -100, AL, HD or Super NOBURST) Hydronic Antifreeze as provided by Noble Company.
- 2.1.3. NOBURST test instruments and record tag shall be as provided by Noble Company.

### **2.2 MATERIAL MINIMUM PERFORMANCE CRITERIA**

- 2.2.1. Meets ASTM D1384 Acceptable Maximum for Antifreeze.
- 2.2.2. The installed antifreeze solution shall provide burst protection to (-60°F), allow fluid flow of (10°F), and contain adequate corrosion inhibitors.

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## **PART 3. EXECUTION**

### **3.1 INSPECTION**

- 3.1.1. Verify that the boiler and piping system is air tight and in good operating condition.

### **3.2 PREPARATION**

- 3.2.1. Boiler cleaning method shall be as recommended in Noble Company's NOBURST Installation Instructions. System shall be cleaned, drained and flushed before antifreeze installation.

### **3.3 INSTALLATION**

- 3.3.1. NOBURST antifreeze and distilled or deionized water shall be introduced into the boiler and piping system employing recommendations in Noble Company's NOBURST Installation Instructions and standard trade practices to avoid contamination and spills. Air and gasses shall be removed from system when full.
- 3.3.2. Quantities shall be:

\_\_\_\_\_ gallons of NOBURST Antifreeze with the remainder being distilled or deionized water.

### **3.4 FIELD QUALITY CONTROL**

- 3.4.1. Final installed antifreeze concentration and inhibitor shall be verified using the test instruments recommended in Noble Company's Installation Instructions.
- 3.4.2. Boiler solution sample shall be obtained after system has circulated for not less than 24 hours.
- 3.4.3. Test shall be conducted in accordance with Noble Company instructions.
- 3.4.4. Propylene glycol concentration shall be (%). The solution pH shall be a minimum of 8.0 and a maximum of 12.0 with NOBURST (model/part # of product) or 8.7 with NOBURST AL or AL Concentrate.

### **3.5 PROTECTION**

- 3.5.1. Volumes, methods, quantities, and test results shall be recorded on the NOBURST record tag. The tag shall be attached to boiler or pipes.

### **3.6 EXTRA STOCK**

- 3.6.1. Owner may request additional NOBURST Antifreeze and NOBURST Inhibitor Boost for use in boiler fluid makeup.

