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Greenwood Technical Bulletin GTB0810.A – Fluid Quality Guidelines

Dear Greenwood Dealer:

Under our continuous improvement efforts, we are providing you with this technical bulletin covering Greenwood Furnace Series and Aspen Series products. Proper fluid quality management is essential to protect the investment and longevity of Greenwood boilers. This bulletin outlines the Greenwood approved standards for boiler water treatment.

Fluid Testing and Treatment

Before filling the boiler with water, draw a sample of the supply water to be used and send it to a Greenwood authorized lab for testing (*see below*). The sample will be analyzed and specific recommendations made for appropriate water treatment. Thereafter, annual testing of the boiler fluid with a Greenwood authorized lab is recommended to ensure appropriate fluid quality. In addition, proof of annual water analyses and treatment is required to maintain the warranty on Greenwood boilers.

In managing the water quality in the boiler, sample analysis by an approved lab allows for matching water conditions to the appropriate mix of treatments. Target fluid properties are as follows:

- When filling the boiler, the water pH should be greater than 6.5 and have a pH greater than 8.5 once inhibitor has been added. If the fluid that passes through the boiler contacts any copper component, the PH should be maintained in a range between 8 to 10.
- Chloride should optimally be below 30 ppm. In some parts of the country this is not possible, in these situations 50 ppm is the absolute maximum.
- Water hardness should be below 100 ppm (6–7 grains).
- Nitrite is not included in our approved treatments as nitrites promote bacterial growth in vented systems.
- Conductivity should not exceed 3,500 mmhos in treated water. Without high nitrite levels, the conductivity may be under 1000 mmhos (using Boiler Pro 925.)

Once treated, The pH and treatment level of the water, should remain stable as long as water is not lost and added to the boiler. If water is added to the system:

1. A proportionate amount of inhibitor should be added to maintain the appropriate level of protection against corrosion and scaling.
2. The system fluid should be re-tested annually.

Check the water level at least once a week, to ensure the level is full. Oxygen buildup causes corrosion inside the water system. Keeping the water reservoir completely full avoids oxygen buildup, especially during the summer months when the furnace is not in use. Properly treated water should also be left in the boiler if the boiler is not being used for an extended period of time.

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Greenwood Authorized Fluid Analysis and Treatment

Rhomar Water Management Inc. provides water testing and treatment products that are specifically designed for the Greenwood Technologies boilers and are appropriate for both open and closed systems.

Currently Rhomar Water Management Inc.'s treatment products are the only Greenwood approved fluid treatments.

Products and Services from Rhomar Water Management, Inc.

www.rhomarwater.com

1-800-543-5975 (ask for either sales or technical assistance)

Makeup Water Analysis Test:

Follow instructions on the Rhomar "Water Test Request Form", which can be downloaded at:

www.rhomarwater.com/WaterTestRequestForm.pdf

The makeup water analysis tests for:

- Conductivity
- pH
- Alkalinity
- Hardness
- Chlorides

Treatment:

Rhomar Water provides treatments tailored to the specific needs of each installation. The following products are specifically formulated for use with Greenwood Boilers—both open and closed systems.

CLEANER (FOR SMALL VOLUME SYSTEMS) (see data sheet)

Hydro-Solv 9100. Cleans cutting oil, rust, and solder flux from new systems. Removes scale, corrosion, and bacteria from fouled systems (See tech sheet). Hydro-Solve 9100 dilutes 1:50 so one to two gallons will be sufficient to clean most Greenwood systems. [Retail cost \$54.65/gallon.]

CORROSION AND SCALE INHIBITOR TREATMENT (see data sheet)

Boiler Pro 925 protects internal metals from corrosion and prevents scaling. Boiler Pro 925 has been specially formulated for the unique needs of both Open Systems and closed systems. It dilutes 1:50. [Retail cost \$48.50/gallon.]

PREMIXED FLUID (see data sheet)

RhoGard 925-40 is a 40% propylene mixture with D.I. water that eliminates water quality issues and removes all uncertainty covering water quality, freeze, corrosion and scale protection. [Retail: \$401.50/drum or \$47.50/5-gal. pail]

Wholesale distribution agreements are available directly with Rhomar Water Management, Inc.

The above products are non-hazardous for shipping. They can ship UPS for small quantities.

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