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H.E.L.P. NEWSLETTER

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LATEST TECHNOLOGY

By David White, National Sales Manager SGI

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Electric immersion elements in the charge well and a gas burner in the roof for greater flexibility and energy saving choices.

MELTING WITH ELECTRICITY OR DUAL ENERGY FURNACES.

Now before you say that's not new technology hear me out. The latest buzz word you here in the industry is Isothermal Melting which is a fancy way of saying I am going to melt using immersion electric elements and circulating metal through this bank of elements to maintain metal temperature and melt scrap and ingots. Envision if you will a charge well with a bank of about 6 small 25 KW (150kw total) elements immersed in a sillon type tube. Just ahead of that is a circulation pump and just beyond that bank of elements is a charge well. In the case of the Schaefer immersion element melter we have added a bit of a twist and made this melter a dual fuel melter. We have a gas burner in the roof of the main melter chamber just in case you lose the circulation pump, or lose an element or tube you can supplement with the natural gas fired burner in the main chamber. Because of the low headroom design it will melt at either 1500BTU's/# of metal melted with the gas burner or .23-.25 KW/# of metal melted with the electric immersion elements. You will have electric immersion elements in the charge well and a gas burner in the roof for greater flexibility and energy saving choices (gas or electric). Of course if you add the new "super insulating material" as the back up these numbers get even better.

These melter/holders at the machine are more compact and are being offered in the following sizes: 400#/hr, 500#/hr, 600#/hr and 800#/hr. They are all available with Dual Energy packages.

Later on in this newsletter you will see where EPA will be tightening its regulations on all metal casting facilities. They want various things to happen. This is just a prelude of what will be coming from the current regime as they work to further restrict business in the US by reducing emission standards even further for the Die Cast and Foundry industry. This is another reason to look at these dual energy furnaces. If you have all gas holders in your plant now, you may want to look at the electric holders to reduce your overall emissions from the plant. It may be less expensive than implementing all of the new EPA regulations.

Elements



Holding furnace elements & tubes



NEW EPA RULES

EPA Proposes New Area Source Rules for Nonferrous Facilities

As part of its Urban Air Toxics Strategy under the Clean Air Act and a consent decree with the Sierra Club, the U.S. Environmental Protection Agency (EPA) is required to promulgate new air emissions standards for smaller, or area sources of hazardous air pollutants (HAPs), from a broad range of industry sectors, including aluminum, copper and other nonferrous metal casting facilities. On Jan. 15, EPA signed the proposed area source rule for nonferrous metal casters.

EPA expected to publish the proposed rule in the Federal Register by the end of January. Pursuant to the terms of the court order, EPA must issue a final rule for these three metal casting area sources by June 15.

The proposed rule establishes a set of management practices for all of the area source metal casting facilities and emission limits for copper and other nonferrous metal casting facilities. The proposed rule requires all aluminum, copper and other nonferrous metal casting facilities that melt 600 tons of metal per year to meet the following management practices:

- cover or enclose each melting furnace that is equipped with a cover or enclosure during the melting operation, to the extent practicable (ie., except where access is needed, such as for charging, alloy addition, tapping);
- purchase only metal scrap that has been depleted of HAPs in the materials charged to the metal furnace (except metal scrap that is purchased specifically for its HAP metal content for use in alloying);
- prepare and operate pursuant to a written management plan that includes both of the practices listed previously and any other management practices that are implemented at the facility to minimize emissions from melting furnaces.

The comment period on the proposed rule will be 30 days from the date of publication in the Federal Register. This information is provided by AFS E- Connections newsletter dated January 27, 2009.

[AFS Aluminum, Copper and Other Nonferrous Foundry Area Source Proposed Rule Summary](#)

[AFS Aluminum, Copper and Other Nonferrous Foundry Area Source Proposed Rule Fact Sheet](#)

[AFS Aluminum, Copper and Other Nonferrous Foundry Area Source Proposed Rule Prepublication Copy](#)

FUEL SAVING TECHNIQUES

Fans Fans Fans! Everywhere I go I see fans blowing on furnaces all over the world. Having cleaned many furnaces in the last 30 years I understand that it is a hot nasty job, but in these tough economic times we cannot afford the luxury of blowing air across furnace casings or wells any more. When you point a fan towards an operator and it either also blows on the dip well or across the side of the furnace you are increasing the rate at which the BTU's being lost off that well or casing are being pulled into the plant. Most plants especially here in the States do not have enough make up air in the plant. So a better solution is to bring outside fresh air down from the roof in what I call cooling stations. This also increases the amount of make up air in the plant so you get an added benefit. This increase in outside air can make the furnace work better, allow for better ventilation and by having a spot the operator can go stand under to cool off, eliminates the air movement across the furnace.

It is difficult to say how much energy you will save but I can tell you this. In every chart out there on casing temperature 5 ft/second air movement reduces the casing temperature substantially. That means the casing is cooler because you are stripping off the BTU's at a much faster rate.

Editorial:

I would like to take this months editorial space to ask a question. How many of you are going to the Casting Congress in Los Vegas in April? If you could simply e-mail me a going or not going response it would be deeply appreciated. We have made a corporate decision not to go this year and to try to hold down our costs and not raise furnace prices for 2009. The industry is struggling and we think it is more prudent to spend that money in direct contact with customers that have real needs than to party in Vegas with it this year. I am just curious how many of you are thinking the same thing? Please e-mail me back at

david.white@theschaefergroup.com with a go or no go in the subject line.

Thanks!

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(Pivot Forks)



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Filling an Auxiliary Power
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Metal Degassing

Metal Filtration

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Full Width Access Door



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