

## **My Home Foundry: Degassing & fluxing info.**

Notes: From Issue 02: **The Hot Metal ezine.**

### **DEGASSING ALUMINIUM.**

Aluminium will produce a lot of oxide and dross during the melting procedure, if you pour a mould with out removing this dross, the resulting casting will have slag inclusions, weak spots and will generally be a very poor quality casting.

Sometimes it is just not enough to remove the dross from the top of the molten metal, as Al melts, it picks up quite a bit of hydrogen and other impurities from the furnace atmosphere. There are special degassing tablets available to remove the gas build up from the melt.

A few years back a chlorine based degas tablet was used (hexachlorethane), this substance has since been banned, as it was found to be highly carcinogenic, and stank like hell, when plunged into the melt to degas, it was also very corrosive.

The new products are fairly safe to use, do not have the high output of fumes, and are very effective in degassing the melt.

The material is called **NITRAL C19**; it is supplied as a large tablet about 3 1/4" Dia X 3/4" thick, the colour is a grey mottled colour, the chemical composition is unknown, most likely it is made from quite common chemicals, I am unable to tell you what the composition is.

The hobby foundry worker will need to break the large tablets up into smaller pieces to use in small melts, store the small segments of tablet in an airtight glass jar with screw lid.

(Failing to store in an airtight jar will result in the tablets decomposing because of exposure to oxygen.)

To degas your melt, carefully place a small broken piece into the molten metal, the degas material needs to be pushed down into the melt; the easiest way to do that is to use a bell shaped hood with a long steel handle, which has holes drilled through it, so that when the chemical reaction takes place, the bubbling action is released up through the holes.

When the bubbling action is finished (about two minutes) the degas process is complete, leaving a bright clean metal to pour into your sand mould.

### **COVERAL II. FLUX FOR ALUMINIUM**

The addition of flux to your melt is very important; the flux does not dissolve in the melt, but sits on top of the molten metal creating an impervious layer to prevent harmful gasses pick up in the molten melt.

The products mentioned above are well covered in the ebook Metal Casting Made Easy, available from our web site.

### **Supply Houses.**

The product described above is available from FOSECO, this company has foundry supply houses in just every country around the globe. No, I don't receive a commission from any sales, but I do value their service and product reliability.

If you have not used the above products I recommend that you do. If you can't find foseco in your area, there will be other companies with similar products you can use.

### **A Simple Flux agent for Aluminium**

Alternative general-purpose flux for Al.

Mix together the following.

Salt 1 Kg (2.2lbs.)

Borax 1 KG

Boric Acid 25 KG.

Can't vouch for the effectiveness of the above, but it is used in third world countries when fluxing prior to pouring,

I have also heard of finely crushed charcoal being used as a cover when melting bronze. The best type of bronze alloy to use for hobby metal casting is silicon bronze. This bronze is just like aluminium in that it can be remelted quite a few times without losing its metallurgical quality.

Sculptors and art casters are quite fond of this bronze alloy.

To learn more about hobby metal casting please visit our web site to download the FREE ebooks.

<http://www.myhomefoundry.com>

Our complete ebook package is available as a digital download from our web site, or supplied on CD ROM and airmailed to anywhere in the world.

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