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# ECO - ALBROL

## PRODUCT DATASHEET

A range of fluxes for reducing oxide formation and inclusions in copper base alloys containing aluminium, manganese or silicon.

**ECO - ALBROL** helps in removing and preventing the formations of harmful oxides of aluminium, silicon and manganese.

Forming a protective cover over the melt, reducing oxidation and also Zinc fuming to minimum.

Increasing fluidity and feeding proportions of the alloy.

Improving pressure tightness and mechanical properties of the castings.

Reducing dross formation and curtailing crucible build up normally associated with melting of these alloys.

Lowering the metallic content in skimming.

## PRODUCT FUNCTION

Casting of aluminium, manganese and silicon bronze is very difficult because of those alloying elements great affinity for oxygen which during melting results in the formation of large amounts of oxide in the form of heavy drosses. These oxides are insoluble and if allowed to remain in the melt they tend to form upon solidification of the metal, a fine film at the grain boundaries which considerably weakens the structure of the alloy and the casting. Furthermore the natural and successful feeding of the casting is adversely affected by the oxides settling out in fine feeding channels restricting the flow of feed metal.

The oxide formation is also the cause of the heavy build up which occurs on the crucible and furnace walls and therefore steps to curtail this build up essential.

**ECO - ALBROL** effectively reduce oxide formation and build up of heavy drosses. **ECO - ALBROL** also form a protective cover which prevents gas pick up by the metal.

**CHOICE OF ECO - ALBROL**

Table over-leaf gives the choice of ECO - ALBROL from the ECO - ORRO range with its characteristics

Product	Furnace application	Dross Type	Application	Remarks
ECO - ALBROL 2	Crucible	Fluid	Upto 1% to form a cover during melting 0.25-0.5% plunged & rabbled 10 minutes before pouring	For top quality sand castings.
ECO - ALBROL 3	Bale Out	Dry		Usually used for diecasting
ECO - ALBROL 16	Reverberatory	Fluid	Upto 1% to form a protective Cover during melting.	Must not be used in quantities above 1% with aluminium bronze or any alloy in which silicon pick up could cause drop in physical properties.

**HOW TO USE ECO- ALBROL**

**CRUCIBLE FURNACES**

The quantity of ECO - ALBROL 2 varies according to the quantity and amount of scrap used in the charge. A high proportion of dirty scrap requires the use of larger quantities of flux, but for normal conditions addition upto 1 Kg. Per 100 Kg of melt will be found sufficient.

As soon as the first part of the charge begins to melt sufficient ECO - ALBROL 2 is added to form a cover, usually ¾ kg per 100 kg of melt. About five to ten minutes before casting a further small quantity (about ¼ kg per 100 kg melt) is plunged slowly to the bottom of the melt and is stirred well in to bring the flux into contact as much as possible with the metal. Where necessary the fluid slag can be thickened with dry sand to facilitate skimming.

### **TILTING FURNACES**

As soon as the first part of the charge begins to melt add ½ kg ECO - ALBROL<sub>2</sub> per 100 kg of melt and complete the charge. When ready for pouring into the transfer ladle introduce a further ½ kg of flux in the ladle and pour onto it.

### **ELECTRIC FURNACES**

For electric melting furnaces such as Ajax Wyatts. ECO - ALBROL<sub>2</sub> is usually added in two stages, using a total of ½ kg per 100 kg of melt. The major portion is added to a heel of metal from the previous melt and the remainder used for final drossing off. The slag may be skimmed off or thickened up with dry silica sand and the metal poured from beneath it.

### **BALE - OUT FURNACES**

The charge is treated as described for the crucible furnace but using ECO - ALBROL<sub>3</sub> instead. The dry dross formed may be either pushed aside during baling out or skimmed off cleanly. As metal is added from time to time replenish the melt, further small quantities of ECO - ALBROL<sub>3</sub> should be plunged occasionally and stirred well.

### **REVERBERATORY FURNACE**

Sufficient ECO - ALBROL<sub>16</sub> to form a fluid protective cover with charge. It is important that the flux cover be maintained in a fully fluid condition, and to achieve this, further additions may have to be added from time to time, particularly if the charge melt is very dirty. A total quantity of upto 5 kg per 100 kg to melt may have to be used. The fluid cover should be stirred well into the melt to bring it into contact as much as possible with the metal. Where necessary the fluid slag can be thickened with dry sand to facilitate skimming.

In all cases, immediately before casting, the melts should be treated by plunging ECO - DEOXIDING TUBES to coalesce any oxide particles and assist their removal with slag.

### **PACKING**

All ECO - ALBROL are available in 25 Kg in HDPE Bag.