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**TECHNICAL DATA SHEET**

# NABOX

## *Metallic sodium sealed in air-tight aluminium tins*

### PRECAUTIONS

Metallic sodium should be used with caution:

- It reacts violently with water
- It causes burns
- It's corrosive
- Don't immerse the tins if they have been pierced or damaged
- Don't open the tins
- Store in a safe and dry place

### DESCRIPTION

Nabox tins contain pure metallic sodium. The product is used for the modification of aluminium-silicon alloys containing 7 -13% Silicon. To increase the mechanical properties of the alloy it is essential to modify silicon element and promote a very fine structure.
Metallic sodium avoids the possibility of gas pick-up during modification treatments. The bath retains the advantages of preliminary degassing, and the crucible walls are not attacked by modifying fluxes. Nabox tins are filled with high purity metallic sodium, free from oil, oxides and other impurities. The air-tight aluminium containers provide maximum safety during storage and handling.
Tins have printed safety labels. Because of flammable and explosive nature of Sodium all possible precautions should be taken to avoid that metallic sodium enters in contact with water and air (consult MSDS).
**Exact sodium addition, no gassing problems during modification, reduced crucible erosion, easy to use, clean and economical.**

### METHOD OF USE

Melt the charge of aluminium with a protective covering flux. Degas metal, when the casting temperature is reached (720°C-770°C), with tablets releasing Nitrogen (Elidron 201) or using rotor degassing unit. After degassing, remove drosses and plunge in the liquid melt the exact quantity of Nabox required by the treatment dosage. Tins should remain sealed, and no attempt should be made to remove tins content.
The plunger must have holes of 10-12 mm and must be clean, perfectly dry and well protected with Metkote 101 or Metalcote 1998/P, to avoid iron pick-up and contamination. At the end of Nabox reaction, rotate the plunger slowly up and down in the liquid bath in order to distribute sodium addition in the alloy. Remove the plunger, skim-off all dross and leave the metal standing for 10 minutes before casting.

### QUANTITY OF USE

Aluminium-silicon alloys, with a silicon content ranging between 7-13%, need additions of metallic sodium as indicated in the table.
The table shows the type of alloy, the minimum and maximum amounts of additions and the theoretical and practical quantities of Sodium released in the alloy. The additional values are expressed in ppm (parts per million).

| Si% alloy | Nabox for 100 kg of alloy | Suggested quantity of sodium | Yield of sodium | Quantity of sodium released |
|---|---|---|---|---|
| **7%** | 25 gr<br>50 gr | 250 ppm<br>500 ppm | 20% | 50 ppm<br>100 ppm |
| **9%** | 50 gr<br>75 gr | 500 ppm<br>750 ppm | 20% | 100 ppm<br>150 ppm |
| **13%** | 75 gr<br>100 gr | 750 ppm<br>1000 ppm | 20% | 150 ppm<br>200 ppm |

### PACKAGING AND STORAGE

Homologated boxes (homologation n°4G/X35/S/01) containing:
Nabox 25 grams n° 200 pieces
Nabox 50 grams n° 150 pieces
Nabox 100 grams n° 75 pieces

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