

# NF Metallurgy

Metallurgical products  
for efficient melting processes





## Melt metallurgy for non-ferrous alloys

Every casting is only as good and mechanically resilient as the internal structure properties allow. In order to always get the optimum results from the alloy used in the melting / holding process,

HA offers a wide range of products for the melt treatment of all common non-ferrous metal alloys (aluminium, magnesium, zinc, copper, lead).

### Cleaning and drossing salts

HA has a wide portfolio of products that meet all of our customers' requirements. They range from inorganic salts that bind the oxides in the dross and separate them from the valuable aluminium, to special products for cleaning the furnace wall, to products adapted to specific alloys, which are free of sodium, fluoride or calcium, for example. The type of furnace and the degassing and melt cleaning method can also play a role in selecting the best product. Our experts for this product

area would be delighted to support you in identifying the right product for your processes.

- different products for drossing and cleaning as well as for wall cleaning
- products for different melt temperatures
- products with different reaction characteristics for several applications
- environment friendly products free of fluorides
- products for its use in a flux injector

## Special salts

These agents are designed to perform a range of functions, such as removing certain unwanted elements from the melt. Special salts include, for example, calcium removers for aluminium (also available sodium-free), magnesium removers for aluminium or aluminium removers for copper alloys.

This product category also includes cleaning and dressing salts developed for more exotic non-ferrous metals such as lead, zinc and copper alloys.

- products to remove Mg from Al alloys
- products to remove Al from Cu alloys
- products to remove Ca, Na, and/or Sr

## Grain-refining and modification tablets

These easy-to-use tablets allow foundries to ensure that their castings achieve the desired microstructure later in the process. A grain refinement, as the name indicates, leads to a smaller grain size during solidification, thus enhancing the mechanical properties. The modification only affects the Al-Si eutectic, which also benefits from the refinement: a considerable improvement of the tensile strength-

and elongation values in sand and thick-walled gravity die casting.

- tablets with different weights
- tablets with increased boron content
- tablets to introduce Na to the melt
- tablets with different reaction characteristics for several applications





## Degassing tablets

Molten aluminium can dissolve large quantities of hydrogen, which is easily absorbed from the air or via contact with humid objects (casting tools, crucibles, etc.). In its solid state, the hydrogen solubility is substantially lower. As a result, hydrogen precipitates from solidifying aluminium in the form of small bubbles - a bit like the process by which small bubbles are released when a bottle of sparkling

water is opened. In order to reduce the hydrogen content in the molten aluminium, HA offers effective and easy-to-use degassing tablets that are plunged into the melt where they develop their full effect.

- tablets with different weights
- tablets free of hexachloethane
- tablets with low fume emissions



## Exothermic hot topping powder

These exothermically reacting powders are placed on the metal surface in the feeders immediately after mould filling, where they ignite quickly and release heat during the exothermic reaction. They also provide an insulating layer after the exothermic reaction. This extends the time of liquid state in the risers and their feeding efficiency increases.

- topping powders for different casting materials
- toppings for different temperature applications
- toppings with exothermic and insulating characteristic for different applications

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