# Treatment Alloy 2

Pre-alloys

## Nickel-magnesium treatment alloys

Nickel magnesium treatment alloys have been used since the industrial production of cast iron with nodular graphite for the metallurgical treatment of molten iron.
The specifically heavy nickel is distinguished as a magnesium carrier by
a) its segregation-free dissolving capacity for magnesium (NiMg 4) and
b) its relatively resistant intermetallic phase with magnesium
(NiMg 15).
Nickel-magnesium alloys enable a simple and targeted introduction of magnesium in molten iron from a few 100 kg up to 100 t and more, with no need for special equipment.
Nickel-magnesium treatment alloys are used both at low treatment temperatures (< 1400°C) and at high treatment temperatures > 1500°C.
Nickel-magnesium treatment alloys with low C content have proven to be especially effective deoxidization and desulfurization agents in alloyed steels.

## Copper-magnesium treatment alloys

The use of this special copper containing treatment alloy can be effective under certain conditions for the production of Cu-alloyed cast iron with nodular graphite.

## Chemical composition (reference analysis)

| VL type* | Chemical composition (% by weight) | | | | | | Lumpiness (mm) |
|---|---|---|---|---|---|---|---|
| | Mg | C | Si | Fe | MM | Ni | |
| VL 1 (LC) | 15-17.5 | 0.1 max. | 2.0 max. | 1.0 max. | - | Residual | 12-50<br>150 max. |
| VL 1 (M) | 15-17.5 | 2.0 max. | 2.0 max. | 1.0 max. | 1.0 | Residual | 150 max. |
| VL 4 (M) | 4.5-6.0 | 2.5 max. | 2.5 max. | 32-37 | 1.0 | Residual | Pigs<br>at 2.5 kg<br>at 0.8 kg |
| VL 4 (O) | 4.5-6.0 | 2.5 max. | 2.5 max. | 32-37 | - | Residual | |
| CuMag (M) | 15-17.5 | 0.5 max. | 1.0 max. | 1.0 max. | 1.0 | Cu resid. | 10-60 |

* Other types of treatment alloys available on request.

## Packaging

- 250 kg steel drum on pallet

The containers are covered with a protective film.

## Technical properties & economic benefits:

- Reliable production of austenitic GJS materials
- Adjusting the Mg content of treated iron before pouring
- Low cost

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