

SOLUTIONS FOR METALLURGY

MAGNESIUM

For the desulfurization of hot metal and steel



PURE MAGNESIUM



Magnesium has manifold applications in our modern society. Besides the use as high-tech material in the automotive industry, Magnesium is of great importance for the production of high-quality steel. Magnesium has a high affinity to Sulfur. This is why Magnesium has been used as an efficient desulfurizing reagent for more than 50 years. ALMAMET has been amongst the pioneers produce and promote Magnesium for the hot metal desulfurization worldwide.

From the beginning ALMAMET has been developing new blends and forms to supply safe and efficient reagents. This has made ALMAMET a respected innovator and leader in its field. Customers throughout the world are supplied from ALMAMET's numerous production and service facilities.

Based on pure Magnesium granules, reagents are created keeping in mind safety, performance and flowability. All reagents are tailor-made and designed

to satisfy the specific requirements of our customers. ALMAMET has the opportunities and experience to provide the best solution for every customer.

MAGNESIUM ALLOY GRANULES

During the last decades, ALMAMET has successfully introduced Magnesium alloy granules as an alternative desulfurizing reagent. Today they play an important part in reagents supplied by ALMAMET.

Magnesium-alloy granules are produced from machined chips from the die-casting sector. The sources for these products are aerospace, automotive and commercial goods. Already during the 1980s, ALMAMET has started to use Magnesium alloys as a potential source for reagents. A safe and efficient production method had to be developed and realized. ALMAMET is currently producing Magnesium alloy granules in its plants in Türkiye, Romania and Germany.

A permanent, stringent quality and environmental control are necessary. ALMAMET's Magnesium alloy based desulfurizing reagents can substitute pure Magnesium granules as they have metallurgical benefits compared to pure Magnesium granules. One of the most significant advantages is based on the microstructure of Magnesium alloys. When injecting Magnesium granules into the hot metal, the desulfurizing reagent will heat up to more than 1,200°C in a very short time. Pure Magnesium granules will evaporate at that temperature spontaneously. In Magnesium alloys, the prevailing alloy matrix causes a later evaporation, hence allowing a lower reaction time.

Magnesium is released from the crystal lattice at a slower rate into the hot metal, resulting in a higher desulfurizing efficiency. Several test series have shown that Magnesium alloy granules provide reliable desulfurization results.

The same Sulfur target levels as with pure Magnesium granules can be achieved despite the overall lower Magnesium content in the reagent. This means a cost-efficient and environmental-friendly alternative. A considerable and increasing number of steel producers worldwide have successfully substituted pure Magnesium granules with ALMAMET's magnesium alloy granules in their process. The use of Secondary Magnesium also leads to reduce the carbon emissions in the primary steel route significantly.





ALMAMET is aware of its responsibility for the environment and its resources. Therefore, ALMAMET received the Award of Excellence in the category "Environmental Responsibility" from the International Magnesium Association in 2020.

Social responsibility

ALMAMET is aware of its **social responsibility anchored in its Code of Conduct (CoC)** and strictly complies with all laws, e.g. the UN Global Compact. ALMAMET follows a zero tolerance policy on all kinds of corruption, bribery, child labor and focuses on a fair treatment of employees and business partners as well as the regulations to protect a fair competition.

Quality

ALMAMET and its production facilities are certified according **ISO 9001 (Quality Management System)** and **14001 (Environmental Management System)**. ALMAMET has committed itself to implement a system for quality assurance and respect for our environment.

Safety

ALMAMET moreover is committed to provide a safe and healthy working environment for all its employees based on **more than 40 Safety Standards** which are regularly checked, trained and improved.

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