



Powders and Distribution Mechanisms



Through its **Metallurgica** Product Line, Vesuvius offers mould powders, covering compounds and special exothermic powders. Most are available in the form of spray dried granules.

What makes our Products unique?



We focus on two main features to satisfy our customers:

We develop products that are precisely designed to the individual customer needs:

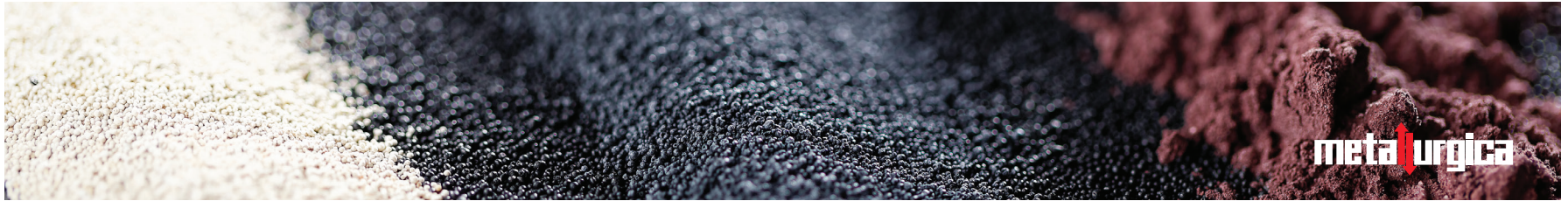
Vesuvius has **more than 9000 individual formulations** designed to meet each customer's highly specific requirements in terms of steel grades and machine features.

Thanks to extensive experience and knowledge of the continuous casting process, our research and development team ensures ideally customised, top quality and reliable products.



We apply the **Total Quality Management** at every step of the production that guarantees stability, reliability, and consistent quality of the products:

- Purchase of the best quality raw materials;
- 100% «end to end» quality control: from the reception of the raw materials to the delivery of the finished products ;
- Production Processes refined over many years;
- Production with state-of-the-art machinery;
- A reliable delivery of the products to over 300 steel customers worldwide;
- Packing adapted to our customers needs.



Our range of products:



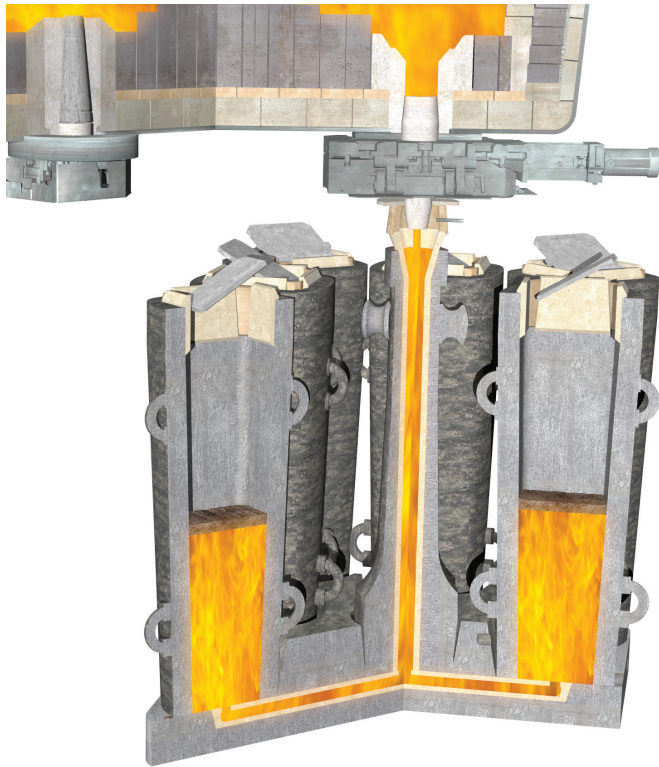
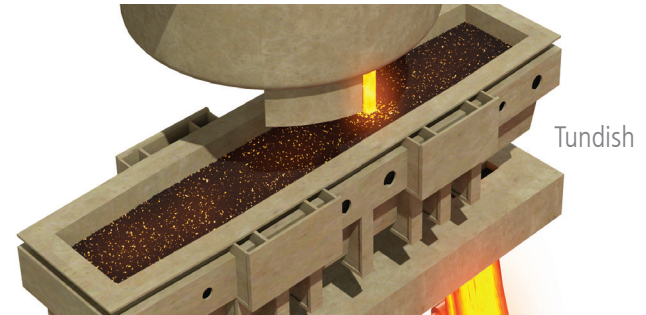
1. Exothermic Starting Powders : **Scorialit E** is used in continuous casting - Features:
 - It minimizes heat loss in the mould for more reliable start of the cast;
 - The rapid slag formation protects the steel from reoxidation and improves lubrication increasing yield at the start of the cast;
 - Being carbon free, this special starting powder is especially suited to ultra low carbon steel grades.
2. Fine Mould Powders: **Scorialit** is a fine-grained mixture which fulfils the following functions:
 - Thermal insulation of the liquid steel surface;
 - Prevention of re-oxidation;
 - Inclusion absorption;
 - Lubrication between the strand and the mould;
 - Control of heat transfer between the strand and mould.

These Fine Mould Powders are available for Slabs, Thin Slabs, Billets, Blooms, Rounds and Beam Blanks.
3. Spray-Dried Mould Fluxes: **Scorialit SPH** and **AFAX GR** are spherical granules which fulfil all the same functions as fine powders and offer the following advantages:
 - Minimum dust emission;
 - Better homogeneity and uniformity of mould powder properties;
 - Lower bulk density, for improved thermal insulation;
 - Excellent flowability, for more uniform mould coverage;
 - Longer shelf life, thus more flexible in use;
 - Easier application by automatic feeders.

These granulated powders are available for Slabs, Thin slabs, Billets, Blooms, Rounds and Beam blanks.

4. Covering Compounds: we offer both granulated and powders, in two types:

- Acidic covering compounds (e.g. rice ash and fly ash mixtures)
- Basic covering compounds (e.g. MgO-based and active slags)



Ingot Casting

5. Bottom Pouring Powders: **Thermotect** and **Scorialit** are fine-grained mixtures. They are tailor-made to customer requirements, for all current ingot sizes and steel grades. These powders are also available in a Spray-Dried form. They fulfil the following functions:

- Thermal insulation of the liquid steel surface;
- Prevention of re-oxidation;
- Inclusion absorption.

6. Antipiping Compounds: **Exolupu** is an exothermic, fine-grained mixture which fulfils the following functions:

- Expansion in volume providing very high insulating properties;
- Exothermic reaction to heat the top of the ingot;
- Reduction of secondary piping, thus increasing yield.

Mould Powder Distribution Mechanisms

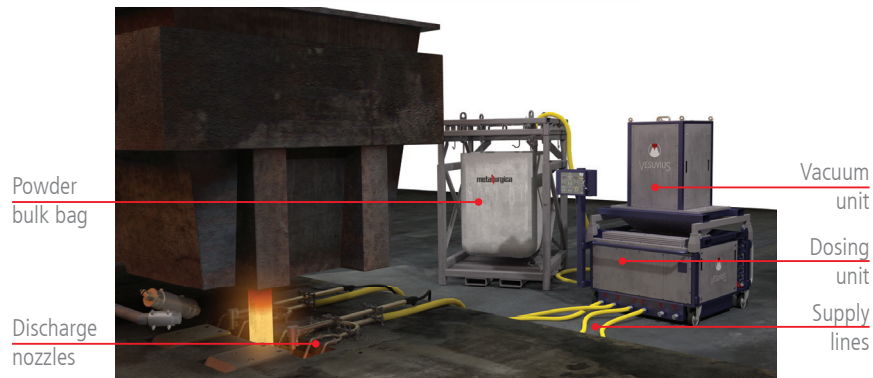
The spherical mould powders provide outstanding steel quality particularly when used with an automatic feeding device.

The PDM300 and PDM250 are state of the art Mould Powder Distribution Mechanisms to precisely adjust and deliver granulated powder at the desired rate into the mould.

Typical installation layout



PDM300
Vacuum version



PDM250 - Vacuum version

Main features of PDM300

Powder Distribution Mechanism

- Adjustable mass flow rate control
- Adapted for slab and bloom moulds
- Provides real-time powder consumption

Powder Level Sensor:

- Measures the top level of granulated powder.
- Strongly resistant to dust or flame

Powder Level Control

- Controls the powder thickness control
- Data storage and analysis

Main features of PDM250

Powder Distribution Mechanism

- Adjustable volume flow rate
- Adapted for bloom and billet moulds
- Mobile unit with «plug and play» installation

More information about those mechanisms can be obtained in their specific brochures.



For more information on this product and on our complete package of solutions please contact our local service center:

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