

Thermaspray's new Diamant Coatings specifically designed for the foundry industry

Scrap can be the most expensive part of a production process. With this in mind, Thermaspray together with its new German partner Diamant Metallplastic have introduced new coatings and treatments specifically for the foundry industry.

OVERVIEW

Our product solutions restore the original function of castings and thereby significantly reduce your scrap rate. The Diamant polymeric coating solution includes products for impregnating and sealing leakages, repair of blow holes and surface treatments with a perfect metallic finish. Included in our product range are coatings for high thermal, abrasive, and chemical wear.

SOLUTIONS FOR THE FOUNDRY INDUSTRY

Thermaspray together with Diamant is proud to introduce our new product range for the foundry industry. The Polymer-bound metals are easily applied and save time as well as costs in the production process.

Applications and problem areas include:

- **Porosity**

Porosity is a major issue in castings resulting in gas and fluid carrying parts being scrapped. These scrapped parts come at a significant cost to the company. The Diamant capillary-active impregnation polymer Dichtol can be applied onto the porous surface. Based on the excellent capillary action Dichtol penetrates deeply into the casting and impregnates immediately. After curing the polymer is highly resistant to thermal, physical, and chemical wear.

Advantages include:

- Versatility-easy to apply 1 component system
- Reliable impregnation on complex parts
- Regardless of pore size Dichtol impregnates form-locking and restores pressure tightness of castings
- In contrast to welding, Dichtol is gentle to castings and enhances the surface and varnish properties of castings
- Reduces scrap
- Economical-no need for high investment costs such as an in-house vacuum impregnating line

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- Onsite application-low lead times and low maintenance downtime and costs

- **Blow holes and surface defects**

Blowholes are contraction cavities which occur during the transition of liquid to the solid state. While the repairing through welding is complex and restricted-the application of Diamant coatings is a proven alternative to repair blowholes and surface defects. These defects are categorised into three types:

1. **Surface roughness**

Roughness is the irregular texture of castings which have to be optically corrected. Putty polymer metals are typically used for optical corrections on the surface. After hardening the polymer coating ensures a perfect metallic finish of the casting.

2. **Open blowholes**

Open blowholes are located on the surface of the casting and are filled with a polymeric metal.

3. **Closed blowholes**

Closed blowholes are closed cavities within the casting. Closed blowholes can be easily filled with a polymer bound metal after mechanical processing.

Products offered by Thermaspray for these applications include:

- Liquidmetal: for optical corrections
- Plasticmetal: to fill blowholes
- Ultrametel: for extensive repairs

- **Wear-protection and reparation**

The extreme conditions in foundries can lead to accelerated material fatigue, erosion, and corrosion.

Products offered by Thermaspray include:

- Iron cement-can resist oxidation and thermal degradation and wear up to 1600°C
- ProCeramic-provides excellent protection against wear and abrasion
- ProChem-extreme resistance to chemical corrosion

Advantages of these products include:

- Easily applicable
- Onsite repairs
- Cost effective
- Prolongs material life

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THERMASPRAY OFFERING

Thermaspray (Pty) Ltd have introduced a new product range of Diamant Metallplastc products specifically for the foundry industry. Thermaspray is an ISO 9001:2008 accredited company ensuring that all work is done to the highest standards of quality. Thermaspray will together with the client identify the problem, solve the problem by recommending the correct product and implement the solution onsite or at our premises. Diamant products are manufactured in Germany ensuring high quality and we have established a strategic partnership with Diamant Metallplastic to ensure clients receive the best solutions.

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