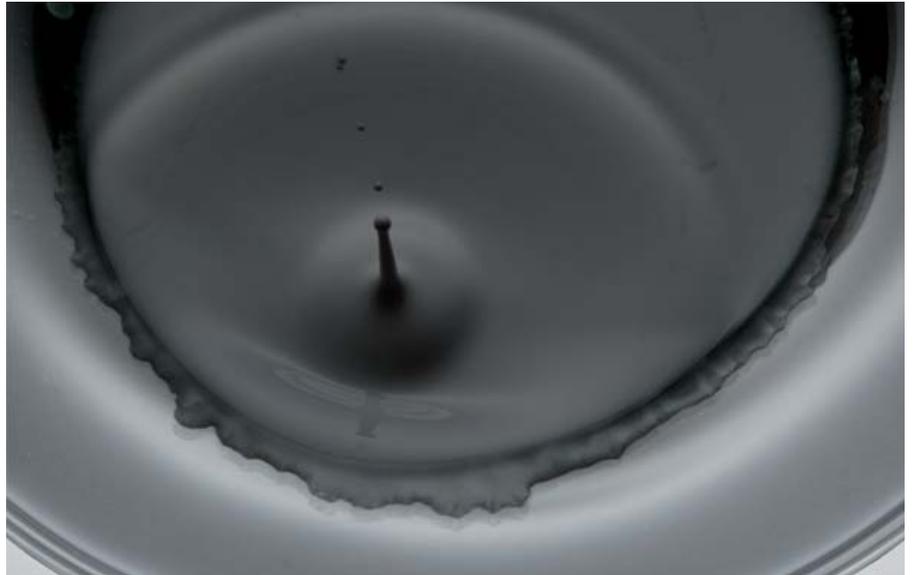




# EKamold® CAST-C RELEASE AGENT AND PROTECTIVE COATING FOR THE ALUMINUM INDUSTRY

EKamold® Cast-C is a new generation of boron nitride coatings with unrivalled release and protection properties for use on ceramic substrates.



EKamold® Cast-C

## Properties

Molten aluminum is processed at temperatures between 680 °C and 800 °C. As it is transported, the molten aluminum is in contact with the refractory lining of the casting troughs, tables, etc. The melt, as well as the developing oxide skin, attack the refractory lining, which must therefore be protected against the molten metal. At the same time, particles must be prevented from dislodging from the refractory lining and contaminating the melt. The best way to do this is by applying a release coating on the refractory lining.

A material particularly suitable for this is hexagonal boron nitride, which is not wetted by liquid aluminum.

However, boron nitride on its own does not adhere. Adhesion is provided by the

addition of a refractory binder system. Therefore, unlike bone ash, which is currently widely used, a boron nitride coating can be used to produce multiple castings.

## Advantages

### Patented Nanobinder

- This binder permits an unparalleled adhesion to all kinds of substrates. It is immaterial whether the substrate is a non-porous cement or a highly porous fiber material. No particular pretreatment of the substrate is necessary.
- The binder permits coating thicknesses up to 1 mm without the risk of flaking off. That makes it easy to make

local repairs to damaged coatings.

- The coatings can be applied thickly to repair holes and cracks in the refractory lining. This eliminates the laborious removal of existing boron nitride coatings that would otherwise be needed with refractory materials.
- The number of castings per coating can be increased.
- Thixotropy permits the solid particles separating out and sedimenting during storage.



EKamold® Cast-C

## Specification

Product data	EKamold® Cast-C
Color	gray before first use ivory after contact with temperatures > 700 °C
Solid content (BN)	> 20 %
Solvent	water
pH	slightly acidic
Binder (patented)	norganic
Density	1,2 - 1,3 g/cm <sup>3</sup>
Application temperature	2.000°C protective gas 1.400°C vacuum 1.000°C air

### The additives – patent applied for – offer the following benefits:

- The coating remains flexible and does not flake off over the entire temperature range from room temperature to 750 °C.
- High scratch resistance and thereby better resistance for the removal of dross.
- The coating is gray before the first use and therefore easily visually recognizable during application. The coating takes on an ivory color after contact with liquid aluminum. The additives do not contain any heavy metal chromophores.

The outstanding benefits of EKamold® Cast-C are even evident when it is applied unevenly. The better durability of

EKamold® Cast-C means reduced downtimes during casting and reduces labor costs for coating. In this way, EKamold® Cast-C improves the efficiency of casting.

### Application

EKamold® Cast C can be applied by spraying, brushing or dipping. The thixotropic property of the coating means that it can be dispersed just by brief shaking. Care should be taken in diluting it, since this can change the properties of the binder. It does not need to be heat treated before use, since the properties of the baked coating develop directly it comes into contact with molten aluminum. The coating can be dried with gas burners.

### Note:

Although the coating dries very rapidly, there may be residual moisture in the refractory lining underneath. On contact with molten aluminum, this may cause flash evaporation and splashes of molten aluminum.

Application examples:

- Troughs
- Stoppers
- Nozzles
- Dampers
- Floats
- Valves
- Hot-top rings

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