

Boron nitride release coatings

Boron nitride is an advanced ceramic material with outstanding chemical and thermal properties. It is often called "white graphite" because it has a graphite-like layer structure but, in contrast to graphite, it is white. It can be used as a high-temperature solid lubricant, is stable at high temperature (up to 1 000 °C in air and 1 800 °C in inert gas atmosphere) and is not wetted by many metallic melts such as aluminium, magnesium and zinc.

The *Büro für angewandte Mineralogie* has developed ALU-STOP LC boron nitride coatings, which are specially designed for an easy application in casting shops. These coatings are applied like ordinary house paint by brushing or using a spray gun. They are perfect release agents used in aluminium and magnesium foundries for the protection of ladles, dies, ingot moulds, permanent moulds, thermocouples and ceramic structures. These coatings provide an excellent non-sticking and lubricating surface to which neither aluminium nor magnesium will adhere.

ALU-STOP LC boron nitride coatings are also proven release agents for coat-

ing thimbles, transition plates and refractory linings of distribution troughs of DC casting machines. These include such advanced billet casting machines like Wagstaff Hot Top and similar installations. During casting breaks, these coatings ensure the perfect and easy release of remaining aluminium without damaging the refractory substrate.

ALU-STOP LC boron nitride coatings are available in four different grades with different concentrations in order to meet the demands of all customers. Boron nitride concentrations are available from up to 15% and 25% for maximum performance. They can be substantially diluted with water in order to achieve the required consistency. Ready-to-use formulations have solid contents of 5% and 10% and offer excellent performance at very reasonable cost.

The coatings are safe, water-based formulations which contain neither solvents nor any chlorinated hydrocarbons, oils or greases. They are therefore non-hazardous, environmentally-compatible preparations which do not require any labelling according to the hazardous materials classification.

ALU-STOP LC Boron-Nitride-Coating



- for molten aluminium, magnesium, zinc, lead and other metal melts
- for ladles, dies, ingot moulds, troughs, spouts, thermocouples ...
- yields non-wetting, non-sticking, lubricating surfaces
- excellent mould release agent for gravity die casting and low-pressure die casting
- contains "white graphite"

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