

Ceramite® BKR Floor Tile

Superior Performance in Wear Resistant Applications

Bulletin 0123

Aluminum Industry

07/03

During 1980 Elkem Materials, Norway developed a high wear resistant material "Ceramite®" for lining of pipes to transport abrasive powders. Ceramite® covers a group of advanced castables exhibiting unique properties, such as extreme accuracy of casting, high abrasive wear resistance, mechanical strength and good resistance to high temperature, including applications exposed to thermal shock conditions. Ceramite® is easy to mix, cast and shape in any size.

The key component of Ceramite® is Microsilica developed by Elkem. Microsilica (Silicon Oxide - SiO₂) is an amorphous silica product derived from the production of Ferro Silicon and Silicon Metal. Microsilica consists of ultra fine, sub-micron particles and is amorphous and thus very reactive. The average particle size is well below 0.15 micron in diameter, meaning that each microsphere is 100 times smaller than an average cement grain.

In a typical mix, with a 10% dosage of Microsilica, there will be between 50,000 and 100,000 Microsilica particles per grain of cement. Microsilica is commonly added to composite materials to improve the microstructure of the materials. Elkem Microsilica is a key component in the production of high performance concrete, fibre-cement and refractories and an important additive in the high wear castable Ceramite®.

Ceramite® Properties and Qualities

Ceramite® comes in different grades of castables adjusted to various tasks and wearing conditions in aluminum, cement and Ferrous industries with severe abrasion. The properties of the Ceramite® grades are highly dependent upon the choice and mix of aggregates. Ceramite® consists of a mix of cement, Microsilica, a specific aggregate and modifiers. The binder is designed to enhance the aggregates properties and ensure the extreme density of the Ceramite® structure.

BKR Floor Tile

In the aluminum industry Ceramite® **Floor Tile** are installed in front of furnaces, loading stations and transfer areas. **Spills** of metal and dross and mechanical abuse are daily problems causing floor deterioration. Ceramite® Floor Tile are easy to clean due to their **smooth finish** and high wear resistance. Standard tile size is 18" x 18" and 2" to 3" thickness. There are literally thousands of these tile in place in North American aluminum smelters.

Ceramite® Aluminum Applications

- ↪ Furnace Hearth Tile
- ↪ Belly Band Tile
- ↪ Troughs & Launderers
- ↪ Dipping Ladles
- ↪ Impellers



INDUSTRIES SERVED

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|-----------------|--------------------|------------------------|---------------------------|
| ↪ Refining | ↪ Non-Ferrous | ↪ Zinc | ↪ Precast Manufacturing |
| ↪ Rock Products | ↪ Die-Casting | ↪ Boiler Manufacturing | ↪ Mineral Processing |
| ↪ Chemical | ↪ Power Generation | ↪ Primary Aluminum | ↪ O.E.M. Furnace Builders |
| ↪ Steel | ↪ Incineration | ↪ Secondary Aluminum | ↪ Cremation |