

## STEECO Ceramic Solutions

Loss of material is caused by mechanical wear or abrasion. As a result of the wear, companies will incur both maintenance and replacement costs. Specific wear protection reduces these costs. To achieve the maximum reduction in costs all important factors of wear need to be considered.

STEECO supplies specially developed ceramic wear protection to protect the constructions/installations.

### General Applications:

- Metallurgical Industry
- Mining
- Power and Waste-to-Energy Plants
- Food Industry
- Petrochemical Industry
- Recycling
- Glass Industry
- Paper Industry
- Cement Industry

### Examples:



## CAST BASALT

Cast basalt is produced by melting selected natural basalt in shaft furnaces at temperatures up to 1300 °C, followed by casting into the desired molds. Of significant importance is the following tempering process, in the course of which the molten basalt forms uniform, spherulitic crystals which contribute to its physical properties such as its significant hardness and abrasion resistance.

Improved reputation and economical in case of:

- high abrasive wear resistance;
- highly abrasive materials are to be conveyed pneumatically or hydraulically;
- a temperature range from approx. . -40°C to approx +350°C.

Benefits:

- exceptionally wear resistance smooth surface;
- improves flow;
- unlimited resistance to corrosion, humidity, acids and alkalis.

Applications:

- piping;
- cyclones, separators, classifier and reducer;
- bunker systems, silos, tanks and unloading ramps;
- chutes, trenches, chain conveyors.

## ALUMINIUM OXIDE

Densely sintered, Aluminium Oxide remains to the hardest technical materials available and is the most important representative of the oxide ceramical materials. High-Quality ceramics are made with Al<sub>2</sub>O<sub>3</sub> content of more than 92%. High temperature combined with high wear is the performance setting for Aluminium Oxide Ceramic.

Reliable in case of:

- high abrasive- and impact resistance;
- every kind of bulk goods;
- a temperature up to 1500°C.

Benefits:

- high strength and hardness;
- corrosion resistance;
- available in several and thin wall thickness.

#### Applications:

- piping;
- cyclones, separators, reducers;
- nozzles, chutes, trenches, chain conveyors.

## ZIRCONIUM CORUNDUM OXIDE

Zirconium Oxide is molten from Aluminium-, Silicon- and Zirconium Oxides and is a so called Mixed Ceramic (50% Al<sub>2</sub>O<sub>3</sub>). The crystalline structure which is resulting from Arc Furnace melting procedure, gives the material special properties.

#### Ideal in case of:

- high abrasive- and impact resistance;
- every kind of bulk goods;
- a temperature up to 1000°C.

#### Benefits:

- extremely high wear resistance;
- high strength and hardness;
- flexible shaping and assembly possibilities.

#### Applications:

- piping;
- cyclones;
- separators.

## SILICON CARBIDE

Silicon Nitride ceramics remain to the non-oxide ceramics and are manufactured by casting procedure, which enables an individual molding.

#### Unbeatable in case of:

- high abrasive- and impact resistance;
- extreme temperature differences;
- a temperature up to 1700°C.

Benefits:

- high resistance to temperature differences and thermal conductivity;
- corrosion resistance;
- high hardness;
- high temperature resistance.

Applications:

- lining of aluminium pouring spouts;
- lining of pulverized fuel piping in the vicinity of the burner;
- nozzles;
- lining of fans in power station coal units;
- hydro-cyclone linings;
- chutes.

If you have any questions and special demands, please contact us for further information!