Secondary Alumina
from the Salt Slag processing

Product characteristics:

Product:

- SECONDARY ALUMINA is a highgrade artificial Alumina-bearing material containing about 70 % of Al_2O_3 (on dry material basis).
- SECONDARY ALUMINA is a product of a mechanical and hydrothermal processing of so called Salt Slags, Salt Cakes, Black Dross and various dusts deriving from the re-melting of Aluminium scrap and dross.
- SECONDARY ALUMINA features a constant quality and is permanently available in large quantities of more than 300,000 mt/a in Europe, North America and Middle East.
- SECONDARY ALUMINA, contrary to the present international raw materials market, offers some sort of locally available and safely supplying source of Alumina featuring attractive prices.

Chemical analysis (main constituents, % of dry mass) :

Al_2O_3	⇒	66 - 75
CaO	⇒	1 - 4
SiO2	⇒	3 – 12
MgO	⇒	4 – 10 (as Spinel)
Na2O+K2O	⇒	1 – 2
Loss of Ignition	⇒	7 – 15 (crystal water)

Mineralogical composition (typical example, main constituents):

Al-hydroxide [$Al(OH)_3$+AlOOH]	⇒	35 %
Corundum [Al_2O_3]	⇒	35 %
Spinel [$MgAl_2O_4$]	⇒	20 %
Silicates [SiO_2]	⇒	5 %
Aluminium metal [Al]	⇒	2 %
Fluorspar [CaF_2]	⇒	1 %

Bulk density [kg/ m³]	⇒ ard 1.200 moist, (dried: ard. 900)
Melting point (pure) [°C]	⇒ about 1.600
Start of sintering [°C]	⇒ about 1.250
Surface (BET) [m^2/g]	⇒ 25 - 100

application

SECONDARY ALUMINA can introduce Alumina into any raw material mixings for
- Portland cement clinker,
- Mineral wool,
- Synthetic Calcium Aluminates (high alumina cements, synthetic slags)
- Special cements (white cement, CSA)
- Ceramics
- fillers etc.

Thereby, it can replace common Alumina raw materials like Bauxite for example.

SECONDARY ALUMINA usually acts as a fluxing agent helping saving energy costs by decreasing the sintering temperature.

SECONDARY ALUMINA has shown to remarkably improve the rockwool production process and fibre properties for instance.

Furthermore, SECONDARY ALUMINA can improve the burnability of Portland cement clinker as well as the early setting strength development of the cement.
By affecting the lime saturation factor while simultaneously keeping stable the burnability, a cement of a higher performance will be produced, able to contain more mineral compounds without any drop of strength.
Thereby, the specific CO2 - emission of the cement meal production can be decreased. As an actively working Alumina raw material, SECONDARY ALUMINA is especially well suited to improve the melt formation of heavily burnable as well as heterogeneous cement raw meals.

SECONDARY ALUMINA as supplied by different producers is usually available as three grades:
- bulk ware: flowable fines and lumpy agglomerates with a moisture content of about 20-25 %
- silo ware: pumpable and free-flowing rotary dryer product below 1 mm grain size (ard. 3 % moisture)
- Calcined grades (lumpy or fine grained material of 75 to 85 % Al_2O_3)
- tailor-made mixtures of SECONDARY ALUMINA and iron oxide among others (according to the due customers demand)

SECONDARY ALUMINA can be mixed with other fine grained raw materials and / or binders to form pellets, briquettes or bricks.

For further detailed information, offers or supply please feel free to contact:

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