

## Secondary High-Alumina for the mineral wool production

The European Commissions Directive 97/69/EC from 1997 excluded certain mineral wools containing more than 18% of a alkaline and earth alkaline oxides as a potential carcinogen. Non-carcinogen rock wool fibres those are meeting the aforementioned EU directives specification usually range between 18 and 25 %  $Al_2O_3$  content.

As already reported earlier in the **Industrial Minerals** magazin, that is to say, the mineral wools producing process has to be supplied with an appropriate level of Alumina.

SECONDARY ALUMINA from the Salt Slag processing is a highgrade Alumina-bearing material. It contains about 70 % of  $Al_2O_3$  as natural Aluminium-bearing minerals and is an absolutely suitable raw material for supplying the demanded Alumina.

In case of some need of additional Alumina for a rock wool productions raw material mix, SECONDARY ALUMINA has simply to be added in a proper way to the other feed materials of a melting furnace, usually consisting of lumpy rock stones, slags, clay, internal recycling materials etc.

One way that has proven favorable to introduce SECONDARY ALUMINA into the melting furnace is to simply mix it with the other input material fines and recycled fibre waste and form it to feed bricks (for example together with cement as a binding agent) of the furnace.

Depending on the total feed mix of the fibre production facility and the chemical analyses of the desired mineral wool product, the mass proportion of these bricks can be in a range between 10 and 60 percent by weight of the total furnace input. The content of SECONDARY ALUMINA of the bricks usually ranges between 5 and 30 percent by weight, but can be raised up to 80 % if demanded.

SECONDARY ALUMINA usually is available as a bulk ware of ard. 20 % moisture content. According to the customers demand a pumpable and free-flowing silo ware of max. 3 % moisture can be supplied as well.

SECONDARY ALUMINA has shown to improve the rock wool production process and fibre properties as follows:

- Reduced surface tension of the melt
- Decrease in viscosity of the melt
- Reduced melting temperature
- Improved control of fibre formation
- Saving of energy respectively coke
- Decreased shot proportion
- increased solubility of the fibres in physiological liquids (bio-solubility)

Since 1997, a couple of producers of rock wool have successfully consumed more than 300.000 metric tons of SECONDARY ALUMINA from Salt Slag processing in Europe.

### please contact:

- R. Gerhard Merker: Tel.: +49 (0)2304 331750  
Cell.: +49 (0) 173 5355 828  
E-mail: info@merker-mineral-processing.de