ABSTRACT

The Centre for Best Available Techniques (BAT) has been founded by the Flemish Government and is hosted by Vito, the Flemish Institute for Technological Research. The BAT centre collects, evaluates and distributes information on techniques that minimise the impact on the environment as a whole. Moreover, it advises the Flemish authorities on how to translate this information into its environmental policy. Central in this translation is the concept "BAT" (Best Available Techniques). BAT corresponds to the techniques with the best environmental performance that can be introduced at a reasonable cost.

The aim of this study is to identify the BAT for the stone processing industry. On the basis of the techniques selected as Best Available Techniques, recommendations are formulated with respect to the environmental permit legislation and the eco-investment support policy. This study includes a proposal concerning the discharge of wastewater.

The study focuses on companies that process stone, starting from the block of stone and processing it into a finished product. The processes are subdivided into the conversion from block to slab, from slab to construction material, surface treatment and transport.

The major environmental effects associated with these activities are the production of waste (stone, sludge and packaging waste), the production of wastewater and noise. Emissions to air and the consumption of energy are of minor importance. Since most of the treatments are performed in wet conditions, the emission of dust is limited. As for the energy use, especially the electric motors driving the saws consume a considerable amount of energy.

In order to reduce the environmental effects originating form the processing of stone 48 environmental friendly techniques were suggested in this study. After evaluation 33 of them were selected as BAT. Implementation of these techniques will a.o. reduce the production of waste and wil increase the re-use of stone, sludge and dust. BAT is also to construct a closed water circuit with a water treatment system that allows water re-use. In doing so it is possible to achieve a zero discharge of water, unless the company uses open settling basins. BAT for reducing other environmental impacts from the processing of stone are also selected.

The BAT selection in this study was based a.o. on a preparatory study by the Belgian Building Research Institute (BBRI/WTCB) with a literature survey, a technical and socio-economic study of the industry, cost calculations, plant visits and discussions with industry experts, representatives of the federations, suppliers and authorities. The formal consultation was organized by means of an advisory committee the composition of which is given in Annex 1.