

BEST AVAILABLE TECHNIQUES FOR THE PRODUCTION OF ASPHALT MIXES

The Centre for Best Available Techniques (BAT) is founded by the Flemish Government, and is hosted by Vito. The BAT centre collects, evaluates and distributes information on environment friendly techniques. 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 objective of this study is to examine techniques that minimise environmental pollution (the so-called "candidate BAT") for the production of asphalt mixes. Of these "candidate BAT", the Best Available Techniques are selected. On the basis of these BAT recommendations concerning environmental permit legislation and promotion through investment support are presented to the Flemish Government.

Asphalt is produced by mixing dry, hot mineral components (stones, sand and filler) with a preheated binder. Generally bitumen is used as binding agent. While selecting the Best Available Techniques for the asphalt mixing industry, special attention was paid to the aspect of air pollution. The main emissions to air are SO₂, NO_x, VOC, PAHs and dust. Sometimes odour pollution occurs.

The SO₂ NO_x, and (contained) VOC-emissions result mostly from the burner of the dryer drum in which the minerals are dried and heated and from the burner of the granulated asphalt drum (parallel drum). These emissions can be reduced by the use of gaseous (low sulphur) fuel, regular maintenance of the burners and optimisation of the combustion process. PAH-emissions are mainly produced by the recycling of granulated asphalt and the use of hot bitumen. All waste gases resulting from these activities should be treated. Regular inspection and maintenance of the bag filters can reduce the dust emission. Disperse dust emissions can occur on the delivery, unloading and storage of mineral materials. Generally the dust particles are not that fine to cause long range effects and only local measures have to be taken.

Asphalt mixing plants cause considerable disperse VOC-emissions. This can be prevented by using a non-volatile anti-sticking agent on the asphalt trucks and by treating the waste gasses from the bitumen storage. Odour reduction techniques exist, but should only be installed in case of local nuisance.

BAT selection was brought about on the basis of, among other things, a literature survey, a technical and socio-economic study, cost calculations, foreign BAT reports, plant visits and discussions with industry experts, representatives of the federation, suppliers and specialists from the Belgian Road Research Center. The formal consultation was organised by means of an advisory committee of which the composition is given in Annex 1.

Full Dutch version available [here](#) (4110 Kb)

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