

# LABORATORY INFORMATION

## Mix designs

Mix designs with **aspha-min®** may be prepared in the asphalt laboratory. Existing mix designs for a conventional asphalt mix can easily be modified at any time.

The dosage rate of **aspha-min®** depends on the amount of binder that is used. We recommend the addition of 2 kg (base course) to 3 kg (binder and wearing course) per ton of mix. The filler content must be reduced accordingly, i.e. the mix design is only slightly changed. This does not affect the performance of the asphalt surface, as **aspha-min®** reduces the viscosity during paving only. No changes to the binder's rheology occur.

## Procedure / sample mixes

In case of small scale manual mixtures for Marshall testing or any such likes, the heated minerals and the filler are placed in a bowl (one for each Marshall specimen). The hot bitumen is filled into a pit and the cold **aspha-min®** is placed on top. This is then quickly to be mixed. The mixing temperature complies with standard test specifications for asphalt in road construction and the regulations applicable on site.

For larger-volume mixtures in the lab mixer, such as for slabs, the hot minerals and filler are filled into the mixer. The cold **aspha-min®** is filled into the mixer shortly before or along with the hot bitumen. This should then be quickly agitated, but the exact procedure depends on the quantity used and the mixer geometry.

## Adjustments

Before producing Marshall samples, giving the mix an additional maturation period of two hours in the oven (135 °C for standard bitumen; 145 °C for polymer modified bitumen) may have a positive effect on the compactability of the asphalt and less voids (0.1% – 0.2%) may be determined than with immediate production.

## Detection in the asphalt mix

The detection of **aspha-min®** in the paved asphalt mix (drill core, etc.) cannot currently be achieved using conventional laboratory test methods. However, proof of delivery is available from **MHI Naturstein & Baustoffservice GmbH, Wächtersbach, Germany** at any time.

## Final notes

At this point and with regard to improved workability (e.g. stirring resistance) and compactability (e.g. void content in the Marshall sample), we need to point out that Marshall lab testing of **aspha-min®** can only hint at results on an industrial scale. If applicable, do preferably use specimen of in-plant production.