

Colzuphalt®



Additive for optimisation of asphalt

Use

Colzuphalt® is an additive for optimising asphalt when the adhesion between mineral and binder as well as the processing properties of the asphalt mixture are to be improved.

At the same time, Colzuphalt® serves to lower the laying temperature of asphalt mix.

Properties

Colzuphalt® is a liquid, surface-active wetting agent. The use of Colzuphalt® has been tried and tested since the end of the 1960s on many exposed traffic routes, especially bridge decks.

This is also demonstrated by the fact that Colzuphalt® is listed by the 'Bundesanstalt für Straßenwesen (BAST)' as a proven product for reducing the temperature of asphalt (see collection of experience on the use of finished products and additives for temperature reduction of Asphalt, BAST).

Colzuphalt® is characterised by the following features and properties:

- Temperature reduction of the mix up to 30 °C possible
- Adhesive to enhance the adhesion of the binders to the mineral
- Improvement of the processing properties
- Very good compaction of the mix at reduced processing temperature
- No "displacement" of the mix during the rolling process

Mode of action

Colzuphalt® is a reactive additive with multiple effects. First, it acts as a wetting agent, i.e. the surfaces of the minerals, especially in the filler area, are coated with the additive in such a way that the surface tensions change in favour of a better coating with the binder (lipophilic). Colzuphalt® then reacts under thermal influence to form a highly effective bonding agent. The adhesion between bitumen and mineral is permanently improved in the asphalt mixture. The minerals thereby acquire hydrophobic and oleophilic properties, which also lead to an increase in cohesion in the asphalt.

Both reaction phases simultaneously trigger the temperature reduction with better workability.

Application instructions

Colzuphalt® is a slightly viscous liquid at room temperature, which can be added to the mixer in portions either via a dosing pump or via individual easily meltable plastic bags. The amount to be added is 0.5 to 1.0 % of the binder. In order to ensure efficient distribution of Colzuphalt® with a constant mixing time, the following mixing sequence has proven successful. If this is technically possible, Colzuphalt® should be added to the bitumen weigher via a dosing pump. If addition via the bitumen weigher is not possible, Colzuphalt® can be added to the asphalt mix during the mixing process. In this case, it may be advisable to extend the usual post-mixing time. It must be ensured that sufficient spreading of the additive in the mix is guaranteed. When producing mastic asphalt, Colzuphalt® can also be added directly to the mixer in addition to the methods described above. With this method, a sufficient dwell time in the boiler before processing must also be taken into account.

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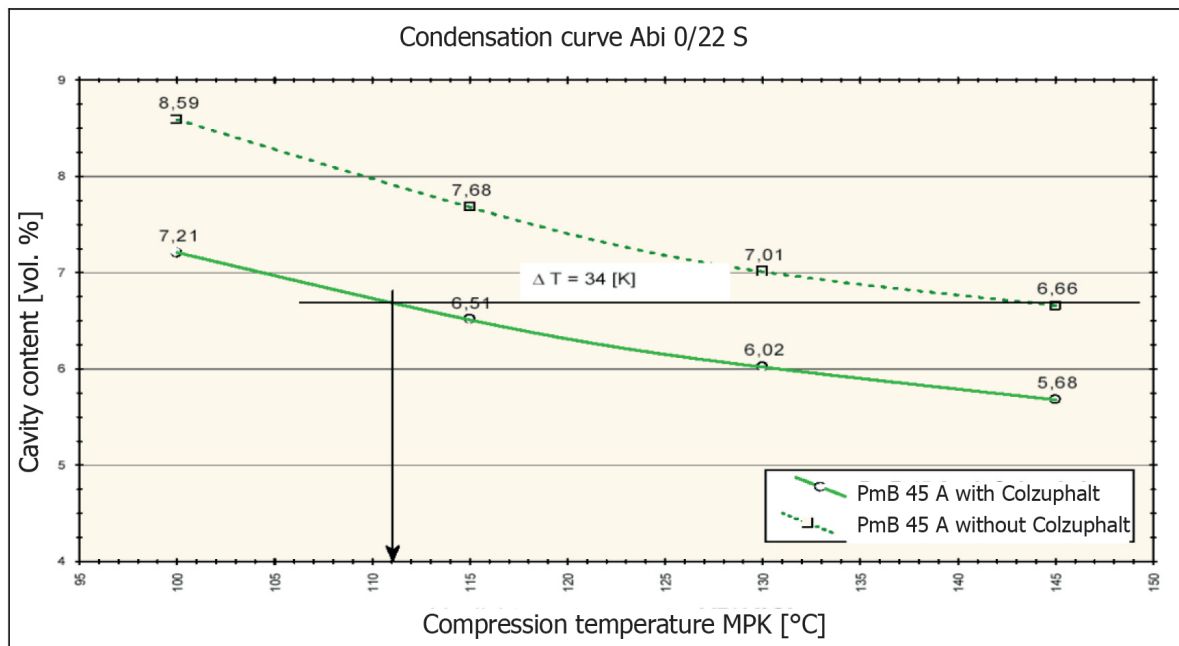
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Viscosity:	5 °C	approx. 3000 mPa s
	10 °C	approx. 1500 mPa s
	20 °C	approx. 1000 mPa s
Density:	0.9 g/cm ³ (23 °C)	

**Example of two compaction curves of asphalt binder
(Source: Ingenieurbüro Nies, Cologne)**



References: (excerpt from older buildings, Ing Büro Nies)

- Rheinkniebrücke Düsseldorf, in original condition since 1968 without maintenance measures
- Bridge over the Neuss marshalling yard 1972
- Rheinkniebrücke Düsseldorf Oberkassel 1972
- Europa Bridge Innsbruck 1974, over 13 years until bridge widening
- Rhine Bridge Frankenthal 1971
- Motorways, mains roads and country lanes in the NRW region
- Test track B106, Ludwigslust 2004 (see collection of experience on the use of finished products and additives for temperature reduction of Asphalt from the „der Bundesanstalt für Straßenwesen“)

This product information corresponds to our latest available information. The processor is obliged to test the suitability and application options for the intended purpose. We shall be pleased to advise if you have any questions about our product. Our Terms and Conditions of Business apply, which can be found at www.dga.de.

Rev.: 01/25

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