

# Product Data Sheet Lucosol®

## Product description

Lucosol is a solvent based bitumen road binder made out of selected bitumen qualities and hydrocarbon solvents.

Due to this the material can be used even at low temperatures.

Lucosol is delivered in 200 litre-barrels and is the ideal binder for the production of cold mix in hot mix plants as apart from a storage tank no other constructional measures are necessary. The binder is fed over the standard bituminous pipes into the mixer. The storable cold mix produced with Lu-cosol has proven fully satisfactory for preserving and repairing roads and paths. Lucosol is characterized by:

- Excellent adhesive strength to almost all rocks
- Long-term effectiveness in the storable mix
- Frost resistance
- Environmental compatibility.

Production processing and factory control are certified according to EN ISO 9001.

## Field of application and application method

Lucosol is a bituminous road binder to be mixed on site together with defined crushed chippings (e.g. size: 2/4 mm + size 4/8 mm, or 0/2 mm + 2/5 mm + 5/8 mm + 8/11 mm + 11/16 mm suitable for immediate road (asphalt concrete) repairs such as partial frost damages or repairs of trench works a.s.o.

Lucosol is used for the production of storable cold mix in hot mix plants.

## Instructions of storage

Durability is not restricted if stored in closed containers. Do not store in direct sun!

## Mixing Sequence

The microgranules of Luocell® FG300 shall be added centrally into the mixer approx. 5-15 seconds prior to the addi-

tion of bitumen and even distribution of the fibres in the mix. In case the fibres are pre-dispersed by means of a automatic fibre blowing device the dry mixing of the fibres might not be necessary.

## Processing

Lucosol is processed at temperatures between 60 - 70 °C. When storing the mix in heatable tanks special attention is to be paid to the fact that the storage temperature does not exceed 85 °C. Furthermore, the binder is only to be heated for the production as keeping the binder constantly warm can have a detrimental effect on the binder properties.

Nearly all rocks can be used as mineral. A suitability test with regard to the compatibility and the amount added has to be carried out for every single case. During the mixing process the rock temperature should not exceed 100 °C, the optimal temperature is between 80 and 90 °C. In case of dry and clean chippings no warming is necessary.

The mixing time is about the same duration as for the production of hot mixes. The optimal mixing time has to be determined for every single case by field trials.

## Suggested formulation

In order to determine the optimal binder content suitability tests have to be carried out. The amount added basically complies with the mineral grading. A grading range of 2/5 mm with a maximal undersize grain according to TL Min-StB has proven successful.

Recommendations concerning the material consumption are listed on the reverse side of this technical bulletin.

## Material consumption

The following binder additives are to be used for the different grain sizes. The percentage per weight refers to the nominal aggregate size of minerals having a bulk weight of 1.5 kg per litre:

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| 100 wt.-% splitt of the grain size | Lucosol wt.-% |
|------------------------------------|---------------|
| 0/2 mm                             | 6.5           |
| 2/5 mm                             | 5.6           |
| 5/8 mm                             | 5.1           |
| 8/11 mm                            | 4.5           |
| 11/16 mm                           | 4.0           |

Commercial grain sizes are to be sifted in order to determine the actual grain size. The binder additives are average values and comply with longterm experiences in the production of storable mixes. When the mix is mostly processed in thin layers for repair works, it is advisable to increase the total binder amount by approx. 0.5 wt.-%.

## Suggested formulation for a mix composition:

|                                 | fine-grained | coarse-grained |
|---------------------------------|--------------|----------------|
| Fine chippings 4-5/8            | - wt.-%      | 37.7 wt.-%     |
| Fine chippings 2/4-5            | 84.8 wt.-%   | 37.7 wt.-%     |
| Crushed sand, natu-ral sand 0/2 | 9.4 wt.-%    | 18.9 wt.-%     |
| Lucosol                         | 5.8 wt.-%    | 5.7 wt.-%      |

## Technical Data

|                                                                                     |                                                                    |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Solid content:<br>bitumen content<br>penetration 100 g, 5 s<br>softening point, R&B | approx. 70 - 80% of weight<br>approx. 70-90 mm/10<br>approx. 60 °C |
| Viscosity STV 4mm/40 °C<br>D-Viscosity                                              | approx. 90-110 s<br>approx. 2960 mPa.s at 40 °C                    |
| Step resistance for ready mixed material                                            | approx. 12 hours depending on temperature and weather conditions   |
| Flash point (Pensky-Martens)<br>D-Flash point DIN 51758                             | 25 °C<br>100°C                                                     |
| Colour                                                                              | Black                                                              |
| D-Density, DIN 52004, at 25°C                                                       | 0.90 -0.95 g/cm <sup>3</sup>                                       |
| Consumption                                                                         | Approx. 5% volume of ready mixed material                          |
| Delivery form<br>D- hazard group according to VBF                                   | Barrel à 200 litre<br>none                                         |

Above figures are nominal figures, depending on statistic fluctuations. Technical modifications reserved. It is responsible to the user to check the suitability of the product in case of application and to make sure to be in possession of final release of the data sheet

### Note

The information provided in this document is based on our product tests and present technical knowledge. It does not release purchasers from the responsibility of carrying out their receiving inspections. Neither does it imply any binding assurance of suitability of our products for a particular purpose. As LUCOBIT cannot anticipate or control the many different conditions under which this product may be processed and used this information does not relieve processors from their own tests and investigations. Any proprietary rights as well as existing legislation shall be observed.