

# Product Data Sheet

## Lucobit®1210AH

### 1. Product description

Lucobit®1210AH is a mixture of ethylene copolymer and special bitumen under addition of an adhesion promoter. The resulting formulation is a concentrate or “masterbatch”.

### 2. Product properties

Lucobit®1210AH consists of thermoplastic polyolefins. Addition of Lucobit®1210AH to bitumen increases its viscosity and broadens the range of plasticity. Although the minimum value of the Fraass breaking point of Lucobit®1210AH is as low as for unmodified standard bitumen, the ring and ball softening point increases considerably, depending on the proportion of Lucobit®1210AH that was added.

Penetration values decline accordingly. Ductility determined according to DIN EN 12591 decreases, however, the values ascertained for the so-called ductility at low temperatures are usually more favorable than those for standard bitumen without addition of Lucobit®.

### 3. Product advantages

Compared with other standard binder, Lucobit®1210AH displays significant advantages in improving resistance to deformation. Rut formation tests at high temperatures demonstrated that asphalt can bear a two- to threefold load when modifying it with thermoplastics or altering binder viscosity by adding Lucobit®AH. This does not impair the low-temperature performance of Lucobit® 1210AH, but rather improves it. The adhesive promoter improves the adhesion of the bitumen to the aggregates of the asphalt. It increases the wettability of the bitumen to the mineral and reduces water penetration into the asphalt.

### 4. Applications

Even relatively small amounts of Lucobit®1210AH in asphalt mixtures improve:

- Resistance to mechanical stress, in particular deformation and wear
- Stability / rigidity and reduce the tendency to flow when Hot and under load
- Low temperature flexibility ageing behavior

#### Examples for application:

- S-wearing courses to ZTV-Asphalt - StB
- Poured asphalt, also on sloping surfaces (ramps)

- stone mastic asphalt
- Special asphalt surfaces, e.g. porous asphalt thin bituminous wearing courses (hot laying)

### 5. Processing into PmB

Bitumen is mixed homogeneously with Lucobit®1210AH in the temperatures range 165°C to 195 °C and is then ready for use. Depending on mixing intensity, the time required to mix large quantities (approx. 20 t) is 1 - 3 h. The usage of a high- speed shear mixing unit leads to a higher quantity of mixture. The proportion of bitumen already contained in Lucobit®1210AH greatly facilitates the incorporation into bitumen.

### 6. Direct addition of Lucobit® granules into asphalt mixes

The required amount of granules (3 to 7.5 % based on the binder content) corresponding to the desired proportion of Lucobit®1210AH is added batchwise to the asphalt mixer either before or after adding the binder as usual. The mixing time of any asphalt mixtures has to be adjusted to the volume of the mixing unit. Using a mixing unit of 1 t recommend to increase the mixing time by at least 10 sec. Please pay attention to the producers manual when adding fibrous material!

### 7. Environmental compatibility

Lucobit®1210AH is environmentally friendly in manufacture and processing, free of plasticizers and chlorine, and not harmful to health, water, soils, or plants.

### 8. Packaging and storage

Granules 10 kg or 25 kg bags, pallet standard 500 kg or 1375 kg. Other packaging upon request.

Lucobit®1210AH should be stored under dry conditions at a temperature below 40 °C and protected from UV-light otherwise the packaging could be damaged. Storage time in excess of 6 months may have a negative impact on the processability of the product. We strongly recommend to use the material latest within 6 months after delivery. Use beyond the recommended shelf-life, The product should be inspected according to quality assurance measures to ensure product's performance.

Disclaimer: The product mentioned herein is not intended to be used for medical, pharmaceutical or healthcare applications; and we do not support its use for such applications. To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. However, we do not assume any liability whatsoever for the accuracy and completeness of these information. LUCOBIT AG gives no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy himself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal uses as well as the appropriate processing and handling of our products. No liability can be accepted with respect to the use of LUCOBIT AG products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any other third party materials.

# Product Data Sheet

## Lucobit®1210AH

Typical Properties Lucobit®1210AH			
	Standard	Unit	Lucobit®1210AH
Density (23°C)	ISO 1183	g / cm <sup>3</sup>	0.97
Apparent Density (23°C)	acc. to ISO 60	kg / l	~ 0,5
Modules of Elasticity (23°C)	ISO 527	MPa	17
Elongation at Break (23 °C)	ISO 527	%	700-800
Softening Range		°C	80 - 100

		Unit	Mixture of Bitumen B50/70 and 5 % Lucobit®1210AH
Density (23 °C)	ISO 1183	g/cm <sup>3</sup>	appr. 1,00 – 1,10
Penetration	DIN EN 1426	1/10 mm	25 – 55
Softening Point R&B	DIN EN 1427	°C	≥ 55
Fraaß Breaking Point (25 °C)	DIN EN 12593	°C	< - 10
Ductility	DIN EN 13589	cm	> 15

\*These standard values are typical values and should not be regarded as specifications.

Disclaimer: The product mentioned herein is not intended to be used for medical, pharmaceutical or healthcare applications; and we do not support its use for such applications. To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication. However, we do not assume any liability whatsoever for the accuracy and completeness of these information. LUCOBIT AG gives no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy himself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal uses as well as the appropriate processing and handling of our products. No liability can be accepted with respect to the use of LUCOBIT AG products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any other third party materials.