

# Product Data Sheet Lucobit® 1210, 1218, 1220, 1221, 1233, 1235

## Product description

Lucobit products are an extremely interesting and novel combination of proven materials used in the plastics processing industry. The material is black and consists of mixtures based on high quality polyethylene copolymers with varying additions of special and amorphous bitumen. Bitumen is integrated homogeneously in the polymer matrix and thus can be processed as free-flowing granules on conventional processing equipment. In the traditional application area „Sealing Membranes in Construction Building and Civil Engineering“ Lucobit is well known as ECB (ethylene copolymer bitumen according to DIN 16729) and has proven to be a robust and reliable raw material for roofing and sealing membranes for the more than three decades.

## Product properties

Lucobit combines the positive properties of polyolefins and bitumen. When adding Bitumen to Lucobit it serves as a plasticizer and as an internal lubricant. Lucobit displays superior tenacity, biaxial stretchability, and flexibility even at low temperatures. Special stabilization provides excellent resistance against heat aging and UV radiation. Lucobit is not only resistant to weathering and ageing to a large extent, but also displays superior thermal stability.

## Product advantages

- corrosion protection
- improved thermal insulation
- improved weathering resistance
- improved bonding and weldability with other materials
- broad usage temperature range, thermal stability
- increased filler acceptance
- improved compatibility
- shrinkage reduction
- improved environmental stress crack resistance

- anti-static effect
- 30 years of long-term experience with ECB in the sealing membrane application

## Applications

Whenever the benefits of bitumen as a raw material shall be proven in the world of plastics, free-flowing Lucobit granules can be the technological solution. The main application areas in the plastics industry are:

- roofing and sealing membranes for: tunnels, land-fills, water retention basins, dikes
- profiles, e.g. waterstops, connecting profiles, etc. for the construction sector
- films for construction and civil engineering, laminating films, multi-layer films
- polymer modification of bitumen; bitumen modification of polymers
- robust, long-life injection moulded parts in the construction area, such as castors, shingles, fittings, and feet.
- coatings as corrosion protection, e.g. for pipes, steel and water tanks
- cable protection
- vibration damping, e.g. with profiles/bandages

## Processing

The main advantage of Lucobit products is that bitumen which is otherwise supplied and stored in a hot and liquid form is now available as free flowing Lucobit granules. Thus, it is easy to mix Lucobit® homogeneously with standard polyolefins on normal extrusion or moulding equipment for thermoplastic raw materials.

We recommend the following processing temperatures as standard values for extrusion:

Profiles:	approx. 150° - 180 °C
Membranes/flat-sheet composites:	approx. 160° - 230 °C
Coatings:	approx. 160° - 240 °C

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For injection moulding Lucobit compounds are processed at melt temperatures ranging from 160° - 220 °C and mould temperatures from 10° - 40 °C.

## Packaging

Granules: 25 kilo bags, other packaging upon request

## Root resistance

Lucobit roofing and sealing membranes are resistant to penetration by roots according to DIN 16726 and FLL, and root resistant.

## Fire protection

Lucobit is categorized as building material class B2 and can be supplied as flame retardant version upon request.

## Chemical resistance

Lucobit is resistant to water and aqueous solutions, salt as well as to dilute acids and bases. When exposed to aliphatic, aromatic and halogen-substituted hydrocarbons Lucobit may swell or dissolve to a certain extent.

### Typical Properties

	Standard	Unit	1210	1218	1220	1221	1233	1235
MFR (190 °C/2.16 kg)	ISO 1133	g/10min	> 25	6	12	6	6	10
Density (23 °C)	ISO 1183	g/cm <sup>3</sup>	0.97	0.98	0.97	0.97	0.96	0.96
Modules of Elasticity (23 °C)	ISO 527	MPa	17	130	41	55	80	70
Shore Hardness A (23 °C)	ISO 868	-	76	90	82	86	89	78
Low Temperature Flexural Test	DIN 53361	°C	- 20	- 40	- 20	- 25	- 30	- 40

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

#### 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.