

Product Data Sheet

Lucofin® 1400HN

1. Product description

Lucofin®1400HN is a polar copolymer with low crystallinity consisting of ethylene and n-butyl acrylate. Due to its chemical structure Lucofin®1400HN is softer and more flexible than ethylene homopolymers with comparable density. Lucofin®1400HN is supplied as non-colored granules.

2. Product properties

Lucofin®1400HN is used as component in multilayer film applications or as a polymer modifier to improve low temperature crack resistance, stress crack resistance ESCR¹, weldability, and processability.

3. Product advantages

- easy processing with standard processing equipment
- flexibility
- high impact strength at low temperatures (- 40°C)
- thermal stability (no corrosive by-products)
- good mechanical properties
- high temperature resistance
- good compatibility to other polymers and high filler acceptance
- environmentally friendly

4. Applications

Lucofin®1400HN is used primarily for extrusion applications. Products are films for the construction and agricultural industries, FFS² bags, and for food packaging applications. Moreover, Lucofin®1400HN is ideally suited as base resin for compounding or as impact modifier for stiff polymers. Compounds based on Lucofin®1400HN can be used for profile and cable extrusion purposes and for the production of sealing membranes. Furthermore, it can be used for cross-linked closed cell foams.

5. Food Approval

This product complies with the relevant requirements of regulation 1935/2004 / EC. This product complies with the relevant requirements of Regulation 2023/2006 / EC (GMP). This product complies with the relevant requirements of the amended regulation 10/2011 / EC (PIM) (last regulation 2016/1416 / EC.

Information on FDA compliance on request.

6. Processing

Lucofin®1400HN is suited for conventional standard processing equipment. We recommend the following standard values for extrusion.

Profiles and hoses:	approx. 160° - 200°C
Blow molding:	approx. 160° - 200°C
Blown films	approx. 160° - 190°C
Flat-sheet composites:	approx. 160° - 220°C
Coatings:	approx. 160° - 270°C

7. Chemical resistance

Lucofin®1400HN is resistant to water and aqueous solutions, to salt as well as to dilute acids and bases. When exposed to aliphatic, aromatic and halogen-substituted hydrocarbons, Lucofin®1400HN may swell or dissolve to some degree.

With regard to organoleptic/sensory suitability, we recommend application-related tests.

8. Packaging

Granules in 25 kg bags, standard pallet 1.375 kg. Other packaging upon request.

9. Storage and handling

Lucofin®1400HN should be stored under dry conditions at a temperature below 40°C and protected from UV-light. Otherwise the packaging could be damaged or degradation may occur resulting in odor generation and color changes.

¹ ESCR - Environmental Stress Crack Resistance

² FFS – Form, Fill and Seal

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 use 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.

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Technical data			
	Standard	Unit	Standard value
Density (23 °C)	ISO 1183-1	g/cm ³	0,922
MFR (190 °C/2.16 kg) ³	ISO 1133-1	g/10 min	1,4
Comonomer n-BA ⁴	DIN 51451	%	15
Melting temperature	ISO 3146	°C	97
Vicat softening temperature (A/50N)	ISO 306	°C	70
ESCR	ASTM D1693	hrs	>1600
Module of Elasticity (23 °C)	ISO 178	MPa	50
Stress at break – type 5 A	ISO 527-1, -2	MPa	12
Elongation at break – Type 5 A	ISO 527-1, -2	%	>800
Shore Hardness D	ISO 868	-	34
Notched Izod Impact Strength (-40°C)	ISO 180	kJ/m ²	NB ⁶
HAZE	ASTM D1003	%	12
Tensile strength MD (50µm blow ratio1:2,5)	ISO 527-1, -2, -3	MPa	24
Tensile strength TD (50µm blow ratio1:2,5)	ISO 527-1, -2, -3	MPa	23
Elongation at brake MD (50µm blow ratio1:2,5)	ISO 527-1, -2, -3	%	400
Elongation at brake TD (50µm blow ratio1:2,5)	ISO 527-1, -2, -3	%	600
*These standard values are typical values and should not be regarded as specifications.			

³ MFR – Melt Mass-Flow Rate

⁴ n-BA – n-Butyl-acrylate

⁶ NB – No Break

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