

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 respect to its organoleptic suitability, the end user must and/or let conduct respective and appropriate tests due to the fact that Lucofin® 1400HN is to be regarded as not unproblematic.

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

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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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