

Product Data Sheet

Lucofin® 1400PN

1. Product description

Lucofin®1400PN is a polar copolymer with low crystallinity consisting of ethylene and n-butyl acrylate.

Due to its chemical structure Lucofin®1400PN is softer and more flexible than ethylene homopolymers with comparable density. Lucofin®1400PN is supplied as non-colored granules.

2. Product properties

Lucofin®1400PN is suitable for many applications. For example, it is used in semiconductive compounds for wire and cable applications. For master batches, it is used as a universal carrier. Due to the high melt index the wetting properties of Lucofin®1400PN are excellent for high loaded compounds (like carbon black, filler, HFFR¹) and other fillers with own high specific surface. In many cases, the use of Lucofin®1400PN in polymer compounds shows also improvement of mechanical properties, adhesion- and sealing properties.

Lucofin®1400PN has good processing properties, good environmental stress crack resistance ESCR², and good resistance to low temperature.

3. Product advantages

- easy processing on standard processing equipment
- excellent wetting properties of fillers with high specific surface like carbon black
- flexibility
- high impact strength at low temperatures (- 40°C)
- thermal stability (no corrosive by-products)
- good mechanical properties
- high end use temperature
- good compatibility with other polymers and high filler acceptance
- environmentally friendly

4. Applications

Lucofin®1400PN is used primarily for injection molding applications but is also suited for extrusion purposes. It can be used as carrier resin for high loaded pigment and carbon black masterbatches in order to improve the melt index in combination with excellent dispersion and can be used in extrusion coating in order to improve hot tack properties of the final product.

Lucofin®1400PN can be used in injection molding for thin wall packaging.

5. Food Approval

Lucofin®1400PN successfully completed the FDA³ Food Contact Formulation review process (FDA Food Contact Formulation number 110) and can be used as a food contact or packaging material consistent with FDA regulations for such compounds.

(The number 110 is the number assigned by FDA to the application we made and is how the application is tracked through the FDA review system. There is no other number given by FDA to the matter or to the chemical in question.)

6. Processing

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

Compounding	approx. 160° - 220°C
Extrusion Coatings	approx. 160° - 270°C

7. Chemical resistance

Lucofin®1400PN 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®1400PN 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® 1400PN 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®1400PN should be stored under dry conditions in a well-ventilated place. If it is stored under certain conditions, i. e. if there are large fluctuations in ambient temperature and the atmospheric humidity is high, moisture may condense inside the packaging. Under these circumstances, it is recommended to dry the resin before use. Unfavorable storage conditions may also intensify the resin's slight characteristic odor. Resin should be protected from direct sunlight, temperatures above 40°C and high atmospheric humidity during storage. Higher storage temperatures may reduce the storage time

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.

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Technical data			
	Standard	Unit	Standard value*
Density (23 °C)	ISO 1183	g/cm ³	0,924
MFR ⁴ (190 °C/2.16 kg)	ISO 1133	g/10 min	15
Comonomer n-BA ⁵	DIN 51451	%	17
Melting temperature	ISO 3146	°C	93
Vicat softening temperature (A/50N)	ISO 306	°C	55
Module of Elasticity (23 °C)	ISO 178	MPa	25
Stress at break – Type 5 A	ISO 527-1, -2	MPa	8
Elongation at break – Type 5 A	ISO 527-1, -2	%	>600
Shore Hardness D	ISO 868	-	30

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

¹ HFFR – Halogen Free Fire Retardant

² ESCR – Environmental Stress Crack Resistance

³ FDA – Food and Drug Administration

⁴ MFR – Melt-Flow Rate

⁵ n-BA – N-Butyl-acrylate

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