

ISSUE: 08/01/2021

ISO 9001 CERTIFIED

Promyde® BF845LN is a new experimental biobased copolyimide specially formulated for the production of cast and blown film. It is lubricated and nucleated.

Promyde® BF845LN exhibits the following characteristics:

- The **renewable content** of Promyde BF845LN is **30%**.
- High transparency
- Lower melt temperature (180°C): suitable for coextruded films with temperature sensible polymers such as EVOH
- Low crystallization speed, low curling

Product Specifications	Values	Standard method
Melt Flow Rate (240°C/5Kg), cc/10min	15-25	ISO1133
Monomer content, %	≤ 0.5	ISO 6427
Moisture content, %	≤ 0,1	NAPPA-032

General Properties	Unit	Value	Testing method
Melting point	°C	180	ISO 3146
Crystallization Temperature	°C	140	ISO 3146
Density	g/cm ³	On-going	ISO 1148

Film Properties ¹	Conditions	Unit	Value	Method
Modulus	MD	MPa	500-1000	ISO 527-3
Stress at break	MD	MPa	50-60	ISO 527-3
Elongation at break	MD	%	350-450	ISO 527-3
Trouser tear force	MD	N	2-2.5	ISO 6383-1
Trouser tear resistance	MD	N/mm	40-45	ISO 6383-1
Puncture energy	MD	mJ	10-15	ISO 14477
Haze		%	<0.5	ASTM D1003
O ₂ transmission rate, 23°C	0% RH		On-going	ASTM D3985
	50% RH	cc/m ² .d	On-going	
	85% RH		On-going	
Moisture vapor transmission rate, 23°C	85% RH	g/m ² .d	On-going	ISO 15106-1

(1) Values were measured on 50µm blown film (BUR: 2.2): the properties like those of all PA films are greatly dependent on manufacturing conditions.

FORMAT AND STORAGE

Promyde® BF845LN is supplied in 25Kg moisture-proof packaging. The product should be stored in a dry place and opened just before processing.

PROCESSING GUIDELINES

Drying

Material is supplied pre dried and ready to process. Bags should be stored in a dry place at room temperature. Storage time should not exceed twelve months. Material from open or damaged bags should be dried in a dry-air dryer at 70°C, the drying time required will depend on the moisture content. Drying temperatures of above 70°C should be avoided because of possible oxidation.

Extrusion Processing

Promyde® BF845LN may be processed on standard single-flighted, three-section screws. Better results can be obtained by using high-performance screws equipped with shearing and mixing sections. The screw length should be at least 24D, and preferably 28-33D to guarantee optimum plasticizing and conveying with the high through-put rates of film extrusion (D: screw diameter). A three-section screw should have a compression ratio (ratio of flight depth in the feed section to flight depth in the metering section) of 3:1 to 4:1.

It is recommended the length of screw sections as follows (L: overall length of screw):

Feed section: 0.25 to 0.30 x L

Compression section: 0.15 to 0.25 x L

Metering section: 0.4 to 0.55 x L

Excellent processing and film properties can be obtained by using following temperatures at the extruder:

Hopper: 40-50°C

Extruder: 240°C

Adapter&Die: 240°C

Conditioning

Films made of Promyde[®] BF845LN will achieve their final dimensions and properties after equilibrium moisture absorption.

Note: All recommendations are based on knowledge and experience. The values have been established on standard tests. The figures should be regarded as guide values and not as binding minimum values. As many factors may affect processing or applications, we recommend that you make tests to determine the suitability of a product for your particular use.