

**ISSUE: 01/03/2021**

**ISO 9001 CERTIFIED**

Promyde<sup>®</sup> BF40 LN is a lubricated and nucleated high viscosity Polyamide 6 for general extrusion applications and especially for cast film.

Promyde<sup>®</sup> BF40 LN combines good gas barrier properties and chemical resistance, good mechanical and optical properties along with high abrasion resistance and good thermoformability.

The additives package ensures good surface slip properties on the polyamide side of the film and also improves clarity and thermoformability.

Product Specifications	Values	Standard method
Relative viscosity (1% m/v in 96% m/m sulphuric acid, 25°C)	4 ± 0,1	ISO 1628
Extractable % max.	≤ 1	ISO 6427
Moisture content % max.	≤ 0,1	NAPPA-032

General Properties	Unit	Value	Testing method
Melting point	°C	220	ISO 3146
Density	g/cm <sup>3</sup>	1,13	ISO 1148
Water absorption (23°C/sat.)	%	9	ISO 62
Moisture absorption (23°C/50 %RH)	%	3	ISO 62
Apparent density	g/cm <sup>3</sup>	0,69	NAPPA-059
Chip size (length-diameter)	mm	2,5	NAPPA-045

Film Properties <sup>1</sup>	Conditions	Unit	Value	Method
Stress at yield	MD	MPa	34	ISO 527-3
Stress at break	MD	MPa	96	ISO 527-3
Elongation at break	MD	%	350	ISO 527-3
Trouser tear resistance	MD	N/mm	25	ISO 6383-1
Haze	Chill roll temperature 90°C	%	≤5	ASTM D1003
	Chill roll temperature 50°C		≤0,5	
Dynamic coefficient of friction	Film/Steel	-	≤0,25	ISO 8295
O <sub>2</sub> transmission rate, 23°C	0% RH	cc/m <sup>2</sup> .d.atm	25	ASTM D3985
	50% RH		15	
	85% RH		40	
Moisture vapor transmission rate, 23°C	85% RH	g/m <sup>2</sup> .d	15	ISO 15106-1

(1) Values were measured on 50µm flat film (chill-roll temperature 90°C): the properties like those of all PA films are greatly dependent on manufacturing conditions.

Packaging

Big bag / Octabin / Silo truck

## CHARACTERISTICS

Promyde® BF40 LN is a lubricated and nucleated high viscosity Polyamide 6 for general extrusion applications and especially for cast film. Promyde BF40 LN combines good gas barrier properties and chemical resistance, good mechanical and optical properties along with high abrasion resistance and good thermoformability. The additives package ensures good surface slip properties on the polyamide side of the film and also improves clarity and thermoformability.

## APPLICATIONS

Promyde® BF40 LN is used for the production of mono and coextruded cast and blown films that are suitable for thermoforming. In multilayer film Promyde® BF40 LN assumes the function of a gas and aroma barrier, giving to the film outstanding mechanical properties and thermoformability. The main applications are vacuum packs and thermoformed packs for food such as meat, fish and cheese.

## FORMAT AND STORAGE

Promyde® BF40 LN is supplied in moisture-proof packaging. Typical formats are Big Bags, Octabins, 25kg bags, and bulk silo trucks. All containers are perfectly sealed. The product should be stored in a dry place and opened just before processing.

## PROCESSING GUIDELINES

### Drying

Material is supplied predried and ready to process. Bags and containers should be stored in a dry place at room temperature. Storage time should not exceed twelve months. Material from open or damaged containers should be dried in a dry-air dryer at 75 to 80°C, the drying time required will depend on the moisture content. Drying temperatures of above 80°C should be avoided because of possible oxidation.

### Extrusion Processing

PROMYDE® BF40 LN 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

The following processing temperatures are recommended:

Feed section: 230-240°C

Compression section: 250-265°C

Metering section: 255-265°C

Die: 255-265°C

In cast film the temperature of the casting roll has an important influence on the film properties. If the film has to have a good dimensional stability and strength (such as for cover film) the temperature should be set to 80-120°C, however for good thermoforming and high transparency to 20-40°C

#### **Conditioning**

Films made of PROMYDE<sup>®</sup> BF40 LN 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.