

ISSUE: 06/07/2022

ISO 9001 CERTIFIED

Promyde® BF540 L is a lubricated high viscosity copolyamide PA6/6.6 for the production of monofilaments and blown films with a high transparency.

PA6/6.6, as layer in coextruded polyethylene films, in combination with ≥ 0.5 g per g PA of tie layer, based on CHI standard CHI-C8-PEF-1/2.0, can be considered as Recycling Compatible for PE Film Recycling.

| Product Specifications | Values | Standard method |
|--|------------|-----------------|
| Viscosity Number (0.5% in 96% Sulfuric Acid), cm/g | 250 | ISO 307 |
| Relative Viscosity (1% in 96% Sulfuric Acid) | 3.9-4.2 | ISO 307 |
| Moisture content % max. | $\leq 0,1$ | NAPPA-032 |

| General Properties | Unit | Value | Testing method |
|-----------------------------------|-------------------|---------|----------------|
| Melting point | °C | 190-195 | ISO 3146 |
| Density | g/cm ³ | 1,12 | ISO 1183 |
| Bulk density | g/cm ³ | 0,69 | NAPPA-059 |
| Water absorption (23°C/sat.) | % | 10.5 | ISO 62 |
| Moisture absorption (23°C/50 %RH) | % | 3.2 | ISO 62 |
| Chip size | mm | 2.5 | NAPPA-045 |

| Film Properties ¹ | Conditions | Unit | Value | Method |
|--|------------|----------------------|---------|-------------|
| Modulus | MD | MPa | 500-800 | ISO 527-3 |
| Stress at break | MD | MPa | 50-60 | ISO 527-3 |
| Elongation at break | MD | % | 300-400 | ISO 527-3 |
| Trouser tear force | MD | N | 1.2-1.6 | ISO 6383-1 |
| Trouser tear resistance | MD | N/mm | 25-30 | ISO 6383-1 |
| Puncture force | MD | N | 4-5 | ISO 14477 |
| Puncture elongation | MD | % | 3-4 | ISO 14477 |
| Puncture energy | MD | mJ | 8-10 | ISO 14477 |
| Haze | | % | <5 | ASTM D1003 |
| O ₂ transmission rate, 23°C | 0% RH | | 19 | ASTM D3985 |
| | 50% RH | cc/m ² .d | 16 | |
| | 85% RH | | 46 | |
| Moisture vapor transmission rate, 23°C | 85% RH | g/m ² .d | 15 | 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.

Packaging

Big bag / Octabin / Silo truck

FORMAT AND STORAGE

Promyde[®] BF540 L 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 pre dried 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[®] BF540 L 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: 210-250°C

Adapter&Die: 240-250°C

Conditioning

Films made of Promyde[®] BF540 L 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.