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ISO 9001 CERTIFIED

Promyde® BF540 is a high viscosity copolyamide without additives specially formulated for the production of monofilaments and blown films with a high transparency.

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.	≤ 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 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 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 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.