



BOLPHANE R³

**RENEW
REDUCE
RECYCLE**

B-Nat[®] F

Ultrathin display shrinkfilm on the basis of a **green** polyethylene high toughness crosslinked

B-Nat[®] F is an ultrathin packaging shrink film developed on a basis of green polyethylene. It consists for more than 20% of a polyethylene produced from sugarcane ethanol.

Besides coming from a renewable natural source, this green PE provides the same performances as a fossil polyethylene, can be recycled and contributes to minimising the carbon footprint.

- An exceptional mechanical resistance assures protection and product integrity.
- **B-Nat[®] F** is easy to seal and shrink and thus compatible with a wide variety of packaging equipments.
- On the most demanding shapes and configurations, **B-Nat[®] F** combines toughness and softness and provides a high profile display film with good shelf appearance.



Disposal

Options for disposal are **recycling** (compatible with SPI code 4/PE-LD), incineration with energy recovery and landfill. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial and local regulations.

Food contact

Complies with EU and US regulations on food contact materials. See the « Declaration of Conformity » of concerned film reference for details.

Film storage

The maximum temperature for storage is 32° C, with a maximum of 80% RH, up to one year.



B-Nat[®] F

Technical Specifications

Technical properties	Test unit	Test Method	Values	
Reference			BNAT-F-15	
Presentation				
Grade			15	
Roll Length- Singlewound (S)	m		2 670	
Roll Length- Centerfolded (C)	m		1 335	
Width - Singlewound (S)	mm	<u>mini</u> : 150 - <u>maxi</u> : 1 400 - <u>incrément</u> : 5		
Width - Centerfolded (C)	mm	<u>mini</u> : 150 - <u>maxi</u> : 1 000 - <u>incrément</u> : 50		
Friction coefficients (film to film)				
Static		ASTM D1894	0.25	
Dynamic		ASTM D1894	0.18	
Optical properties				
Haze	%	ASTM D1003-A	3.4	
Gloss at 20°		ASTM D2457	115	
Shrinkage properties			LD*	TD*
Free shrink at 93°	%	ASTM D2732	16	18
Free shrink at 120°	%	ASTM D2732	70	71
Shrink force	kg/cm ²	NFT 54-125	22	30
Mechanical properties			LD*	TD*
Stiffness modulus	Mpa	ASTM D882	350	350
Elongation at break	%	ASTM D882	130	135
Tensile strength	Kg/cm ²	ASTM D882	1 600	1 600
Barrier properties				
Water vapor transmission rate	g/m ² /24h 38°C, 95% HR	ASTM E96	17	
Oxygen transmission rate	cm ³ /m ² /24h 23°C, 0% HR	ASTM D3985	10 700	

* LD = Longitudinal Direction
* TD = Transversal Direction

Characteristics are those of a non-perforated film



The technical features of the products defined herein are given as typical values. They are the best information available to us and we believe them to be reliable. Users have to check-up that they are suitable with all the applications as performance may vary with processing conditions. Unless previous warning, BOLLORE has the right to change at any time the definition and technical features of its products.