



BOLPHANE R³

**RENEW
REDUCE
RECYCLE**

B-Nat[®] O

Ultrathin display shrinkfilm on the basis of a **green** polyethylene standard multipurpose

B-Nat[®] O is an ultrathin packaging shrink film developed on a basis of green polyethylene. It consists for more than 40% 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.

- B-Nat[®] O is developed to offer the most attractive shelf presentation. Therefore, its optic properties are optimised.
- Its cohesion strength makes it a good candidate for multipacking applications.
- The unique technical properties of B-Nat[®] O ensure excellent results, from manual to automatic high speed machines.



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[®] O Technical Specifications

Technical properties	Test unit	Test Method	Values	
Reference			BNAT-0-15	
Presentation				
Grade			15	
Roll Length- Singlewound (S)	m		2 670	
Roll Length- Centerfolded (C)	m		1 335	
Width - Singlewound (S)	mm	mini : 150 - maxi : 1 400 - <u>incrément</u> : 5		
Width - Centerfolded (C)	mm	mini : 150 - maxi : 700 - <u>incrément</u> : 50		
Friction coefficients (film to film)				
Static		ASTM D1894	0.40	
Dynamic		ASTM D1894	0.12	
Optical properties				
Haze	%	ASTM D1003-A	3	
Gloss at 20°		ASTM D2457	114	
Shrinkage properties			LD*	TD*
Free shrink at 93°	%	ASTM D2732	15	20
Free shrink at 120°	%	ASTM D2732	58	60
Shrink force	kg/cm ²	NFT 54-125	22	28
Mechanical properties			LD*	TD*
Stiffness modulus	Mpa	ASTM D882	500	600
Elongation at break	%	ASTM D882	90	100
Tensile strength	Kg/cm ²	ASTM D882	1 000	1 100
Barrier properties				
Water vapor transmission rate	g/m ² /24h 38°C, 95% HR	ASTM E96	19	
Oxygen transmission rate	cm ³ /m ² /24h 23°C, 0% HR	ASTM D3985	8 000	

* 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.