



# BOLPHANE R<sup>3</sup>

**RENEW  
REDUCE  
RECYCLE**

## BZN

Ultrathin display shrinkfilm on the basis of bi-oriented polyethylene (BO-PE) high toughness crosslinked

- Exceptional strength and puncture resistance
- Broad operating window for use on a wide range of equipments
- Strong seals from a wide variety of processing conditions



**BZN** is easy to seal and shrink on a wide range of equipments, and applicable on a broad spectrum of products. Excellent optics combined with a high shrink force make **BZN** an excellent high profile/display film.

The film's toughness provides puncture resistance and ensures protection and product integrity, especially to packages with sharp edges or irregular shapes. A high memory degree prevents distortion and provides a secure package with good appearance.

The unique combination of toughness and softness guarantee puncture resistance and enhanced elongation at break compared to any other conventional shrinkfilm.

## 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.



**BOLLORE**  
INNOVATIVE  
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## BZN Technical Specifications

Technical properties	Test unit	Test method	Values					
Reference			BZN15	BZN19	BZN25			
<b>Presentation</b>								
Grade			15	19	25			
Roll Length - singlewound (S)	m		2 670	2 140	1 600			
Roll Length - centerfolded ( C )	m		1 335	1 070	800			
Width - singlewound (S)	mm		mini : 150 - maxi : 1400 - increment : 5					
Width - centerfolded ( C )	mm		mini : 150 - maxi : 900 - increment : 50					
<b>Friction coefficients ( film to film)</b>								
Static		ASTM D1894	0.25	0.25	0.25			
Dynamic		ASTM D1894	0.18	0.18	0.18			
<b>Optical properties</b>								
Haze	%	ASTM D1003-A	3.4	3.7	4			
Gloss at 20°		ASTM D2457	115	115	115			
<b>Shrinkage properties</b>								
			LD*	TD*	LD*	TD*	LD*	TD*
Free shrink at 93°	%	ASTM D2732	12	17	11	15	10	15
Free shrink at 120°	%	ASTM D2732	78	78	75	75	73	74
Shrink force	Kg/cm <sup>2</sup>	NFT 54-125	25	30	25	30	25	30
<b>Mechanical properties</b>								
			LD*	TD*	LD*	TD*	LD*	TD*
Stiffness modulus	Mpa	ASTM D882	380	380	350	350	320	320
Elongation at break	%	ASTM D882	130	135	135	140	145	150
Tensile strength	Kg/cm <sup>2</sup>	ASTM D882	1 600	1 600	1 500	1 500	1 300	1 300
<b>Barrier properties</b>								
Water vapor transmission rate	g/m <sup>2</sup> /24h 38°C, 95% RH	ASTM E96	17	14	12			
Oxygen transmission rate	cm <sup>3</sup> /m <sup>2</sup> /24h 23°C, 0% RH	ASTM D3985	10 700	8 400	6 500			

\* LD = Longitudinal Direction

\* TD = Transversal Direction

Characteristics are those of a non-perforated film.

The option pre-perforation (BZN H) is available upon request.



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.