



BOLPHANE R³

**RENEW
REDUCE
RECYCLE**

BY

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

- Fast sealing and hot track
- Hot slip properties after shrinkage
- Optimal performance and productivity with outstanding yield
- Low temperatures and less energy with high shrinkage



The unique technical properties of **BY** ensure excellent results, from manual to automatic high speed machines.

High shrink performance and outstanding machinability make that **BY** stands for versatility and optimal performance on a wide variety of packaging systems.

Compared to a standard shrink film, **BY** demonstrates up to 20% higher shrink capacity.

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
PACKAGING SHRINK FILMS

Odet-Ergué-Gabéric
29556 Quimper Cedex 9 - France
Tél. +33 (0)2 98 66 72 00
Fax +33 (0)2 98 59 67 79
contact.packaging@bolllore-technologies.fr



www.bolllorefilms.com

BY Technical Specifications

Technical properties	Test unit	Test method	Values					
			BY15	BY19	BY25			
Présentation								
Grade			15	19	25			
Roll Length- Singlewound (S)	m		2 670	2 140	1 600			
Roll Length- Centerfolded (C)	m		1335	1070	800			
Width- Singlewound (S)	mm		mini : 150 - maxi : 1400 - <u>incrément</u> : 5					
Width- Centerfolded (C)	mm		mini : 150 - maxi : 1000 - <u>incrément</u> : 50					
Friction coefficients (film to film)								
Static		ASTM D1894	0.25	0.25	0.25			
Dynamic		ASTM D1894	0.17	0.17	0.17			
Optical properties								
Haze	%	ASTM D1003-A	3	3.4	3.4			
Gloss at 20°		ASTM D2457	114	114	114			
Shrinkage properties								
			LD*	TD*	LD*	TD*	LD*	TD*
Free shrink at 93°	%	ASTM D2732	26	33	23	30	20	25
Free shrink at 120°	%	ASTM D2732	64	62	65	64	65	61
Shrink force	Kg/cm ²	NFT 54-125	24	28	24	31	25	28
Mechanical properties								
			LD*	TD*	LD*	TD*	LD*	TD*
Stiffness modulus	Mpa	ASTM D882	500	600	550	600	550	600
Elongation at break	%	ASTM D882	95	100	105	100	120	105
Tensile strength	Kg/cm ²	ASTM D882	1 100	1 100	1 000	1 000	1 000	1 000
Barrier properties								
Water vapor transmission rate	g/m ² /24h 38°C, 95% HR	ASTM E96	28	24	20			
Oxygen transmission rate	cm ³ /m ² /24h 23°C, 0% HR	ASTM D3985	9 800	8 400	6 500			

* LD = Longitudinal Direction

* TD = Transversal Direction

Characteristics are those of a non-perforated film.

Options like pre-perforation (BY H) or non-hotslip (BY N) are 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.