

PRODUCT NEWS

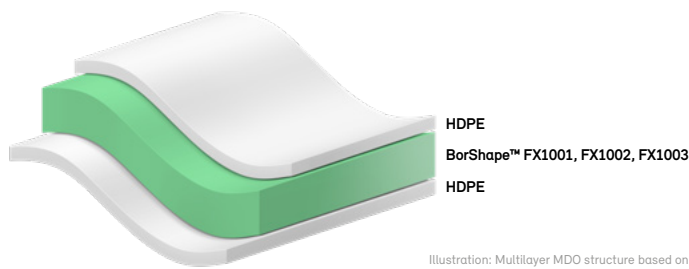
BorShape™ for machine oriented (MDO) packaging film

Ideal material to address key challenges
in MDO and design for recycling (DfR)

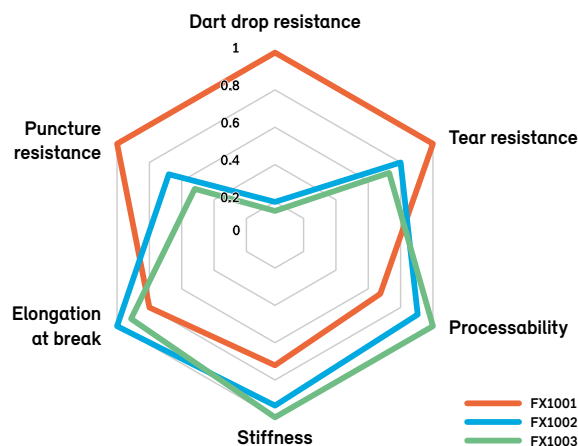


Key benefits of BorShape™ for machine direction orientation (MDO)

- Reliable process consistency at high stretch ratios
- Optimal MD modulus for printability and film flatness, ensuring excellent film quality
- Increased thermal resistance and speed on packaging lines
- Very low gel level



Properties	BorShape FX1003 - based MDO
Tens Mod/MD (Mpa)	2450
Tens Mod/TD (Mpa)	2335
Tear/MD (N)	43
Tear/TD (N)	55
Haze (%)	7
Gloss at 45°	75
CoF (dynamic)	0.5



Graph: Comparative data based on pure BorShape™ MDO film, thickness 25µ, stretch ratio 1:6; Primary blown film produced on the Alpine 7 layer, BUR 1:3, melt temperature 230/240 °C and offline Alpine MDO unit

Type	Grade	Density (Kg/m ³)	MFI (190°C/2.16kg) (g/10min)	Key attributes
Bimodal Terpolymer	BorShape™ FX1001	933	0.2	Good stiffness/toughness balance
	BorShape™ FX1002	937	0.5	Good mechanical performance and excellent processability
Trimodal Terpolymer	BorShape™ FX1003	941	0.35	Good stiffness, mechanical performance, and thermal resistance, along with improved processability
Bimodal Terpolymer	Anteo™ FK1820	941	1.5	Improved tear performance, excellent processability, and enhanced film appearance
HDPE	MB5568	956	0.8	Excellent optics and stiffness

Borealis and Borouge packaging solutions are making everyday life easier

date of issue: July 2024

Borealis is one of the world's leading providers of advanced and sustainable polyolefin solutions. In Europe, Borealis is also an innovative leader in polyolefins recycling and a major producer of base chemicals. We leverage our polymer expertise and decades of experience to offer value-adding, innovative and circular material solutions for key industries such as consumer products, energy, healthcare, infrastructure and mobility.

With operations in over 120 countries and head offices in Vienna, Austria, Borealis employs around 6,000 people. In 2022, we generated a net profit of EUR 2.1 billion. OMV, the Austria-based international oil and gas company, owns 75% of our shares. The Abu Dhabi National Oil Company (ADNOC), based in the United Arab Emirates (UAE), owns the remaining 25%.

In re-inventing essentials for sustainable living, we build on our commitment to safety, our people, innovation and technology, and performance excellence. We are accelerating the transformation to a circular economy of polyolefins and expanding our geographical footprint to better serve our customers around the globe. Our operations are augmented by two important joint ventures: Borouge (with ADNOC, headquartered in the UAE), and Baystar™ (with TotalEnergies, based in the US).

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