



PRESS RELEASE

FlexFilms Launches Two New Advanced BOPET Film

**An Aluminum Foil Replacement Metallized High-Barrier BOPET Film FLEXMETPROTECT™ F-HBP-M
A Puncture Resistant, Nylon Replacement BOPET Film FLEXPET™ F-HPF**

Sept 19, 2018, Elizabethtown, Kentucky (USA): FlexFilms, the global film manufacturing arm of Uflex, has launched two new state-of-the-art BOPET Films, at its manufacturing centre in Kentucky, U.S.A.

1. FLEXMETPROTECT™ F-HBP-M: An Aluminum Foil Replacement Metallized High-Barrier BOPET Film

FLEXMETPROTECT™ F-HBP-M is a metallized biaxially oriented polyester (BOPET) film with a superior gas barrier that offers high moisture and oxygen barrier for virtually all applications including Aluminium foil replacement. High barrier comes from patented BOPET film technology, with high optical density specifically suitable for most flex pack product offerings. This film is 100% web inspected; using our advanced web metalized surface inspection system.

FLEXMETPROTECT™ F-HBP-M

Film Structure ▶

- High Optical Density Metal layer
- Corona Treatment
- Specially Formulated BOPET
- Modified Coating

Superior Metal Deposition

100x HBP Surface

100x Al Foil Surface

Pinhole

1.8 mm at 50X

Al Foil Pinhole > 0.3 mm After Lamination*

Benefits to Customer

Film Type	Thickness Range	MVTR	O ₂ TR	Metal Adhesion
F-MTG	12-50 μ	1.20	1.20	150
F-CHE/M	12-50 μ	1.00	1.00	500
F-HMB/M	12-50 μ	0.60	0.60	1000
F-HBP/M	12 μ	0.14	0.24	200
** FOIL (Laminated)	9 μ	0.29	0.22	N/A

WVTR: gm/m²/Day, **O₂TR:** cc/m²/Day, **Metal Bond:** gmf/in
##Journal of applied packaging 08/2016: "Comparing Optimum Barrier Variables of Aluminum and MPET Foil Based laminates for Coffee Packaging"

Speaking on the key highlights of the launched gas barrier BOPET film F-HBP-M, Dr. Steven J. Sargeant, General Manager- Technology at FlexFilms (USA) Inc, commented, "With very high optical density, F-HBP-M film has superior tangible advantages. It is one side highly surface modified and other side metalized on corona treatment providing superior gloss, high tensile strength and advanced gas barrier properties. This film is suitable

for extended shelf-life applications, including the replacement of Al foil in many flex pack configurations. Converters are able to generate less scrap and have less down-stream customer rejections due to improved film machinability and handling properties when compared to legacy solutions.”

Elaborating on the applications of this product, Vijay Yadav, Business Head, FlexFilms (USA) Inc said, “Tariff, price increases and availability have brought forward keen interest in market for aluminium foil replacement. **F-HBP-M**, as a solution for aluminium foil replacement clearly provides great weight reduction due to the density differences. This helps in sustainability efforts and carbon footprint related to Aluminium mineral extraction. The state-of-art *Defect Monitoring System* installed in-line, equipped with smart high resolution cameras provide real time, 100% inspection of the material and accurate detection of defects. With this, the customers are assured of getting consistent high quality films.”

The film is EU and FDA, making it an ideal choice for products requiring foil replacement and extended shelf life with high barrier against oxygen and moisture. It’s especially useful in products that require aroma management like packaging of coffee and others like medicines, snacks, dried meats and nuts. The film will be of great use in shipping moisture sensitive items in multi-layered pouch”, **continued Vijay Yadav, on the gas barrier BOPET film F-HBP-M.**

FLEXPROTECT™ F-HBP-M Film works as an excellent barrier to gases and water vapour with fewer pinholes as compared to Aluminium foil. With the use of aluminium foil being eliminated and the film being recyclable; it makes it highly cost effective with a better yield per unit area.

2. FLEXPET™ F-HPF: A Puncture Resistant, Nylon Replacement BOPET Film

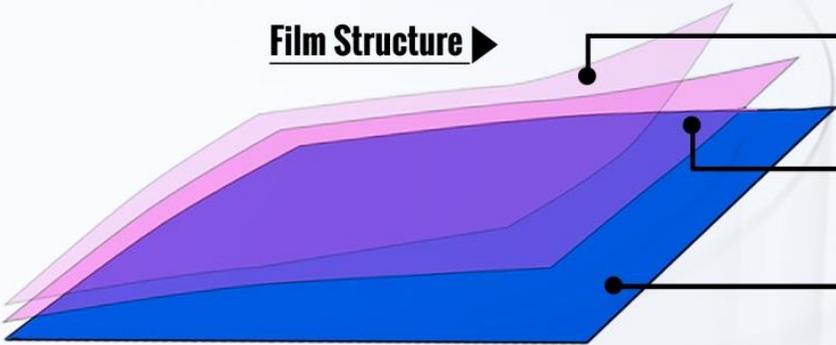
FLEXPET™ F-HPF, which is a first-of-its kind biaxially oriented nylon replacement (BON) film made with a newly developed patent pending technology offers important features of thermoforming performance, high puncture resistance and flexural fatigue strength. This technology is suitable for many applications, thereby providing a replacement for biaxially oriented nylon (BON) in many applications.

FLEXPET™

F-HPF

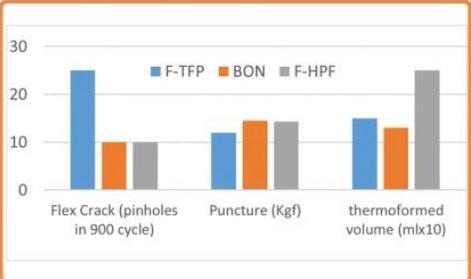


Film Structure →



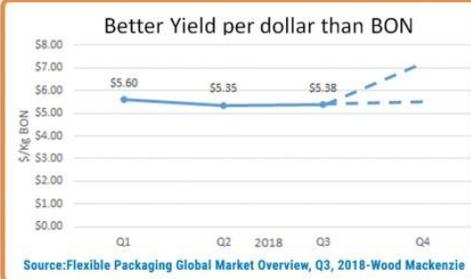
- **Untreated Surface**
- **Transparent Base Film**
- **Untreated / Corona Treated Surface**

Superior to Nylon



Metric	F-TFP	BON	F-HPF
Flex Crack (pinholes in 900 cycle)	~25	~10	~10
Puncture (Kgf)	~12	~15	~15
thermoformed volume (mlx10)	~15	~12	~25

Benefits to Customer



Quarter	Price (\$/kg BON)
Q1	\$5.60
Q2	\$5.35
Q3	\$5.38
Q4	~\$5.70

Source: Flexible Packaging Global Market Overview, Q3, 2018-Wood Mackenzie

Explaining the properties of the puncture resistant BOPET film F-HPF, Dr. Steven J. Sargeant, General Manager-Technology at FlexFilms (USA) Inc. said, “F-HPF is a transparent polyester film having the options of either both sides being untreated or one side being left untreated and other side being corona treated. Due to the enhanced flexibility of the film, it offers pinhole resistance, along with enhanced puncture and crack robustness. These class-leading properties enable this film grade to withstand aggressive handling. In addition, this grade avoids the typical pitfalls of BON like moisture absorption and other converter handling problems.”

Elaborating on the features of this product, Vijay Yadav, Business Head, Flex Films (USA) Inc said, “F-HPF Film is far more superior to nylon (BON) with fewer pin holes in terms of thermoform-ability whereas its puncture and flex crack resistance is at par with BON. Moreover, value proposition like better water resistance availability and compatibility with wide range of inks and adhesives makes it cost effective with greater yield per unit area as compared to BON, thereby remarkably accelerating our customers’ revenue.”

“The film complies with EU and FDA regulations and is a perfect choice for products that require burst resistance especially in the category of cheese & dairy products, meat, processed meat, fresh & frozen foods and brick packaging, to name a few. The property of thermoformability allows it to mould itself into the shape of item and is of great use in ecommerce packing of 3D objects”, **Vijay Yadav added on F-HPF Film.**

Commenting on the value proposition offered by F-HBP-M to its end users, Anantshree Chaturvedi, Vice Chairman and CEO, FlexFilms International said, “The biggest challenge that the packaging film industry faces currently is reducing food wastage through enhanced shelf life of food products, and reducing packaging material consumption through laminate rationalization. F-HBP-M, with minimum bond strength of 200gm/ 25mm, has improved product efficiency with lower weight as compared to aluminium foil. Features of it being compatible with a wide range of inks and adhesives; better availability and handling; good flex crack resistance and an advanced inline inspection mechanism in place to ensure consistency in barrier properties, will lend it a strong competitive edge.”

On F-HPF advantages, Anantshree added, “We adopt a customer- first approach and by providing superior quality assurance, we enable our consumers to achieve better revenues. Developing F-HPF film with excellent thermoformability and availability is in sync with our endeavour to constantly keep inventing ourselves and provide value creation to the brand owners we work with.”

“For ecommerce brands, transporting products in a safe and efficient way is the name of the game. To ensure product quality and safety, flexible packaging is aided by high-barrier film F-HBP-M that works both as a protective oxygen barrier and moisture barrier system. This helps the food products maintain their unique flavors and fresh aromas. In addition to this, our new grade F-HPF provides an extra layer of safety to sharp products that otherwise have a high risk of puncture or damage during shipping and handling process”, **Anantshree continued detailing the products usefulness to ecommerce industry.**

F-HBP-M & F-HPF will be available to its customers from today and will be targeting America and Europe region.

About FlexFilms:

FlexFilms is the global film manufacturing arm of India’s largest multinational flexible packaging solutions company, Uflex Limited. With State-of-the-Art film manufacturing facilities in all the 4 major continents Asia, Europe, North America and Africa our cumulative production capacity stands in excess of 337,000 MT Per Annum.

About Uflex:

Uflex is India's largest multinational flexible packaging materials and Solution Company and an emerging global player. Since its inception back in 1985, Uflex has grown from strength to strength to evolve as a truly Indian Multinational with consumers spread across the world. Uflex today has state-of-the-art packaging facilities at multiple locations in India with installed capacity of around 100,000 TPA and has packaging film manufacturing facilities in India, UAE, Mexico Egypt, Poland and USA with cumulative installed capacity in excess of 337,000 TPA.

All Uflex plants are accredited with ISO 9001, 14001, HACCP & BRC certifications. Uflex caters to markets spanning across the globe in over 140 countries like USA, Canada, South American countries, UK and other European Countries, Russia, South Africa, CIS, Asian and African nations. Integrated within its core business profile are allied businesses like Engineering, Cylinders, Holography and Chemicals which further give Uflex a superior edge above competition.

Uflex Limited is also a part of the D&B Global Database and winner of various prestigious national and international awards for its products' excellence. Uflex offers technologically superior packaging solutions for a wide variety of products such as snack foods, candy and confectionery, sugar, rice & other cereals, beverages, tea & coffee, dessert mixes, noodles, wheat flour, soaps and detergents, shampoos & conditioners, vegetable oil, spices, marinades & pastes, cheese & dairy products, frozen food, sea food, meat, anti-fog, pet food, pharmaceuticals, contraceptives, garden fertilizers and plant nutrients, motor oil and lubricants, automotive and engineering components etc.

Some of Uflex's clients on the global turf include P&G, PepsiCo; Tata Global; Mondelez, L' Oreal, Britannia, Haldiram's, Amul, Kimberly Clark, Ferro Rocher, Perfetti, GSK, Nestle, Agrotech Foods, Coca Cola, Wrigley, Johnson & Johnson among others.

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