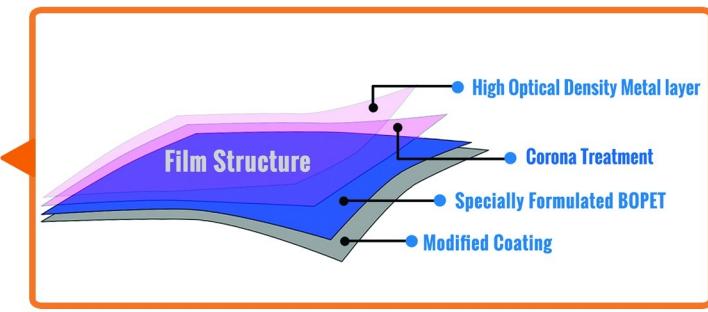


# F-HBP Metallized High Barrier BOPET Film

## Process Overview

**F-HBP** (High Barrier Product) is a **new type of gas barrier film**. This film offers **high moisture** and **oxygen barrier** for many applications including foil replacement.

**High barrier** comes from **specially formulated BOPET film** with **High Optical Density**. This film is **100% web inspected**, for any metal defect, using our state of the art vision system.

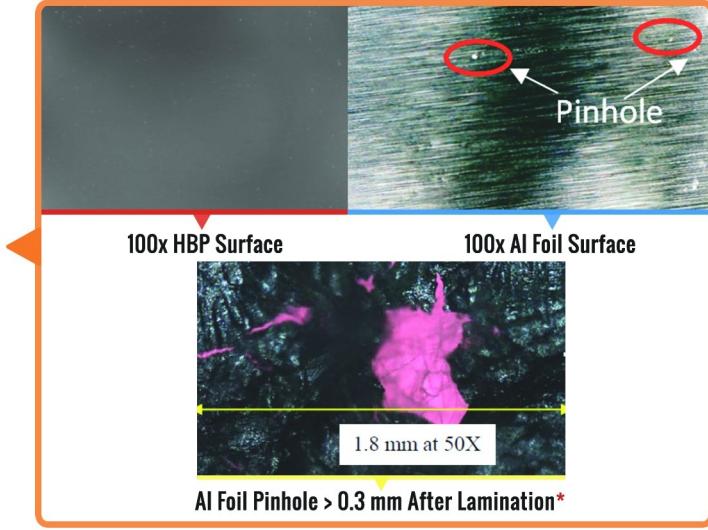


### Superior Metal Deposition

- Improved product quality
- Less pinhole density compared with foil\*
- State of the art inspection technology
- High Optical Density
- Dependable barrier properties

### Benefits to Customer

- Ideal film for foil replacement application
- Superior barrier properties
- Improve and extend product shelf life
- Quality assurance peace of mind
- Cost saving as a foil replacement opportunity



| Film Type          | Thickness Range            | MVTR        | O <sub>2</sub> TR | Metal Adhesion |
|--------------------|----------------------------|-------------|-------------------|----------------|
| F-MTG              | 12-50 $\mu$                | 1.20        | 1.20              | 150            |
| F-CHE/M            | 12-50 $\mu$                | 1.00        | 1.00              | 500            |
| F-HMB/M            | 12-50 $\mu$                | 0.60        | 0.60              | 1000           |
| <b>F-HBP/M</b>     | <b>12 <math>\mu</math></b> | <b>0.14</b> | <b>0.24</b>       | <b>200</b>     |
| **FOIL (Laminated) | 9 $\mu$                    | 0.29        | 0.22              | N/A            |

MVTR: gm/m<sup>2</sup>/Day, O<sub>2</sub>TR: cc/m<sup>2</sup>/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"

## Value Proposition

### Key Features

- True foil replacement/substitution
- Excellent moisture and oxygen barrier
- Minimum pinhole density
- Low weight compare with aluminum foil
- Increase product efficiency

### Applications

- Foil replacement
- Medical packaging
- Dried meats & nuts
- Coffee & Snacks packaging
- High barrier and aroma management

\*Compared with 7 micron aluminum foil un-flexed. TAPPI 2005 PLACE conference "The Impact of Foil Pinholes and Flex Cracks on the Moisture and Oxygen Barrier of Flexible Packaging"

**DISCLAIMER :-** It is responsibility of our customer to determine that their use of our product (s) is safe, lawful, and technically suitable in their intended applications. The values given in the process data sheet represent typical performance based on the best of our knowledge as on date when the process data sheet was compiled. The user is solely responsible for the end use of the product and needs to perform their own test to confirm the product suitability / compatibility in all respects. Flex Films gives no warranty or accept liability for any loss and fitness of the product for any specific purpose. Flex Films reserves the right to change the process data sheet at any time for enhancing the quality of the performance without prior information unless otherwise.

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Made in the USA | PDS Issued on 19-09-2018

\*Consult with Flex Films for Further Detail

## Product Description:

➤ The film is one side Modified Primer Coated and other side Metallized on Corona Treated

## Application:

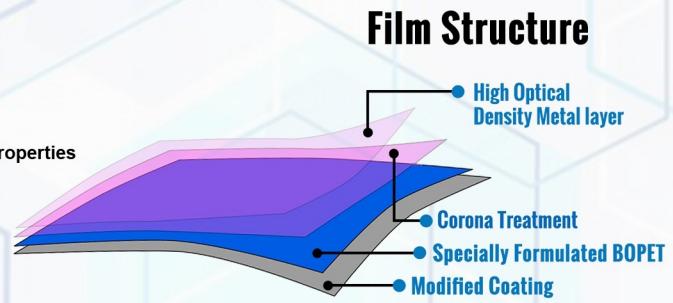
➤ High barrier and aroma management

➤ Ideal for products requiring extended shelf life & high barrier against oxygen and moisture

➤ Foil replacement

## Key Features:

- Superior gloss
- Superior barrier properties
- Excellent machinability & handling properties
- Consistent metal deposition



## Film Structure

**FLEXMETPROTECT™ F-HBP-M** is a metallized polyester film having superior barrier properties. The film has superior gloss and is available in 3.0 optical density. The bond strength between the metal and the Corona Treated surface (MT) is a minimum of 200gm/25mm.

| PROPERTIES   | TEST METHOD (ASTM) | UNIT   | TYPICAL VALUES   |
|--|--------------------|--|--|
| <b>OPTICAL DENSITY</b><br>(TOLERANCE: +/- 5%)                      |                    |  |  |
|  |                    |  | <b>Very High Density (VHD) 3.0 - Special Application</b> |
| THICKNESS  |                    | Micron (Gauge)   | 12<br>48   |
| YIELD  | Internal           | $m^2/kg$<br>$in^2/lb.$                                 | 59.52<br>41934   |
| <b>SURFACE TENSION (range)</b><br>(Modified Primer Coated surface) |                    |  |  |
|  | D-2578             | Dyne/cm  | 52-56  |
| COF (max)<br>(MI/MO)   | D-1894             | -  | 0.70   |
| TENSILE STRENGTH AT BREAK (min)                                    | MD<br>TD           | Kg/cm <sup>2</sup>                                     | 1900<br>2000   |
|  | MD<br>TD           | (Psi)  | 27000<br>28500   |
| ELONGATION AT BREAK (min)  | MD<br>TD           | %  | 105<br>85  |
| LINEAR SHRINKAGE (max)<br>(30 Minute at 150°C)                     | MD<br>TD           | D-1204   | 1.5<br>0.6   |
| GLOSS (min)<br>(Metallized surface)<br>(Bare surface)              |                    | D-2578   | -  |
|  |                    |  | 850<br>800   |
| MVTR (typical)<br>(38°C & 90%RH)                                   | F-1249             | gm/m <sup>2</sup> /day<br>(gm/100in <sup>2</sup> /day) | 0.14<br>0.009  |
| OTR (typical)<br>(23°C & 0%RH)                                     | D-3985             | cc/m <sup>2</sup> /day<br>(cc/100in <sup>2</sup> /day) | 0.24<br>0.0182   |

MI : Metal In

MO : Metal Out

## STORAGE &amp; HANDLING

**FLEXMETPROTECT™** needs to be stored in a warehouse below 35°C (95°F) and should not be exposed to direct sunlight, bright light sources, or high humidity. If the material is stored in the recommended conditions, **FLEXMETPROTECT™** is suitable for use within 6 month from the date of manufacturing.

## FOOD CONTACT

**FLEXMETPROTECT™** complies with EU and FDA regulations on plastic materials used for food grade application. Specific documents and SDS are available on request.

## DISCLAIMER

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## Flex Films

Manufacturing Facilities at

India | UAE | Poland | Egypt | Mexico | USA

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