


# RECYCLABLE PP MONO-MATERIAL SOLUTION WITH HIGH BARRIER OPP films (3-PLY)

Delivering high performance with PP-based laminates for VFFS formats

## MONO-MATERIAL SOLUTION

<b>PRINT WEB:</b>	BICOR 12MB100 – heat stable OPP film
<b>BARRIER WEB:</b>	METALLYTE 16MM883 – Ultra high barrier vacuum metallized OPP film
<b>INNER WEB:</b>	Low SIT cast PP film
<b>CONVERSION:</b>	WIPF AG  Innovative Packaging Solutions

## PACKAGING MACHINERY

<b>SUPPLIER:</b>	WOLF VERPACKUNGS- MASCHINEN GmbH 
<b>FORMAT:</b>	VFFS – side gusseted bags
<b>TYPE:</b>	LINIE and GREEN models

## Features

- Mono-material compositions (>90% PP)
- Outstanding barrier to light, H<sub>2</sub>O, gases, (WVTR 0.1, OTR 0.1), aromas and mineral oils
- Improved heat resistant OPP outer web with low seal initiation temperature CPP sealant
- Much reduced packaging weight than most 3-ply non- recyclable solutions (e.g. PET/ALU/PE)
- Improved mechanical properties (e.g. puncture resistance)



## Benefits

- Full compatibility for mechanical recycling in PP or mixed PO streams
- Conforms to CEFLEX recycling guidelines
- Alu-free, PET-free, paper-free
- Great barrier keeps product safe while tasting & feeling fresh!
- Provides outstanding protection for sensitive powdered foods with tight hermetic seals
- Robust VFFS performance for demanding Modified Atmospheric Packaging (MAP)
- Delivers double-digit percent packaging weight reduction



**BICOR™ MB100 is a very thin transparent non heat sealable OPP film with improved heat stability (low shrinkage) and very high Modulus for optimal machinability during conversion (e.g. rotogravure print) and on VFFS machines**

**Metallyte™ MM883** is a transparent ultra high barrier (UHB) vacuum metallized film with high optical density delivering great moisture barrier (WVTR 0.1) and great oxygen barrier (OTR 0.1) along with excellent light protection (OD 2.8)

A low SIT cast PP is recommended in combination with an improved heat stable OPP to help transition away from more heat stable PET-ALU structures

An **MB100/MM883/CPP** 3-ply laminate is ideal for most VFFS applications for most demanding powder food or beverage applications requiring a recyclable PP mono-material solution that was previously in non-recyclable constructions (e.g. PET/ALU/PE, PET/Met-PET/PE, Paper/ALU/PE).

Demanding VFFS formats usually resort to 3-ply non-mechanically recyclable laminates. They can be replaced with 3-ply laminates using higher performance PP films to deliver improved recyclability and conform to CEFLEX design guidelines in Europe.

VFFS 3-PLY HIGH BARRIER LAMINATES	MECHANICAL RECYCLABLE	RELATIVE PACK WEIGHT	MOISTURE BARRIER (WVTR)	GAS BARRIER (OTR)	PUNCTURE RESISTANCE
12MB100 / 16MM883 / 60CPP	✓	81%	++++	++++	++++
12PET / 7ALU / 70PE	✗	100%	+++++	+++++	++
12PET / 12Met-PET / 70PE	✗	98%	+++	+++	++++

Jindal Films data

In some cases machine modifications are required as PP based laminates do not have the folding properties (i.e. dead-fold) delivered by Aluminum foil based structures.

For use in market segments typically using VFFS either in bag-in-box or as stand alone formats:

- Sensitive powdered foods such infant formulas
- Sensitive powdered beverages such as dry powder milk or dehydrated beverages
- Potentially any segment where high barrier with long shelf life is required



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Laminate made by WIPF: 12MB100/16MM883/60Cast PP

Contact your Jindal Films representative for more information

[www.jindalfilms.com](http://www.jindalfilms.com)

[info@jindalfilms.com](mailto:info@jindalfilms.com)



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