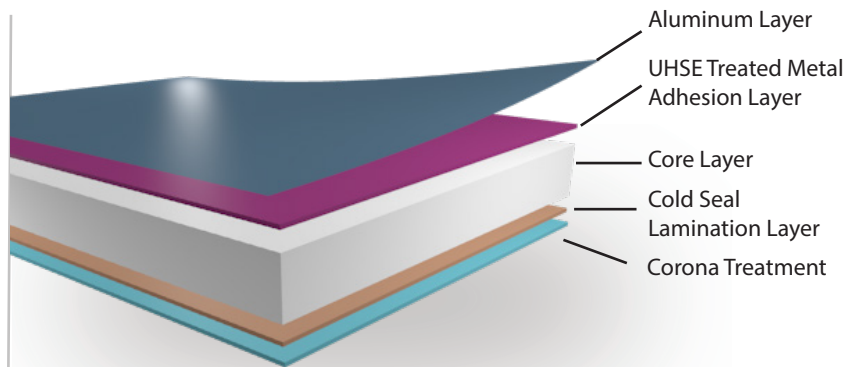


# TORAYFAN<sup>®</sup> M21

## Applications

- Confections
- Snacks
- Bakery
- Pet Food
- Graphic
- Ag/Chem
- Medical
- Electronics



ONE SIDE TREATED, ONE  
SIDE METALLIZED NON  
SEALABLE BOPP FILM

## Summary

One side vacuum deposited Aluminum on Toray's Ultra High Surface Energy (UHSE), one side corona treated. Designed as a barrier cold seal or buried barrier metallized BOPP film with high lamination bond. Ideal for foil and MPET replacement.

## Technical Data \*

PROPERTIES	METHOD	UNITS	TYPICAL VALUES	
Thickness	-	0.00001"	50	60
Nominal Yield	-	in <sup>2</sup> /lb	61,200	51,500
Tensile Strength at Break	MD	ASTM D882	lb/in <sup>2</sup>	22,000
	TD			45,000
Young's Modulus	MD	ASTM D882	lb/in <sup>2</sup>	270,000
	TD			500,000
Elongation at Break	MD	ASTM D882	%	180
	TD			60
Heat Shrinkage (284°F for 15 minutes)	MD	ASTM D1204	%	8
	TD			5
Coefficient of Friction (Treated Side)		ASTM D1894	$\mu_s$	0.36
			$\mu_d$	0.31
Wetting Tension		ASTM D2578	dyne/cm	40
MVTR - 100°F, 90% RH		ASTM F1249	g/100in <sup>2</sup> /day	0.01

- Excellent bonding of pressure sensitive adhesives (cold seals)
- Non craze metal surface
- Good moisture barrier
- Excellent bonding in extrusion and adhesive laminations

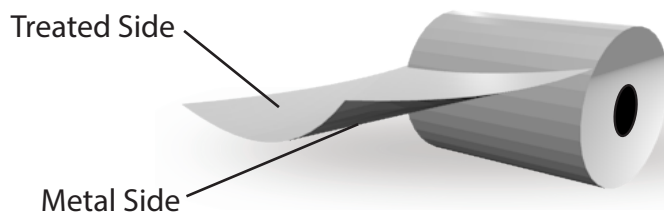
### Similar Products

- M10
- PC3

### Typical Structures

- FCR/ink/ADH/M21/  
Patterned Cold Seal
- PET/ink/PE/M21/PE
- BOPP/ink/PE/M21/PE
- Ink/Paper/PE/M21/PE
- O.L./ink/Board/PE/M21/PE
- O.L./ink/M21/PE/Board/PE

### Winding Direction



### \* These values do not constitute specific binding specifications

DISCLAIMER: This information is believed to be correct as of the date of issue. Toray Plastics (America), Inc. MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE AND TAKES NO RESPONSIBILITY REGARDING THE SUITABILITY OF THIS INFORMATION FOR THE USER'S INTENDED PURPOSES OR FOR THE CONSEQUENCE OF ITS USE. User is responsible for determining whether the Toray Plastics (America), Inc. product is fit for a particular purpose and suitable for user's method or use of application. Given the variety of factors that can affect the use and application of Toray Plastics (America), Inc. products, which are uniquely within the user's knowledge and control, it is essential that the user make its own tests to determine the safety and suitability of each Toray Plastics (America), Inc. product or product combination for its own purpose.

Torayfan® is a registered trademark of Toray Industries, Inc. for its range of bi-oriented Polypropylene Films (BOPP)