

# CLEARGUARD™ Flexible Packaging

A Clear Solution to Protect and Promote Your Product

## CLEAR PRESENTATION

Today's consumer demands clarity: clear communication of ingredients, and a clear view of your product and its quality. TOPPAN now offers its ClearGuard™ portfolio of clear packaging options, bringing transparency to consumers while providing best-in-class barrier properties.

## CLEAR PROTECTION

For many products, the challenge is delivering transparency and building consumer trust, while also protecting freshness and quality. ClearGuard structures have been proven to meet and exceed shelf life requirements for a variety of on-trend product categories, including meat snacks, nuts, trail mixes, snack bars, cookies and crackers.

## CLEAR VALUE

ClearGuard packaging offers all this while remaining cost-effective, making it clearly the best value in product protection.



# TOPPAN

# CLEARGUARD™

flexible packaging offers:

## ■ Exceptional Barrier Performance

Low oxygen and water vapor transmission rates protect your product from exposure to its environment, resulting in shelf life improvements over other non-metal transparent barrier films and lamination options.

## ■ Attractive Retail Appearance

Take advantage of TOPPAN's best-in-class printing and laminating expertise to create a package that will stand out on the shelf through features such as registered matte and glossy finishes, as well as easy-open or resealable options.

## ■ Superior Flex Crack Resistance and Durability

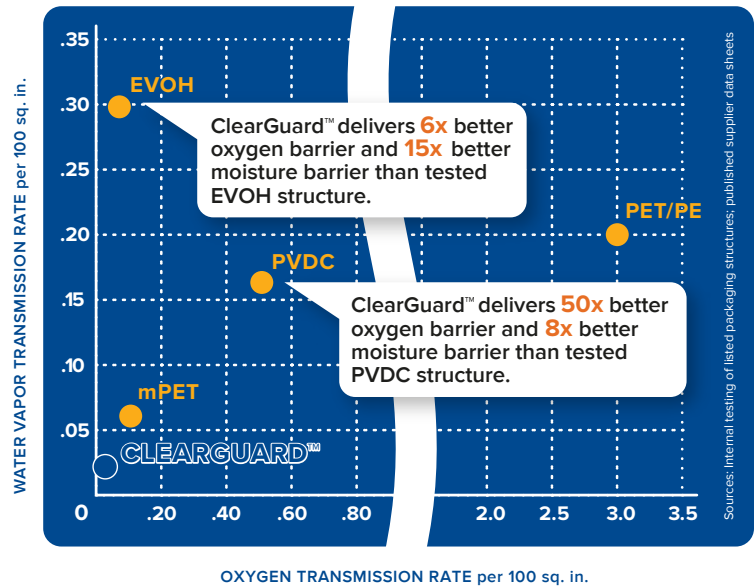
Barrier properties of ClearGuard™ flexible structures are maintained even after repeated bending, ensuring product safety and integrity throughout the entire supply chain.

## ■ Materials Substitute

ClearGuard™ flexible packaging offers a clear packaging alternative to eliminate aluminum foil or metalized structures.

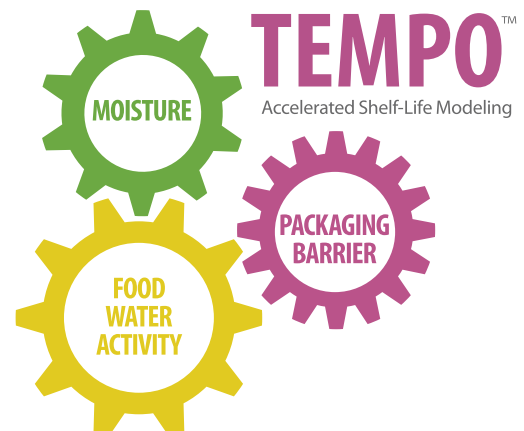
## ■ Speed to Shelf

TOPPAN's proprietary **TEMPO™ Accelerated Shelf Life Modeling** speeds up shelf life testing, reduces the development cycle and allows innovations to get to market faster.



	Oxygen Transmission Rate (OTR)	Water Vapor Transmission Rate (WVTR)
<b>ClearGuard™</b>	<b>0.01</b>	<b>0.02</b>
mPET	0.09	0.06
EVOH	0.06	0.30
PVDC	0.50	0.16
PET	3.00	0.20
Testing Method:	OTR: ASTM D3985 OTR: cc/100 in2/24 hr	WVTR: ASTM F1249 WVTR: gm/100 in2/24 hr
Conditions:	73°F; 0% RH	100°F; 90% RH

The above represent typical values and results may vary depending on final composition.



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