

'TORAY'
Innovation by Chemistry

TORAYFAN® CATALOGUE

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TORAYFAN

Toray's Torayfan*BO is a polypropylene film produced by biaxial elongation process, first commercialized in Japan by Toray. It is the lightest among all plastic films, and it excels in transparency, strength, and scent barrier properties. Torayfan* is widely used in industrial applications, capacitors, and as packaging materials.

Features of Torayfan* for General Industrial

(1)Strength

Torayfan* has a very high tensile strength in both longitudinal and lateral directions due to the biaxial extension process used in its manufacturing. It is most suitable as a component material for packaging where strength is crucial.

(2)Transparency

Torayfan* has excellent transparency and yet is scratch-resistant.

(3)Anti-moisture property

Its water vapor transmission rate is extremely low, and hardly influenced by moisture.

(4)Release properties

Non treated side has removability which is the feature of polypropylene, and optimum for releasing application.

(5)Electrical properties

Torayfan* has very high insulation resistance, thus produces minimal insulation defects, making it suitable for applications requiring high reliability as for capacitors. Dielectric loss tangent is low, thus it is suitable for high-precision circuits and use in alternation current applications.

Post-processing flexibility of Torayfan* for general industrial applications

(1)Printing

Torayfan* is compatible with photo gravure ink and flexography ink for polypropylene.

(2)Lamination

This film is compatible with dry lamination and extrusion lamination. Adhesives which can be used are: urethane base adhesive for dry lamination, urethane, imine, or titanate base adhesive for extrusion lamination. Be sure to consider the application when selecting the adhesive.

(3)Heat sealing

Heat sealable types such as M304S and B128 can be used for heat sealing with no further processing. Other types can be used for heat sealing when laminated with PE, EVA, CPP or other materials. Excessive sealing temperature can impair the appearance due to thermal shrinkage. Hence, users are requested to select the appropriate temperature setting. In addition, hot wire sealing and ultrasonic sealing can be made.

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3 List of grade of general industrial applications

Grade	Type	Thickness(μm)	Features & Treatment	Application
General Industrial	2500H	30,40,50,60	Not treated on either side	Free layout photo album, mold releaser film, cable covering
	YM17S	20,25	Matte on front	Matte type mold release
			Corona on backside	
2578	15,25,30,40	Corona on backside	Release, Adhesive tape	
Special grade	YT62	40	Easy-to-tear in the lateral direction	Adhesive tape
			Corona treatment on both sides	
	2548	20,25,30,40,60	Highly anti-static on both sides	Adhesive tape
			Corona treatment on both sides	

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Features of Torayfan* for packaging applications

(1)Strength

Torayfan* has a very high tensile strength in both longitudinal and lateral directions due to the biaxial extension process used in its manufacturing. It is most suitable as a component material for packaging where strength is crucial.

(2)Transparency

Torayfan* has excellent transparency and yet is scratch-resistant. It gives high gloss, thus produces excellent printed finish, and helps to enhance the presentation of the packaged contents.

(3)Anti-moisture property

Its water vapor transmission rate is extremely low, and is hygroscopic. Thus it is suitable for use in packaging where water content retention needs to be assured.

(4)Temperature range for use

This film maintains its full properties across a wide range of temperature, from -50 to +130°C.

It allows sterilizing by boiling after food has been filled into the container, as well as deep freeze storage.

(5)Hygiene for food applications

For food applications, users are requested to select types in compliance with applicable regulations including Article 10, Clause 1, of the Food Hygiene Act, and FDA regulations. Contact us for recommended types.

Post-processing flexibility of Torayfan* for packaging applications

(1)Printing

Torayfan* is compatible with photo gravure ink and flexography ink for polypropylene.

When selecting the ink, be sure to consider the surface to be printed (treated or non- treated side), further post-processing applied including lamination, and packaging methods.

(2)Lamination

This film is compatible with dry lamination and extrusion lamination. Adhesives which can be used are: urethane base adhesive for dry lamination, urethane, imine, or titanate base adhesive for extrusion lamination.

Be sure to consider the application when selecting the adhesive.

(3)Heat sealing

Heat sealable types such as M304S and B128 can be used for heat sealing with no further processing. Other types can be used for heat sealing when laminated with PE, EVA, CPP or other materials. Excessive sealing temperature can impair the appearance due to thermal shrinkage. Hence, users are requested to select the appropriate temperature setting. In addition, hot wire sealing and ultrasonic sealing can be made.

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3 List of grade of packaging applications

Grade	Type	Thickness(μm)	Features & Treatment		Application
General MF type	M304S	15	Heat sealable (low temperature) on front		Single sheet automated wrapping(printing on front side),pillow packaging lamination, anti-moisture sealant
			Corona on back side		
Special MF	B128	30,35,40	Heat sealable on both sides		Over-wrapping film(individual or stack packaging for boxes notebooks, or envelopes), and corner-folded packaging(for boiled fish paste and Japanese sweets)
			Corona on back side		
	W113	25	Heat sealable (low temperature) on both sides		Over-wrapping film(individual) ,low temperature heat sealable
			Corona on back side		
Anti-statics on back side					
YM62	22	Matte	Heat sealable on front		Wrapping for Japanese rice balls
			Corona on back side		
Special	YT42	25	Easy-to-tear in the lateral direction		Packaging for spices,dry snack food, and cookies,using the ease for tearing open by hand and the direction of tear
			Corona on both sides		
	YT52A	25,30,40	Easy-to-tear in the lateral direction		Packaging for sandwiches
			Heat sealable on front		
			Corona on both sides		
	YM11	15,20	Matte on front		Print lamination
			Corona on both sides		Matte displaying packaging
	YM17S	20,25	Matte on front		Packaging for cookies
			Corona on back side		
	YB22A	22	Highly anti-moisture		Packaging for cookies
Corona on both sides					
2548	20,25,30,40,60	Highly anti-static on both sides		Packages for powder products(dried fish products, granular medicines etc.)	
		Corona on both sides			
Lamination, printing	2578	20,25,30,40	Anti-statics on both sides		Various lamination methods and part coating for printing, hot wire sealing
			Corona on back side		

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■ Features of Torayfan * for Print Lamination

(1)Toughness

It is biaxially oriented film having high tensile strength.

It is best suited for package requiring toughness.

(2)Transparency

It excels in transparency and scratch-resistance properties.

Thus excellent gloss surface appearance and has good printing effects, thereby increasing the value of package contents.

(3)Moisture proof

Water vapor transmission rate is very low, therefore it is best suited for package which requires moisture proof properties.

■ Torayfan* for print lamination applications

(1)Gloss type

High gloss feeling gives an excellent surface effect to paper and printed materials and excels in anti-scratch and anti-blocking properties.

(2)Matte type

It has been the standard type for matte type for OPP since the start of this type in 1978. High matte feeling gives an excellent and subdued surface effect.

(3)Sack type

With the Toray's original technology, film surface has excellent glue properties, making it possible to use glue for sack application of machine application type.

(4)Thermal lamination type

Efficiency can be improved greatly by adding adhesive layer for the above films (1), (2), and (3). As it does not use solvent, it is environmental friendly. We guarantee the total quality as our production covers all, from production of films to application of adhesive layer.

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3 List of grade of print lamination applications

Grade	Type	Thickness (μm)	Features & Treatment	Application
Glue adhesive type	2578	15	Corona on backside	(1)Cover for various publication, books and text books (2)Carrying bags (3)Jacket cover for CD and music record albums (4)Decorative boxes for cosmetics (5)Paper containers for other daily-life commodities
			Anti-static on both sides	
	2248	15	Corona on both sides	
			Corona on backside	
	S648	20	Treated for good adhesion on front	
			Corona on both sides	
YM11	15,20	Matte treatment on front		
		Corona on both sides		
Thermal lamination	NL10	27.5	Transparence	
			Corona on backside	
	NL12	27.5	Transparence	
			Corona on both sides	
	NL22	27.5	Matte	
			Corona on both sides	
	NL82	27.5	Glue-receptive good adhesion on front	
			Corona on backside	
	VL10	30	Highly adhesive transparent type	
			Corona on backside	
	VL12	30	Highly adhesive transparent type	
			Corona on both sides	
	VL22	30	Highly adhesive matte type	
			Corona on both sides	

1. We accept not responsibility for results obtained by the application of the information indicated and for the safety and suitability of the products, by itself or in combination with other products. Users are advised to perform their own tests to determine the safety and suitability of such product combination according to each of its purpose.

2. Refer to our MSDS (Material Safety Data Sheet) before use.

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