

Multitoron[®] Coextruded Multi-layer Film

TAMAPOLY CO., LTD. Multitoron multilayer coextruded films can have a structure with a maximum of seven layers and seven types of film. Using various resin structures, we are able to offer films that are both functional and ecological.

1. Our approach replaces functional multilayer laminated films to simplify production processes.

2. Our approach reduces the amount of energy and adhesives used during lamination, so contributes to the reduction of environmental impact.

3. Because the film is unstretched, it has an excellent thermal molding property. When used as a film for deep drawing, it can replace foamed trays to produce down-gaged containers. Moreover, by laminating the tray with a non-barrier sheet, it becomes a barrier container.

Grades

Coextruded Polyolefin and Nylon Sealant Film

①ZP Series

Characteristics

- Good deep draw mold property
- Good pinhole resistance and cold resistance

Application examples: food packaging, deep draw (for mono types)

②ZN Series

Characteristics

- Utilizes the toughness of nylon.
- Suited for lamination applications, contributes to simplified production processes, and reduces environmental impact of the film.
- Good heat resistance

Application examples: food packaging, medical equipment packaging

Series	Structure	Product	Boil	Thickness [μm]	Nylon Thickness [μm]	EVOH Thickness [μm]	OTR [cc/m ² · day · atm]	WVTR [g/m ² · day]	Puncture Resistance [N]	Measured Thickness [μm]
ZP	PE Ny PE	ZPX101		60-150	15	—	90	8	5	60
		ZPX111	Y							
	PE PE	ZPY101		90-150	25	—	50	4	7	100
		ZPY111	Y							
ZN	PE Ny PE	ZNX101		60-150	15	—	90	8	5	60
		ZNC1	Y	40-60	10	—	110	12	4	40
	PP Ny PP	ZNX211	Y	60-150	15	—	90	9	6	60
		ZNX231	Y							
	PP PP	ZNY231	Y	90-150	25	—	50	6	8	100

Coextruded Polyolefin and EVOH Sealant Film

①ZE Series

Characteristics

- Good gas barrier against oxygen, etc.
- Useful in preserving flavor and freshness. Preserves aroma and prevents penetration of external odors.
- The barrier layer located between the sealant and adhesive layers blocks the penetration of content components and prevents delamination. Moreover, by down-gaging the sealant layer, this series reduces adsorption migration of the content components to the packaging.

Application examples: BIB, solvent/aromatic content resistant packaging (adsorption volume reduction, delamination prevention), deep drawing (for lamination)

②ZV Series

Characteristics

- Good toughness and pinhole resistance property.
- Good gas barrier against oxygen, etc.

Application examples: large bags, deep drawing (for lamination)

We also develop other products depending on the application, including flexible, high-rigidity, down-gaged, easy-peel, and colored grades, so please contact us for details.

Series	Structure	Product	Boil	Thickness [μm]	Nylon Thickness [μm]	EVOH Thickness [μm]	OTR [cc/m ² · day · atm]	WVTR [g/m ² · day]	Puncture Resistance [N]	Measured Thickness [μm]	
ZE	PE EVOH PE	ZEX101		50-150	—	6	1	7	4	50	
		ZEX111									
		PE PE	ZEY101		90-150	—	12	0.5	4	5	100
			ZEY111								
	PP EVOH PP	ZEC11		30-50	—	3	7	14	3	30	
		ZEX211		50-150	—	6	1	7	4	50	
		ZEX231									
		PP PP	ZEY211		90-150	—	12	0.5	4	5	100
ZEY231											
ZV	PE Ny EVOH Ny PE	ZVX101		60-110	16 (8/8)	6	1	8	5	60	
		ZVX111									
	PP Ny EVOH Ny PP	ZVX211					1	8	5		
		ZVX231									

OTR: oxygen transmission rate, WVTR: water vapor transmission rate