

Panlite® Film

Introduction of Decorative Films

Teijin's Decorative Films

Realizing optimum films for forming processes for decorative applications with unique polymer compound technology

Teijin has developed unique films to solve the following issues that occur during thermoforming. The films offer diversified appearances through the enhancement of design freedom.

- **Thermoformability** : Compatible with complicated shapes and deep drawing
- **Uneven thickness** : Retention of design through uniform transformation
- **Transparency** : Securing of transparency before and after thermoforming
- **High functionality** : Enhancement of abrasion and chemical resistance through multilayering and hard coating

Possible applications

- Automobile interior parts
- Automobile exterior parts
- Smart appliances
- Housing equipment
- Amusement equipment



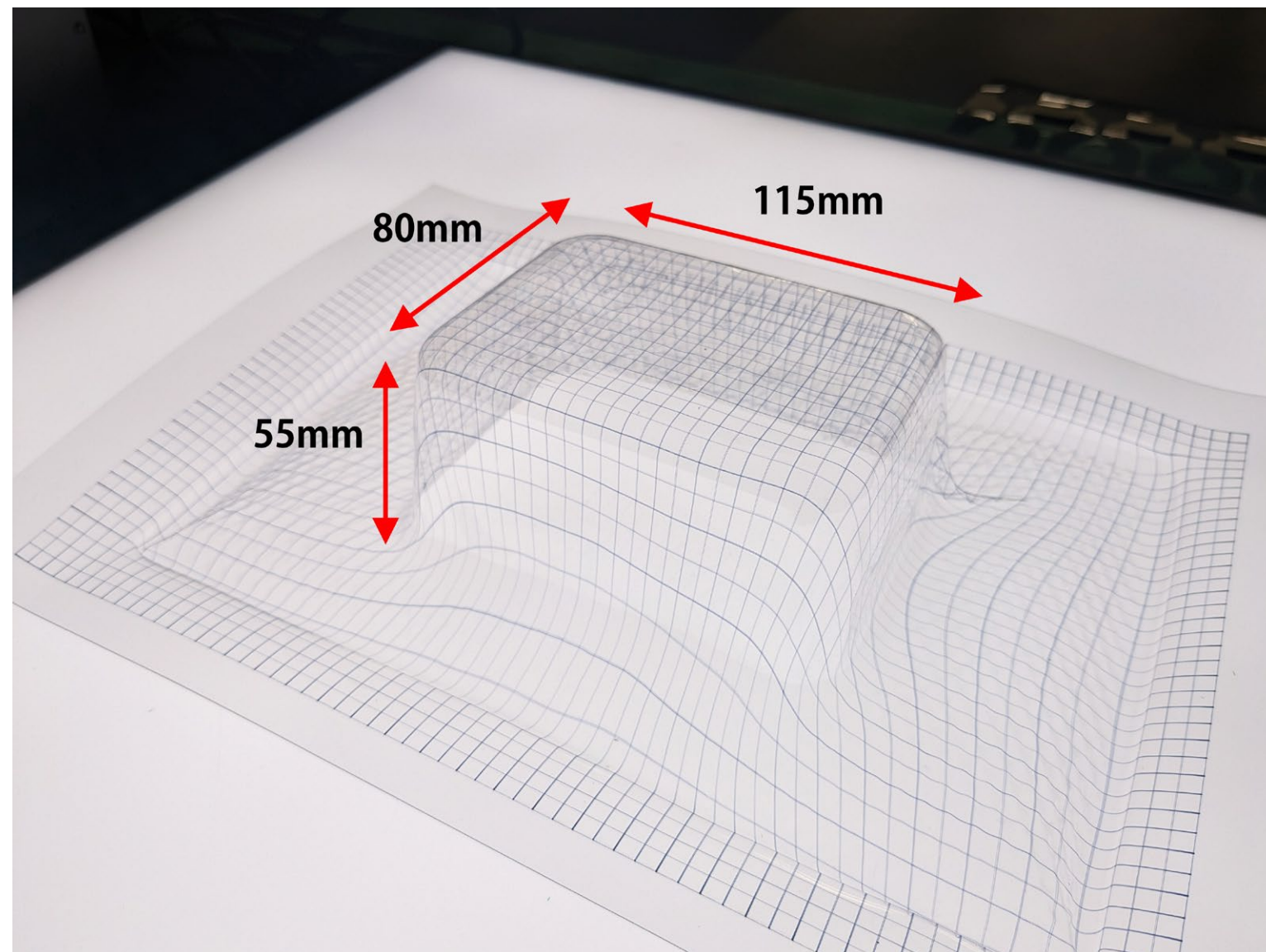
List of Characteristics of Teijin's Decorative Films

Grade	PC-1151 (Standard)	PC-1E51	PC-D101	PC-D600	PC-SB50	PC-SB70
Type	General PC film	Advanced PC film	General PC film	Advanced PC film	Advanced PC film	Advanced PC film
Layer composition	Single layer	Single layer	Multiple layer	Multiple layer	Multiple layer	Multiple layer
Hard coating	Not applied	Not applied	Not applied	Not applied	Applied (Pre-cure)	Applied (After cure)
Pencil hardness	2B	2B	2H	2H	2H	4H (After cure)
Abrasion resistance (Steel wool)	×	×	△	△	△	○
Chemical resistance (Neutrogena)	×	×	×	×	○	○
Low-temperature formability (Extension coefficient: Up)	△	○	△	○	○	○

*The above characteristics are measurement examples and are not guaranteed.

Thermoformability of Teijin's Decorative Films

Thermoformable at temperatures lower than conventional PC films



Grade	PC-1E51 / PC-D600	PC-D101 (Conventional)
Forming condition range*		
Example) 150°C vacuum forming		

* The condition range confirmed by our evaluation method. The actual formable conditions vary depending on the forming size and temperature distribution, etc.
Evaluation items : , Shapeability, Appearance

Teijin's Lineup of Decorative Films

Roll (Standard)

*Values in the table: Product lengths

Grade		PC-1E51	PC-D101	PC-D600	PC-SB50	PC-SB70
Product width (mm)			1,100		1,050	
Thickness (μ)	100	1,900M	–	–	–	–
	125	1,600M	1,600M	1,600M	1,400M	1,400M
	180	1,200M	1,200M	1,200M	1,000M	1,000M
	200	1,100M	1,100M	1,100M	900M	900M
	250	900M	900M	900M	700M	700M
	300	700M	700M	700M	500M	500M
	375	600M	600M	600M	400M	400M
	400	550M	550M	550M	350M	350M

Films can be cut in desired lengths.

List of Physical Properties of Teijin's Decorative Films

Property	Unit	Test method	Measurement condition	PC-1151 (Standard)	PC-1E51	PC-D101	PC-D600	PC-SB50	PC-SB70
Density	g/cm ³	ISO 1183	–	1.2	1.2	1.2	1.2	1.2	1.2
Tensile yield stress	MPa	ISO 527-1 and ISO 527-2	50mm/min	60	65	60	65	65	60
Tensile fracture designation distortion	%			150	180	5	5	5	5
Tensile modulus	MPa			2100	2300	2200	2500	2400	2400
Total light transmittance	%	ISO 13468	Thickness 0.3mm	90	90	91	91	91	91
Haze	%	ISO 14782		0.1	0.1	0.1	0.1	0.1	0.1*
Color	L	ISO 7724-2		96.0	96.1	96.5	96.5	96.3	96.3
	a*			0	0	0	0	0	0
	b*			0.2	0.3	0.4	0.4	0.4	0.8
Coefficient of linear expansion	×10 ⁻⁵ /°C	ISO 11359-2	–	7	7	7	7	7	7

*After forming at 140°C

*The above characteristics are measurement examples and are not guaranteed.