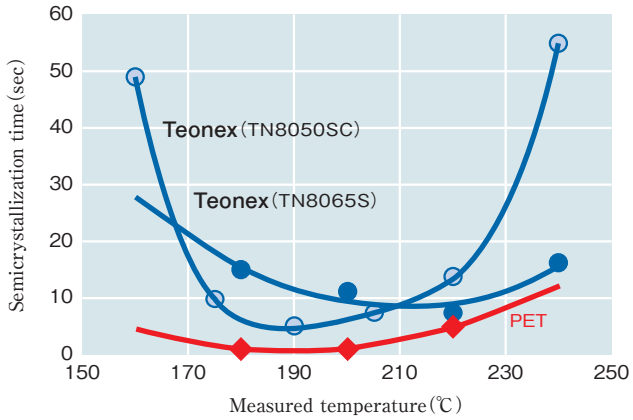
Crystalline Properties

Since Teonex is slower in crystallization than conventional PET, you can maintain transparency even when you make thick molded products.



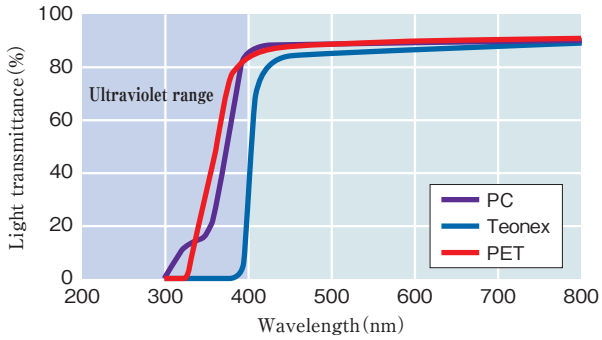
■ Measurement of semicrystallization time by the ellipsometric method

Measurement method :
Place the sample resin between glass holders and melt it. Leave the sample still at measured temperature. Measure the amount of light that passes through the sample. The semicrystallization time is defined as the time at which the amount of the light half saturates.
Others :
"Amorphous state" The amount of light is zero. ⇔ "Crystalline state" The amount of light increases as the amount of the crystal increases.

Optical Properties

Teonex absorbs the ultraviolet light and makes it easy to create transparent material.

■ Wavelength distribution of light transmittance (molded product thickness : 2mm)



■ Refractive index

	Teonex		PET	PC
	TN8050SC	TN8065S		
Refractive index (23℃ / 656nm / C light)	1.638	1.638	1.575	1.585

Pencil Hardness Test

Teonex has superior scratch resistance among transparent resins.

Material	Pencil hardness	Transparency
Teonex TN8065S	**H**	**○**
Polyetherimide	H	△ (Color)
Liquid crystal polyester	H	×
Polybutylene naphthalate	HB	×
Polyphenylene sulfone	HB	×
Polyarylate	HB	△ (Color)
Polybutylene terephthalate	B	×
Alicyclic polyolefin	2B	○
PC	2B	○

Measurement method for pencil hardness test (in accordance with JISK5600-5-4)

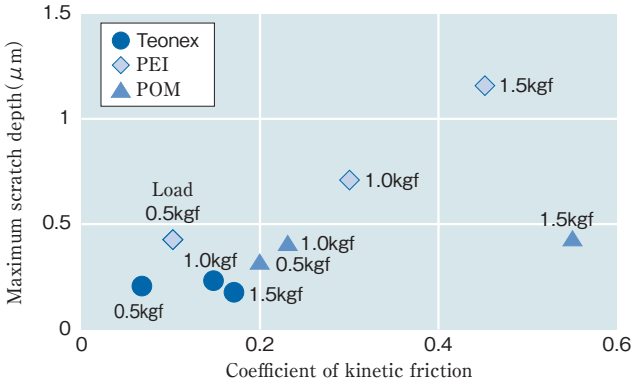
Measurement condition: Load 750 g /
Product thickness: 2mm

○ : Transparency
△ : Transparency (Yellow)
× : Opaque

Frictional Properties

Teonex has surfaces with very little friction and excellent scratch resistance.

■ Comparison of friction and scratch



Measurement of kinetic friction coefficient and scratch depth by kinetic friction test (for both directions)

Test method for kinetic friction for both directions:
Steel ball dia. 5 mm / cycle 100 / stroke speed 10 mm/sec
Load (kgf) : 0.5, 1.0, 1.5, Molded product thickness 2 mm
Calculation method for kinetic friction coefficient:
use the formula, "Coefficient of kinetic friction = measured frictional force / specified load," to calculate coefficient of kinetic friction.
Measurement method for scratch depth:
After the kinetic friction test, measure the scratch depth with two-dimensional surface roughness tester, and calculate the maximum scratch depth (Rv).