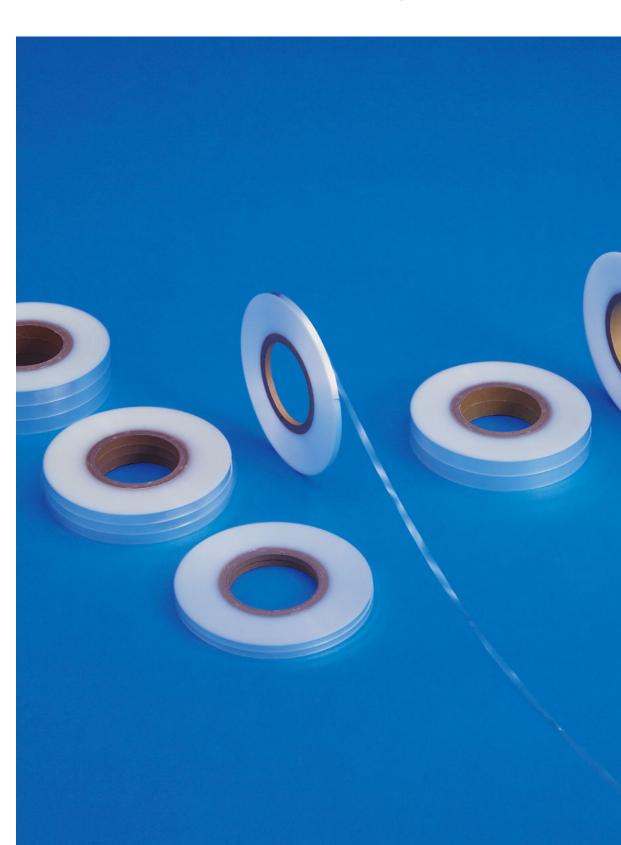


## **Shin-Etsu Film**

## Wrapping Film for Molding Process

# **Shin-Etsu Wrapping Films**



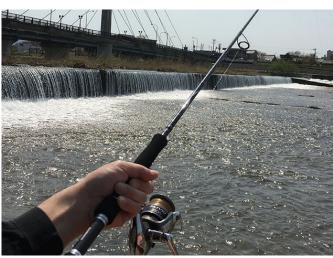
# Wrapping Film for Molding Process Shin-Etsu Wrapping Films

We applied the production technology that we developed for capacitor film, to produce our wrapping films.

Shin-Etsu wrapping films are used in carbon fiber prepreg molding.

They are ideal for wrapping cylindrically molded objects such as fishing rods and golf club shafts.





#### **■** Features

#### 1. Tensile characteristics

Having tensile strength over 196 MPa, our tapes can resist proper tension for wrapping. This feature results in molded objects with excellent strength.

#### 2. Heat shrinkage and stress characteristics

Our tapes have heat shrinkage and stress characteristics that match the curing speed of matrix resin (epoxy) in carbon fiber prepreg when it fuses and cures.

#### 3. Releasability

These tapes have excellent releasability, so the film can easily be removed from the molded object after curing.

#### ■ Applications

Our tapes are used for wrapping cylindrically molded objects made of carbon fiber prepreg such as fishing rods and golf club shafts.

#### ■ Classifications (material, thickness)

Item	Unit	PT-30HD	PT-30SD2	PT-30SD	PT-25SD	PT-22SD	PET-25K	PET-25C
Material*	-			PET-K	PET-C			
Thickness	μm		30		25	22	25	

\* OPP: biaxially oriented polypropylene film

 $\label{perconstraint} \mbox{PET-K} : \mbox{biaxially oriented polyester film which has a coating of silicone release agent on one side}$ 

PET-C: biaxially oriented polyester film

#### ■ General properties

Item		Unit	PT-30HD	PT-30SD2	PT-30SD	PT-25SD	PT-22SD	PET-25K	PET-25C
Tensile strength	MD	MPa	214	260	221	240	241	211	197
		[kgf/mm²]	[21.8]	[26.5]	[22.5]	[24.5]	[24.6]	[21.5]	[20.1]
	CMD	MPa	206	165	175	190	196	176	202
		[kgf/mm²]	[21.0]	[16.8]	[17.9]	[19.4]	[20.0]	[18.0]	[20.6]
Elongation at break	MD	%	132	70	68	112	98	132	122
	CMD	%	108	138	135	133	122	134	126
Heat shrinkage (120℃×15min)	MD	%	1.5	4.8	2.5	2.4	2.4	0.1	0.2
	CMD	%	0.9	-0.4	-0.5	-0.7	-0.3	-0.1	0.0
Haze		%	2	5	5	1	1	1	1

[]=conventional unit

Note) The above values are measured values, not standard values.

### **Wrapping Film**

#### **■** Product Lineup

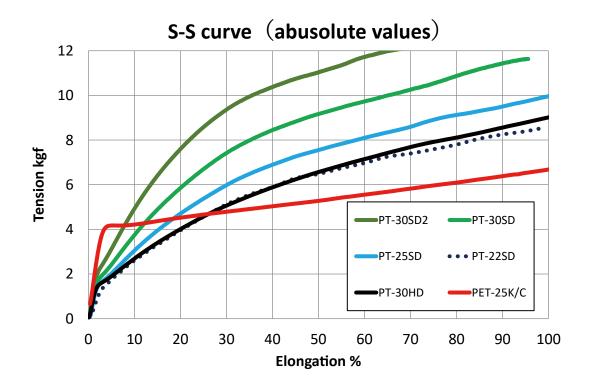
Product Name	Length	Width (mm)									
		6	8	10	12	15	18	20	25	30	
PT-30HD	500m	•	•	•	•	•	•	•	•	•	
	1,000m		•	•	•	•		•	•	•	
PT-30SD2	500m	•	•	•	•	•		•	•	•	
	1,000m			•	•	•		•	•	•	
PT-30SD	500m	•	•	•	•	•	•	•	•	•	
P1-303D	1,000m		•	•	•	•		•		•	
DT 050D	500m	•	•	•	•	•	•	•		•	
PT-25SD	1,000m		•	•	•	•	•	•			
PT-22SD	500m	•	•	•	•	•				•	
F 1-220D	1,000m		•	•	•	•	•				
PET-25K	500m			•	•	•		•			
PE 1-25K	1,000m				•	•		•	•		
PET-25C	500m					•		•	•	•	
	1,000m					•		•	•		
Core		$ID = \Phi 76.5 \pm 0.5 mm$									

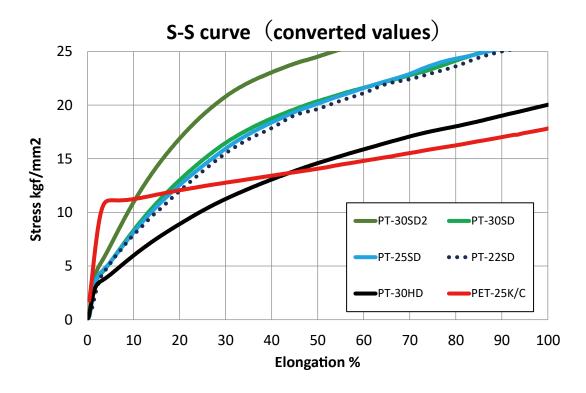
Standard products / Contact us if you need any products out of standard ones.

#### ■ Storage and Handling Precautions

- · Store indoors in a cool place, out of direct sunlight.
- Products should be used as soon as possible after delivery.
- $\cdot$  The core may loosen due to seasonal temperature fluctuations.
- · Take care not to damage the tape edge and roll edge surface; even minor damage may lead to tape breakage.
- · Deformation of the roll and its core could occur if it is dropped even from a low height. Please avoid any damage to the box composing the rolls as well as dropping the rolls themselves.

#### ■ Mechanical properties





<sup>\*</sup> Test method: JIS C 2330 (dimensions of samples: 15 mm x 250 mm; marker interval: 100 mm; tensile speed: 200 mm/min)

<sup>\*</sup> None of the above data represents standard values.



### **Quality and Environment**

Shin-Etsu Film Takefu plant acquired certification of ISO 9001 in 2003 and ISO 14001 in 2007. We serve and contribute to customers all over the world.







Contact Shin-Etsu Film for information about our wrapping films.

#### Shin-Etsu Film Co., Ltd.

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