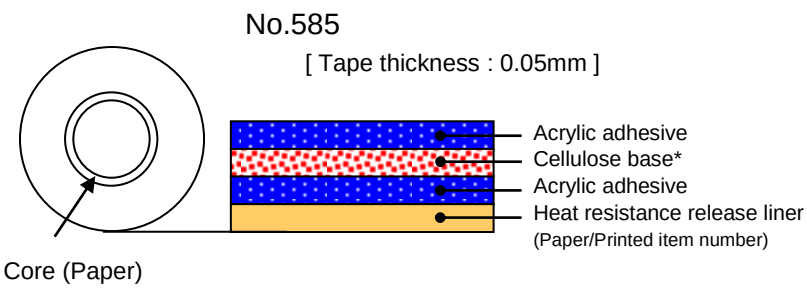
Heat resistant double-coated adhesive tape

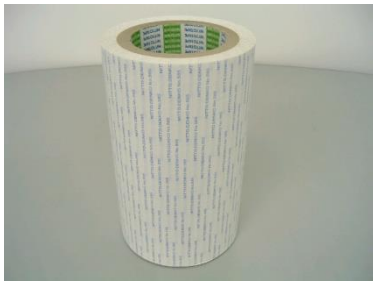
No.585

Outline

Nitto No.585 is a 0.05mm cellulose based double-coated adhesive tape with acrylic adhesive, which has high heat resistance. The tape offers high resistance to repulsion and punching quality. The release liner also possesses heat resistant property so the tape can be used in the soldering process without removing the release liner.

Structure





* "Celllose base" is classified under a law called Customs Act of Fixed Rate Chapter 48 "Paper and paperboard; articles of paper pulp, of paper or of paperboard".

**A double release liner type is available:NO.585W.

Features

- The tape shows strong adhesiveness that requires high resistance to repulsion, such as bending FPC.
- Excellent working performance and converting performance during the die cutting process.
- Can be used in the soldering process without removing the release liner.
  (Employs heat resistant release liner.)
- The ten hazardous materials restricted by the RoHS directive are not compounded.

Applications

- Fixing of FPC and stiffener, and FPC and housings.
- Other applications requiring heat resistance.

Standards sizes

Product	Tape thickness (mm)	Width (mm)	Lengths (M)
No.585	0.05	20 - 500	50,100
No.585W	0.05	50 - 500	50,100

For more details contact the person in charge.

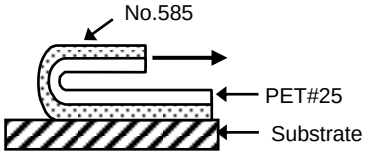
Properties

- 180 degree peeling adhesion by substrates.

Substrates	No.585
Stainless steel plate	13.0
Aluminum plate	14.0
ABS plate	12.0
Acrylic plate	12.5
PET film	12.0
Glass epoxy plate	15.0
olyimide film	13.0

(Unit: N/20mm)
Backing: PET#25
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement condition: 23 degree C. x 50%RH
Application condition:
1 pass back and forth with 2-kg roller

<Test method>

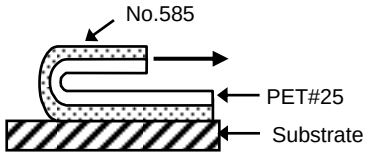


- 180 degree peeling adhesion by temperatures

Temperatures	No.585
0 degree C	13.6
10 degree C	13.2
23 degree C	13.0
40 degree C	12.1
60 degree C	10.5
80 degree C	8.0

(Unit: N/20mm)
Substrate: Stainless steel plate
Backing: PET#25
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperatures:
0, 10, 23, 40, 60, 80 degree C
applied at 23 degree C.
->Measurement under various temperatures.
Application condition:
1 pass back and forth with 2-kg roller

<Test method>



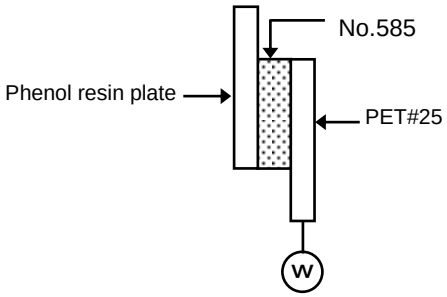
Properties

- Holding power

Temperatures	No.585
40 degree C	0.2
80 degree C	0.2

(Unit: mm/hr)
Tape area: 10mm x 20mm
Substrate: Phenol resign plate
Backing: PET#25
Application condition: 1 pass back and forth with 5-kg roller
Measurement temperature: 40, 80 degree C
Load: 4.9N (500g)
Measurement time: an hour

<Test method>

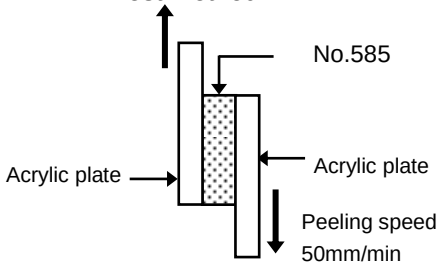


- Shear strength

Temperatures	No.585
23 degree C	450

(Unit: N/20mm x 20mm)
Tape are: 20mm x 20mm
Substrate: Acrylic plate / Acrylic plate
Application condition: 1 pass back and forth with 5-kg roller
Peeling speed: 50mm/min
Measurement condition: 23 degree C x 50%

<Test method>

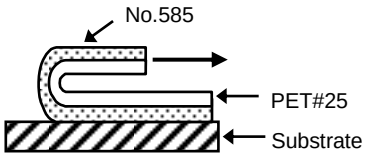


- 180 degree peeling adhesion by pressures

Loads	No.585
0.1g	8.9
0.5kg	11.0
2kg	13.0
5kg	13.8

(Unit: N/20mm)
Substrate: Stainless steel plate
Backing: PET#25
Application condition: 1 pass back and forth with each load roller
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: 23 degree C x 50%RH

<Test method>



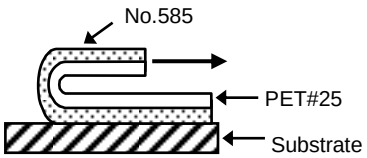
Properties

● 180 degree peeling adhesion (increase)

		No.585
23 degree C	0.5hrs	13.0
	4hrs	14.6
	12hrs	15.7
	24hrs	16.3
	48hrs	16.9
	72hrs	17.1

(Unit: N/20mm)
Substrate: Stainless steel plate
Backing: PET#25
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement condition: 23 degree C x 50%RH
Application condition:
1 pass back and forth the with 2kg roller

<Test method>

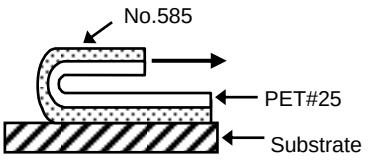


● 180 degree peeling adhesion (Change after application)

Temperatures	Time	No.585
23 degree C	1 day	16.3
	14 days	17.1
	30 days	17.7
40 degree C 92%RH	1 day	15.9
	14 days	16.9
	30 days	17.6
50 degree C	1 day	16.5
	14 days	17.4
	30 days	18.2
70 degree C	1 day	16.6
	14 days	17.5
	30 days	18.4
120 degree C	1day	17.0
	14 days	18.2
	30 days	18.9

(Unit: N/20mm)
Substrate: Stainless steel plate
Sample width: 20mm
Backing material: PET#25
Application condition:
1 pass back and forth with a 2 kg roller
Bonding temperature: 23degree C/50%RH
Curing condition: See the left table
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: 23degreeC/50%RH

<Test method>



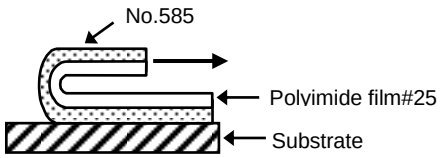
Properties

- 180 degree peeling adhesion before and after reflow

	No.585
Before Reflow	11.0
After Reflow	7.0

(Unit: N/20mm)
Substrate: Stainless steel plate
Backing: Polyimide film#25
Reflow condition: The PET and backing is exposed to a temperature of 260 degree C
In the reflow temp. profile.
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement condition: 23 degree C x 50%RH
Application condition:
1 pass back and forth the with 2kg roller

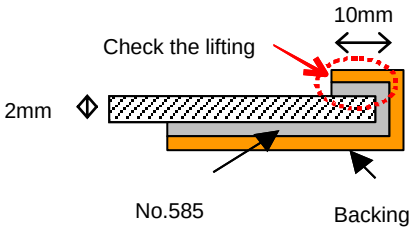
<Test method>



- Resistance to repulsion

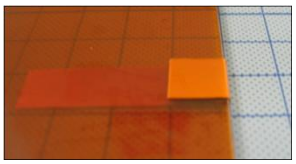
	No.585
Before Reflow	No Lifting
After Reflow	No Lifting

<Test method>



Tape area: 10mmx10mm (folded area)
Substrate: Polyimide (PI)
Backing : Model FPC (Double Coated Type 180 micro m)
Reflow conditions: The PET and backing is exposed to a temperature of 260 degree C.
In the reflow temp. profile.
Test condition: 60 degree C x 72 hours
Application condition:
1 pass back and forth the with 2kg roller

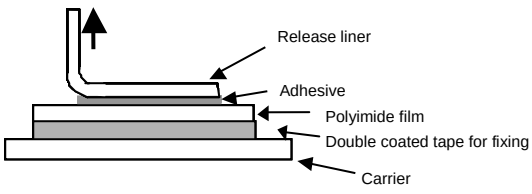
No rifting [Good]



- Peeling force of release liner before and after Reflow (soldering)

<Test method>

	No.585
Before Reflow	0.9
After Reflow	2.9



(Unit: N/50mm)
Backing: Polyimide film #25
Reflow condition: The PET and backing is exposed to a temperature of 260 degree C.
In the reflow temp. profile.
Peeling speed: 300 mm/min
Peeling angle: 90 degree
Measurement condition: 23 degree C x 50%RH

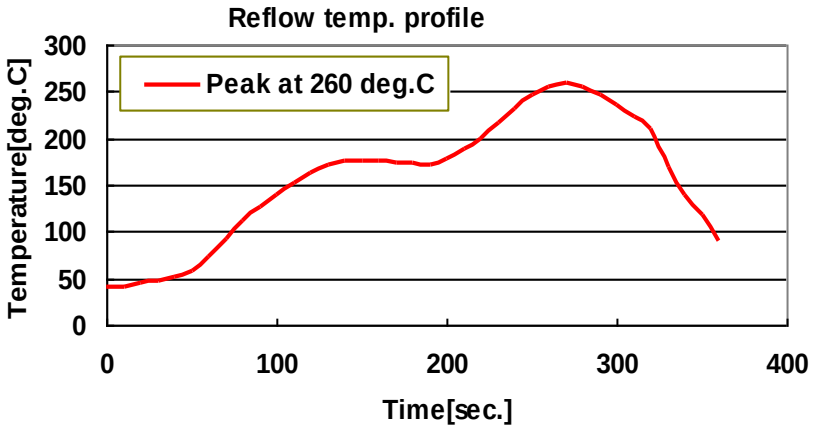


Fig. Reflow temperature profile

This data represents examples of measured values by using our own test equipment. When using a tape with release liner for soldering, we strongly recommend you to test at reflow equipment and determine the suitability of this product before adopting it on a commercial scale. If you have any questions concerning usage method, contact a person in charge of publication.

Precautions when using

- Remove all oil, moisture and dirt from the surface of the substrate before applying.
- Since the tape is pressure-sensitive adhesive, be sure to apply enough pressure with a roller or press when applying. Otherwise it might be affected to its properties and appearance.
- The tape may not adhere well to extremely uneven or distorted surfaces. Enough Leveling off the surface should be required before applying.
- The tape may not adhere well to rubber, polypropylene and polyethylene.
- The suitable application temperature is over 10 degree C.
  (The Initial adhesion might be decreased under 10 degree C in winter.)
- It takes certain time to get full adhesive strength after applying, keep away the tape from any stress for a several hours after applying.
- If IR reflow peak temperature exceeds 260 degree C or if exposed to 260 degree C or less for an extended period of time, the release liner may deteriorate and become broken, or the required peeling force may increase resulting in the release liner being difficult to peel off.
- The tape is basically designed to withstand IR reflow one time. It may not be able to withstand IR reflow two or more times. Even if exposed to 260°C or less, the release liner may deteriorate and become broken, or the required peeling force may increase resulting in the release liner being difficult to peel off. Be sure to check the service temperature range before attempting to use.
- You should avoid peeling off the release liner just after IR reflow as the release liner may deteriorate and become broken. Peeling off the release liner after taking enough time at room temperature.

Precautions when storing

- Be sure to keep the tape in its box when not using.
- Keep in a cool dark place not exposed to direct sunlight.

Safety precautions

⚠ WARNING
●Make sure the product is suitable for the application (objective and conditions) before attempting to use. The tape may come off depending on the substrate to which it is applied or conditions under which it is applied. ●Use in combination with another method of joining if there is possibility of an accident.

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