Nitto

Product Data Sheet

Double-coated adhesive tape

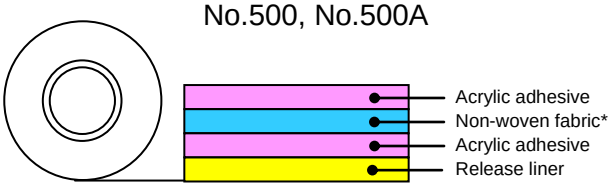
No.500, No.500A Series

Outline

Nitto No.500 and No.500A series are double-coated adhesive tapes consisting of acrylic adhesive with flexible non-woven fabric.
No.500 is suitable for punched metal nameplates and No. 500A is for plastic nameplates of which pre-fabrication is necessary.
No.500A release liner is thicker type for processing.

Structure

No.500, No.500A



[Tape thickness: 0.17mm (excluding release liner)]

*No.500B, No.500AB with a black color adhesive is also available.
*No.500WH, No.500AWH with double release liner are also available.
* "Non-woven fabric" 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".

Features

- Widely used as an industrial double-coated adhesive tape, this reliable tape is one of our most popular products.
- Offers superior adhesive strength and excellent in fixing of parts.
- Exhibits good properties for bonding substrates with comparatively large dimension change due to heat as when bonding metal and plastic plates.
- No.500, No.500A, No.500B, No.500AB, No.500WH and No.500AWH have gotten UL969 approval. [file:MH13557]
- The six hazardous materials restricted by the RoHS directive are not compounded.

Applications

- Bonding punched metal nameplates
- Bonding ABS decorative panels
- Fixing plastic display panel

Sizes

Tape thickness (mm)	Width (mm)	Length (M)
0.17	3～1,200	50

For details, please contact us.

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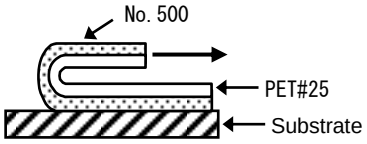
Product Data Sheet

Properties

● 180 degree peeling strength for each substrate

Substrate	No.500、No.500A
Stainless steel plate	12.5
Aluminum plate	12.7
ABS plate	13.0
Acrylic plate	13.5
PCABS plate	14.0
PSt plate	12.8
PC plate	15.5
Rigid PVC plate	17.0
PET plate	13.0
Glass plate	14.0
PP plate	10.0
Polyacetal plate	11.0

(Unit: N/20mm)
Sample width: 20 mm
Backing material: PET#25
Application condition:
1 pass back and forth with a 2kg roller
Bonding temperature: 23degreeC/50%RH
Curing condition: 23degreeC/50%RH x 30 min
Peeling speed: 300 mm/min
Peeling angle: 180degree
Measurement temperature: 23degreeC/50%RH



● 180 degree peeling strength for each temperature (Applying temp.: 23degreeC)

Temperature	No.500, No.500A
-20 degree C	16.0
0 degree C	18.5
23 degree C	12.5
40 degree C	10.5
60 degree C	9.5
80 degree C	9.0
100 degree C	5.9
120 degree C	3.3

(Unit: N/20mm)
Substrate: Stainless steel plate
Sample: 20 mm
Backing material: PET#25
Application condition:
1 pass back and forth with a 2 kg roller
Bonding temperature: 23degree C/50%RH
Curing condition: measurement temperature × 30 min
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature:
-20,0,23,40,60,80,100,120 degree C

Nitto

Product Data Sheet

● 180 degree peeling strength for each temperature (Applying in each temperature)

Measurement temperature	No.500, No.500A
-20 degree C	2.5
0 degree C	14.8
23 degree C	12.5
40 degree C	10.4
80 degree C	8.2

(Unit: N/20mm)
Substrate: Stainless steel plate
Sample width: 20 mm
Backing material: PET#25
Application condition:
1 pass back and forth with a 2 kg roller
Bonding temperature: measurement temperature
Curing condition: measurement temperature x 30 min
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: -20,0,23,40,80 degreeC

● 180 degree peeling strength - Aging after application

Aging after application	No.500, No.500A
1 min	9.9
30 min	12.5
24 hrs	14.6
48 hrs	15.8
72 hrs	16.1
168 hrs	16.3

(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: 23degreeC/50%RH
Curing condition: 23degreeC/50%RH x 1min, 30min, 24hrs, 48hrs, 72hrs, 168 hrs
Peeling speed: 300 mm/min
Peeling angle: 180degree
Measurement temperature: 23degreeC/50%RH

● 180° peeling strength for each application pressure

Application	No.500, No.500A
0.1 kg roller	9.4
0.5 kg roller	11.3
2 kg roller	12.5
5 kg roller	12.8

(Unit: N/20mm)
Substrate: Stainless steel plate
Backing material: PET#25
Application condition:
1 pass back and forth with a 0.1 kg, 0.5 kg, 2 kg, 5 kg roller,
Bonding temperature: 23degreeC/50%RH
Curing condition: 23degreeC/50%RH x 30 min
Peeling speed: 300 mm/min
Peeling angle: 180degree
Measurement temperature: 23degreeC/50%RH

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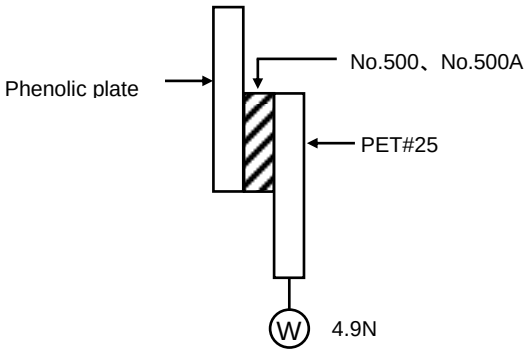
Product Data Sheet

● Holding power

Samples	40 degree C	80 degree C
No.500, No.500A	0.2	1.5

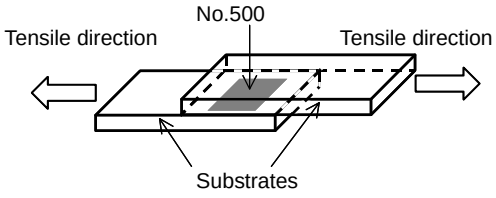


(Unit: mm/hr)
Substrate: Phenolic plate
Curing condition:
measurement temperature x 30min
Measurement temperature: 40,80 degree C
Application area: 20mm x 10mm
Load: 4.9N(500g)
Loading time: One hr

● Shearing strength

Substrates	No.500, No.500A
Stainless steel plate	390
Aluminum plate	380
ABS plate	320
Acrylic plate	350
PCABS plate	340
PSt plate	400
PC plate	400
Rigid PVC plate	500
PET plate	380
Glass plate	450
PP plate	250

(Unit: N/20mmx20mm)
Sample: 20mm x 20mm
Pressure condition: 49N load/10 sec
Bonding temperature: 23degreeC/50%RH
Curing condition: 23degreeC/50%RH x 30 min
Measurement conditions: 23degreeC/50% RH
Peeling speed: 50 mm/min



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Product Data Sheet

● 180 degree peeling strength-Curing under each environment after application

Conditions		No.500, No.500A
Initial (23degreeC/50%RH x 30 min)		12.5
-20 degree C x 30 days		15.2
80 degree C	1 day	17.8
	7 days	19.4
	14 days	19.8
	30 days	20.5
40 degree C /92%RH	14 days	16.8
	30 days	16.7
85 degree C/85 %RH x 30 days		19.1
Heat shock [100 cycles][*1]		22.0
Heat cycle [40 cycles][*2]		21.7

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

*1: Heat shock condition
[-40 degreeC x 30min <->90 degreeC x 30min] x 100 cycles

*2: Heat cycle condition
[-20degreeCx6hr->(1hr)->60degreeC/95%RHx6hr->(1hr)->]
x 40 cycles

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Product Data Sheet

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.
- It takes certain time to get full adhesive strength after applying, keep away the tape from any stress for a several hours after applying.

Precautions when storing

- Please be sure to keep the tape in its box when not using.
- Please keep in a cool and dark place away from 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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