

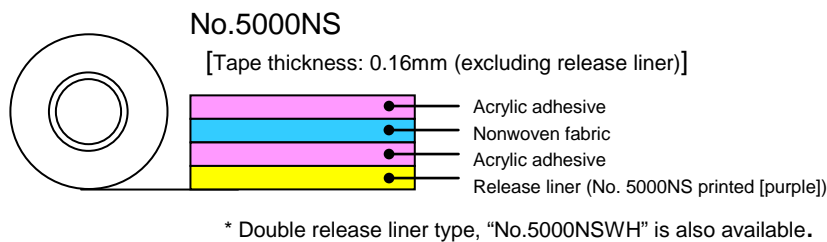
Double-coated adhesive tape with easy removal and strong adhesive properties

No.5000NS

Outline

Nitto Denko No. 5000NS is a double-coated adhesive tape consisting of a strong, flexible nonwoven fabric impregnated with acrylic adhesive that is applicable to a wide variety of substrates. No. 5000NS offers high tensile strength so it doesn't tear when peeled and leaves minimal adhesive residue on the substrate to which it was applied even if it remains applied for a long time. The tape can be re-peeled and is ideally suited for applications that require recycling.

Structure



Features

- Tape is strong so it doesn't tear when peeled, thereby making it easier to work with.
- Leaves minimal adhesive residue; can be re-peeled.
- Offers wide range of usage and service temperatures as well as superior repulsion properties.
- 6 restricted substances by RoHS are not contained.
- No.5000NS, No.5000NSU & No.5000NSWH are UL approved products. [UL File No. MH13557]
[The appearance and properties of both No.5000NSU and No.5000NS are identical.]

Applications

- Bonding of metal plates, plastic plates and foam
- Bonding of cushioning and sealing materials in:
Printers, Copiers, Televisions, Other office equipment and home appliances.
- Applications requiring re-peeling

Sizes

Tape thickness (mm)	Width (mm)	Length (M)
0.16	3-1, 200	50

For details contact the department in charge of the product in question.

No.5000NS 10-P-0012_E (1/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.

Properties

- Re-peeling properties

Substrate	No.5000NS		Conventional product	
	Peeling properties	Adhesive residue	Peeling properties	Adhesive residue
Stainless steel plate	○	○	×	×
Aluminum plate	○	○	×	○
PP plate	○	○	×	×
ABS plate	○	○	×	×
Acrylic plate	○	○	○	○
PCABS plate	○	○	×	×
PSt plate	○	○	×	×
PC plate	○	△	×	×
PVC plate	○	△	×	×
PET plate	○	○	×	×
Glass plate	○	○	×	×

Peeling properties

○: Peels without tearing

×: Tears when peeled

Adhesive residue

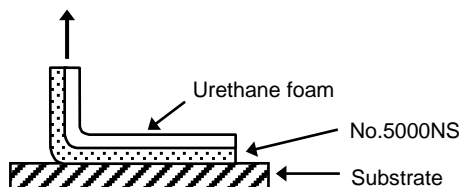
○: No adhesive residue

△: Some adhesive residue

×: Large amount of adhesive residue

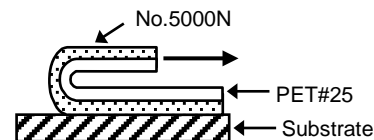
[Peeling properties test method]

Lining material: 5-mm thick urethane foam
 Tape thickness: 3 mm
 Curing condition: 60degreeC/90%RH x 15 days
 Peeling speed: 300 mm/min
 Peeling angle: 90 degree



[Adhesive residue test method]

Tape area: 20 mm
 Lining material: PET #25
 Curing condition: 60degreeC/90%RH x 15 days
 Peeling speed: 300 mm/min
 Peeling angle: 180 degree

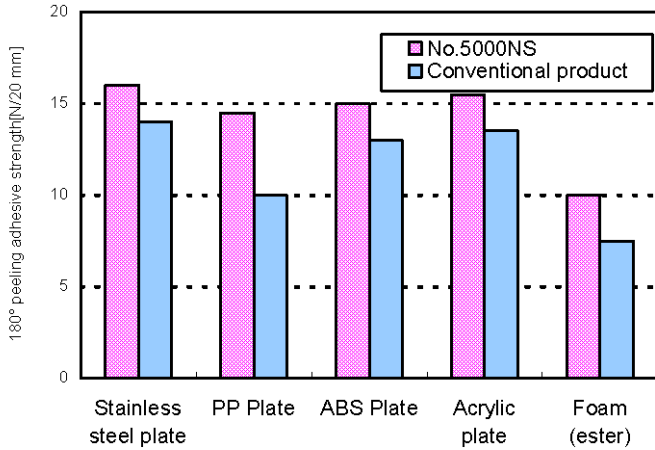


No.5000NS 10-P-0012_E (2/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.

Product Data Sheet

● 180 degree peeling adhesive strength for each substrate



(Unit: N/20mm)

Sample width: 20 mm

Backing material: PET#25

Application condition:

1 pass back and forth with a 2kg roller

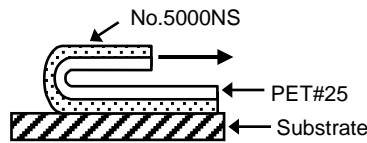
Bonding temperature: 23degreeC/50%RH

Curing condition: 23degreeC/50%RH x 30 min

Peeling speed: 300 mm/min

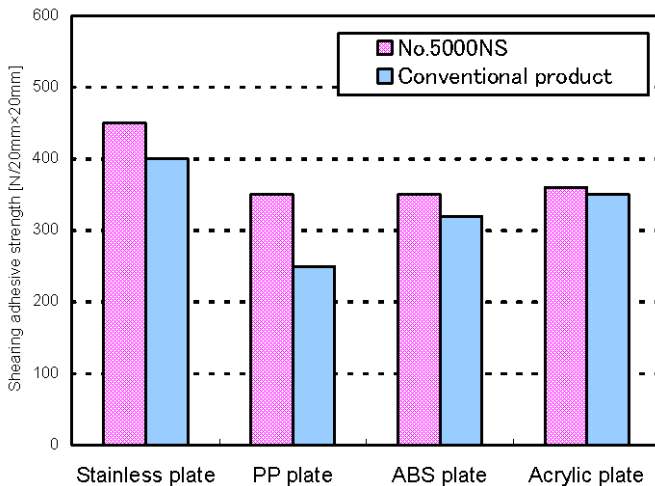
Peeling angle: 180degree

Measurement temperature: 23degreeC/50%RH



Substrate	No.5000NS	Conventional product
Stainless steel plate	16.0	14.0
Aluminum plate	15.0	13.0
PP plate	14.5	10.0
ABS plate	15.0	13.0
Acrylic plate	15.5	13.5
PCABS plate	15.5	14.0
PSt plate	16.0	12.5
PC plate	16.0	15.5
Rigid PVC plate	19.0	17.0
PET plate	15.0	13.0
Glass plate	14.5	14.0
Polyacetal plate	14.0	11.0
Foam (ester)	10.0	7.5
Foam (ether)	7.0	5.0

● Shearing adhesive strength for each substrate



(Unit: N/20mmx20mm)

Sample: 20mm x 20mm

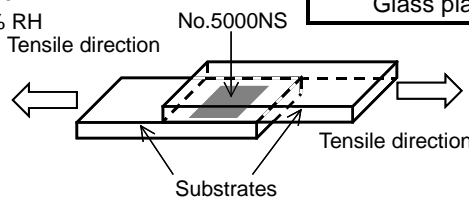
Pressure condition: 49N load x 10 sec

Bonding temperature: 23degreeC/50%RH

Curing condition: 23degreeC/50%RH x 30 min

Measurement condition: 23degreeC/50% RH

Peeling speed: 50 mm/min

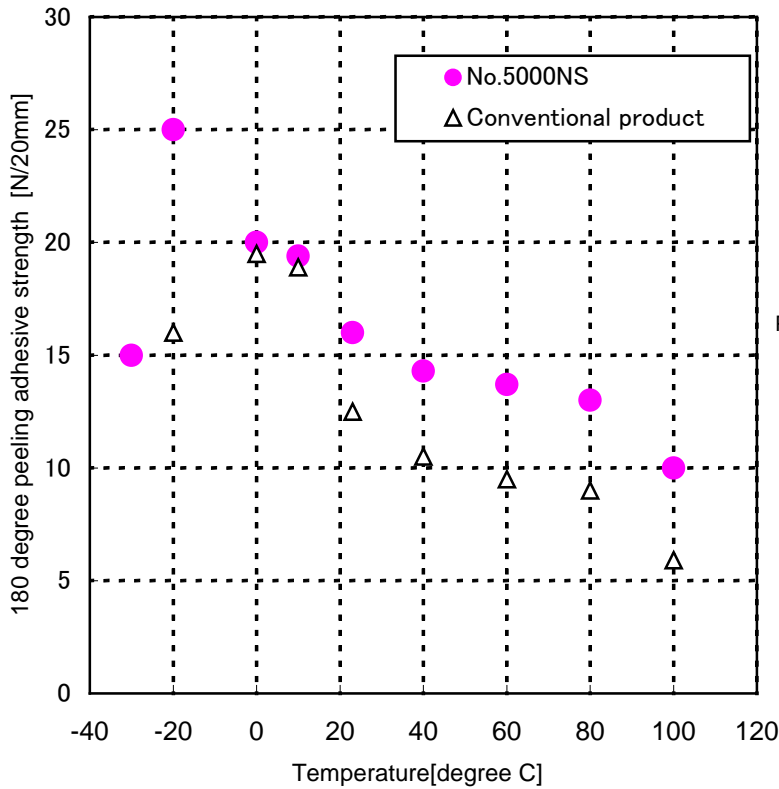


Substrate	No.5000NS	Conventional product
Stainless steel plate	450	400
Aluminum plate	400	380
PP plate	350	250
ABS plate	350	320
Acrylic plate	360	350
PCABS plate	370	340
PSt plate	400	400
PC plate	410	400
Rigid PVC plate	500	500
PET plate	400	380
Glass plate	500	450

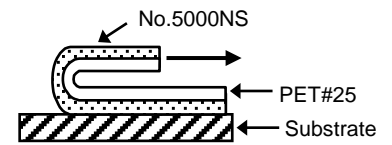
No.5000NS 10-P-0012_E (3/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.

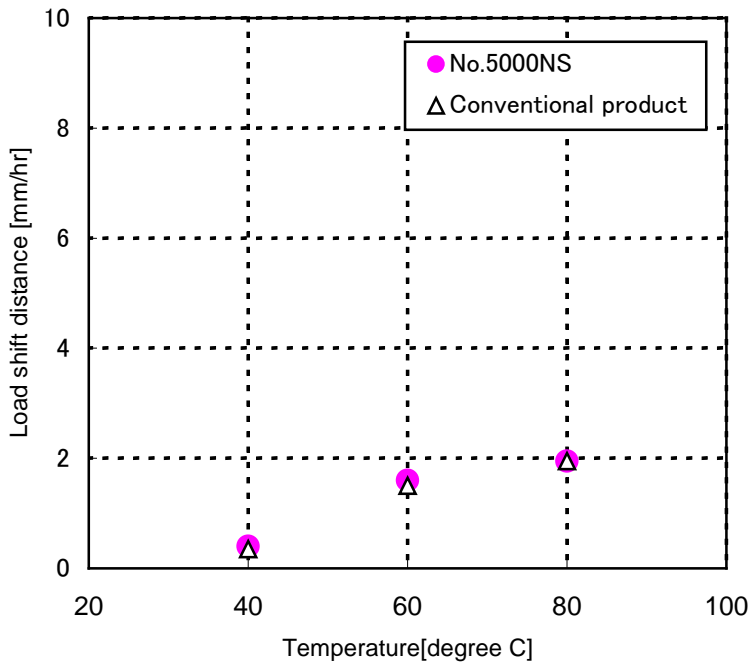
● 180 degree peeling adhesive strength for each temperature



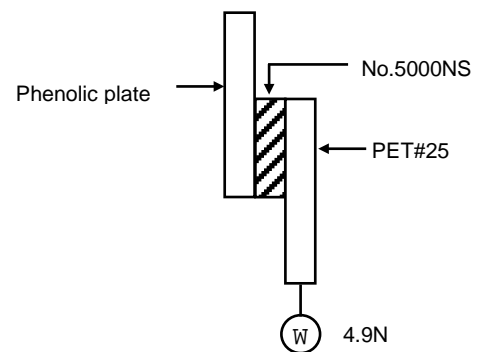
(Unit: N/20mm)
 Substrate: Stainless steel plate
 Sample width: 20 mm
 Backing material: PET#25
 Application condition:
 1 pass back and forth with a 2 kg roller
 Bonding temperature: 23degreeC/50%RH
 Curing condition:
 Measurement temperature x 30 min
 Peeling speed: 300 mm/min
 Peeling angle: 180 degree
 Measurement temperature:
 -30, -20, 0, 10, 23, 40, 60, 80, 100 degree C



● Holding power



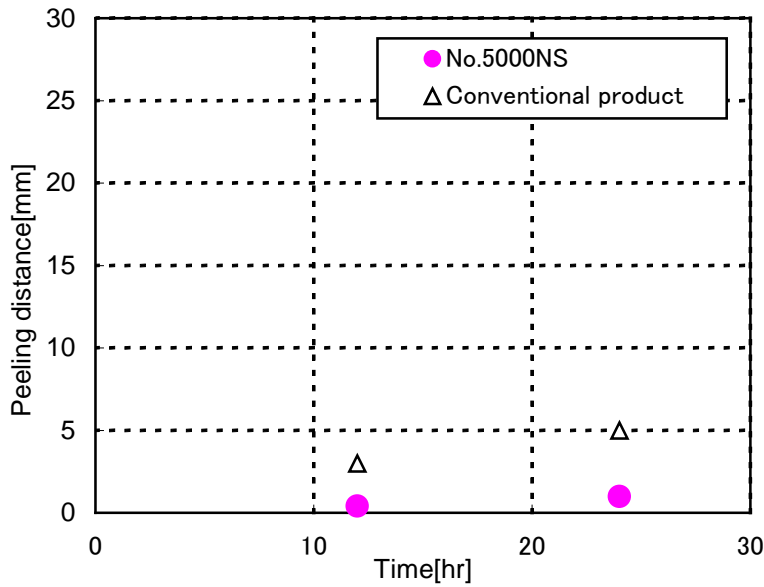
(Unit: mm/hr)
 Substrate: Phenolic plate
 Bonding temperature: 23degreeC/50%RH
 Curing condition:
 Measurement temperature x 30min
 Measurement temperature: 40,60,80 degree C
 Application area: 20mm x 10mm
 Load: 4.9N(500g)
 Loading time: One hr



No.5000NS 10-P-0012_E (4/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.

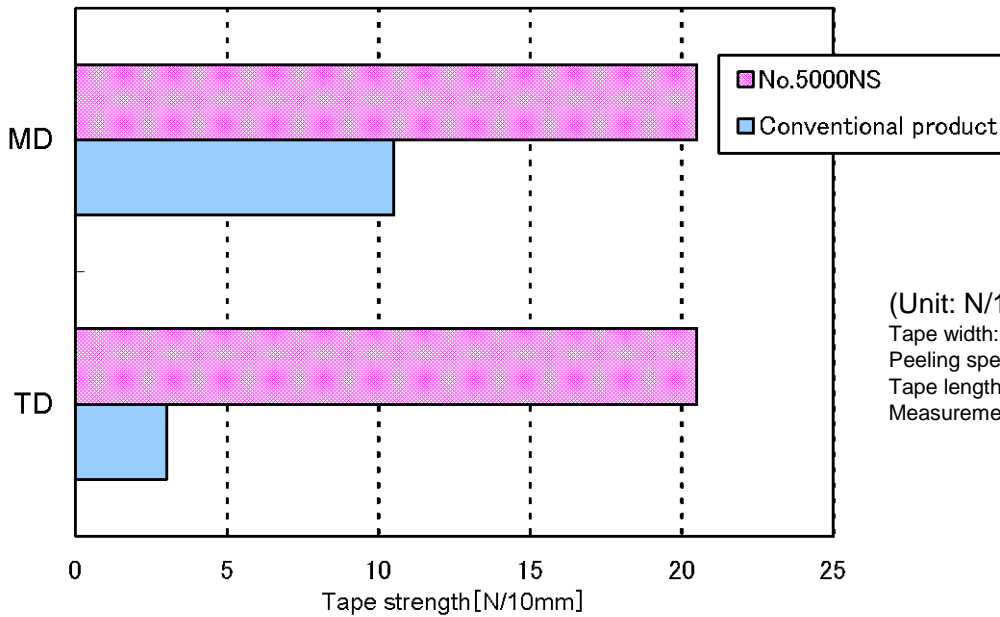
● Constant load peeling



(Unit: mm)
 Substrate: Stainless steel plate
 Sample width: 20 mm
 Backing material: PET#25
 Application condition:
 8 pass back and forth with a 2 kg roller
 Bonding temperature: 23degree C/50%RH
 Curing condition: 23degree C/50%RH x 12 hrs
 Measurement temperature: 23degreeC/50%RH
 Loading time: 12 hrs, 24 hrs

The diagram illustrates the peeling test setup. It shows a cross-section of a substrate (stainless steel plate) with a layer of No.5000NS adhesive and a PET#25 backing material. A force of 0.98N is applied to the backing material to peel it away from the substrate. An upward arrow is labeled 'Bad' and a downward arrow is labeled 'Good'. The text 'Propaties' is written vertically between the arrows.

● Tape strength



(Unit: N/10mm)
 Tape width: 10mm
 Peeling speed: 100 mm/min
 Tape length: 100mm
 Measurement temperature: 23degreeC / 50%RH

No.5000NS 10-P-0012_E (5/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.

- 180 degree peeling strength
-Curing under each environment after application (Durability)

Conditions		No.5000NS
Initial (23degreeC/50%RH x 30 min)		16.0
- 30 degree C x 30 days		19.7
80 degree C	1 day	22.1
	7 days	25.5
	14 days	26.9
	30 days	26.8
40 degree C /92%RH	14 days	19.6
	30 days	19.5
60 degree C/90%RH x 30 days		27.0
Heat shock [100 cycles]*1		34.8
Heat cycle [40 cycles]*2		23.7

(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: See the left table

Peeling speed: 300 mm/min

Peeling angle: 180 degree

Measurement temperature: 23degreeC/50%RH

*1: Heat shock condition

[-40degreeC x 30min ⇄ 90degreeC x 30min]

x 100cycles

*2: Heat cycle condition

[-20degreeC x 6hrs=>(1hr)=>

60degreeC/95%RH x 6hrs=>(1hr) =>] x 40 cycles

- 180 degree peeling strength - Aging after application

Aging after application	No.5000NS
1 min later	13.0
30 min (Initial) later	16.0
1 hr later	16.1
4 hrs later	16.5
8 hrs later	16.8
24 hrs later	17.5
72 hrs later	17.8

(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, 1hr, 4hrs, 8hrs, 24hrs, 72hrs

Peeling speed: 300 mm/min

Peeling angle: 180 degree

Measurement temperature: 23degreeC/50%RH

- 180° peeling strength for each application pressure

Application	No.5000NS
0.1 kg roller	13.3
0.5 kg roller	14.8
2 kg roller	16.0
5 kg roller	16.1

(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

No.5000NS 10-P-0012_E (6/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.


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
<ul style="list-style-type: none">● 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.

Published in October 2013

No.5000NS 10-P-0012_E (7/7)

Notes: This data represents examples of measured values, and not guaranteed values. They do not guarantee compatibility with the applications described in these documents. Please confirm compatibility with your application prior to use. We retain all rights, including copyrights, for the contents of these documents. Copying, reprinting and use for purposes other than originally intended are strictly prohibited without our prior expressed permission. Contact details are provided at the end of this document. Please do not hesitate to contact us for any inquiry.