Double-coated adhesive tape

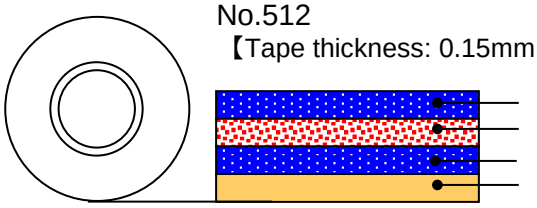
No.512

Outline

Nitto No.512 is a double-coated adhesive tape that uses solvent-free acrylic adhesive to reduce the amount of VOC emitted. The tape is designed to offer firm bonding and user friendliness. No.512 double-coated adhesive tape can be used on a wide variety of substrates including plastics as well as foam materials.

Structure

No.512
【Tape thickness: 0.15mm (excluding release liner)】



[Nitto LowVOCs] is printed on release liner

* "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

- Double-coated adhesive tape emits minimal volatile organic compounds (VOC).
- Adheres well to substrates such as foam materials, metal and plastics.
- Uses non-woven fabric base so it follows the contour of the substrate.
- Ten restricted substances by RoHS are not contained.

Applications

- Bonding and fixing of foam materials
- Fixing of plastic display plates
- For bonding films or paper

Sizes

Tape thickness (mm)	Width (mm)	Length (m)
0.15	3~1200	20, 50

For more information, please contact us.

Properties

●VOC emission measurement values

Measurement material	Guideline values [μg/m³]	No.512
Formaldehyde	100	ND
Toluene	260	ND
(o, m, p-) xylene	200	ND
P-dichlorobenzene	240	ND
Ethylbenzene	3800	ND
Styrene	220	ND
Chlorpyrifos	1	ND
Di-n-butyl phthalate	17	ND
Tetradecane	330	ND
Di-2-ethyhexyl phthalate	100	ND
Diazinon	0.29	ND
Acetaldehyde	48	ND
Fenobucarb	33	ND

<Analysis method>
JIS A-1901: 2015
Small sized chamber method
●17th January 2019
Guidelines published by the Ministry of Health, Labor and Welfare (indoor air pollution)

ND=not detected

* VOC emission of No. 512 does not exceed indoor concentration guideline value set by Ministry of Health, Labour and Welfare.

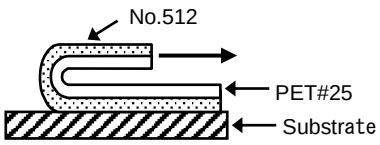
Properties

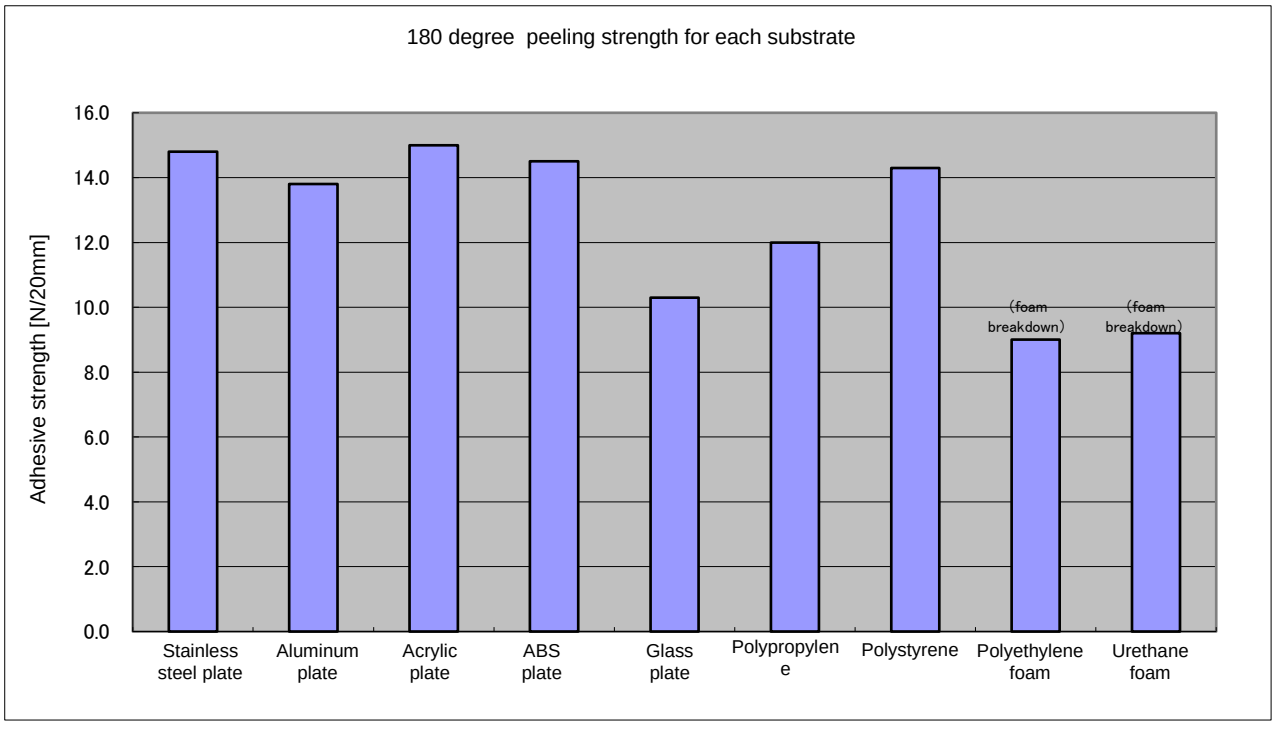
●180 degree peeling adhesion for each substrate

Substrate	No.512
Stainless steel plate	14.8
Aluminum plate	13.8
Acrylic plate	15.0
ABS plate	14.5
P P plate	12.0
PS t plate	14.3
Soft PVC	15.0
Glass plate	10.3
Polyethylene foam	9.0 (foam breakdown)
Ester type urethane foam	9.2 (foam breakdown)

(Unit: N/20 mm)
Tape area: 20mm width
Lining material: PET#25
Pressing condition: 1 pass back and forth with 2-kg roller at 23 degree C, 50%RH
Applying condition: 23 degree C, 50%RH x 30min
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: 23 degree C, 50%RH

<Test method>





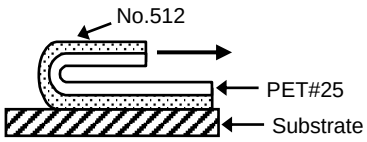
Properties

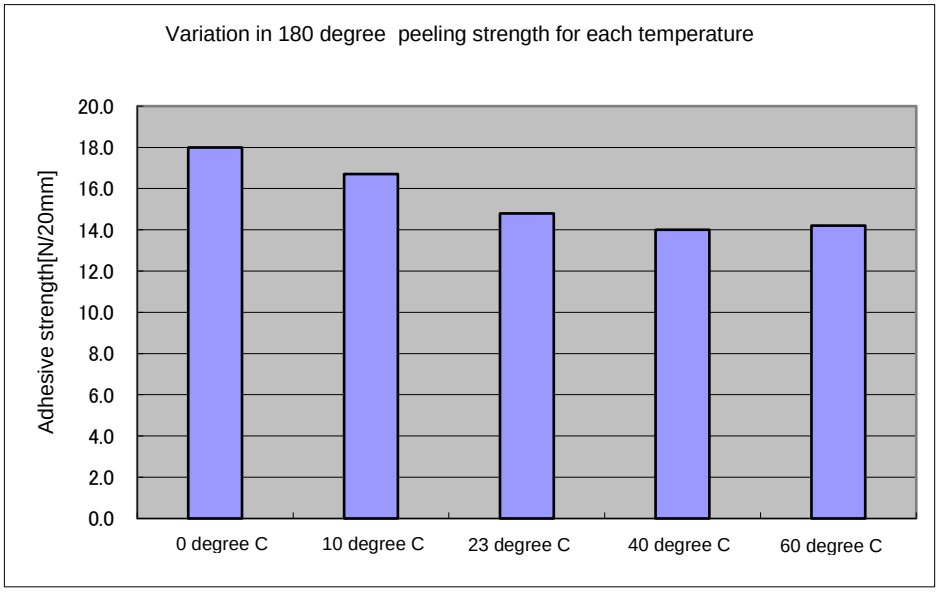
●180 degree peeling strength for each temperature

(Unit: N/20 mm)
Tape area: 20mm width
Substrate: Stainless steel plate
Lining material: PET #25
Pressing condition : 1 pass back and forth with 2-kg roller at 23 degree C, 50%RH
Applying condition: Each temperature for 30min
Peeling speed: 30 mm/min
Peeling angle: 180 degree
Measurement temperature: 0, 10, 23, 40, 60 degree C

Temperature	No.512
0 degree C	18.0
10 degree C	16.7
23 degree C	14.8
40 degree C	14.0
60 degree C	14.2

<Test method>

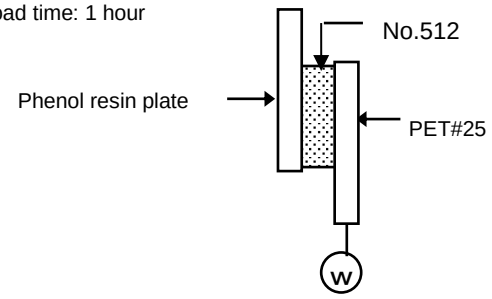




● Holding power

(Unit: mm/hr)
Substrate: Phenol resin plate
Tape area: 10 mm x 20 mm
Applying condition: Measurement temperature for 30min
Measurement temperature: 40 degree C
Load: 4.90N(500g)
Load time: 1 hour

Measurement temperature	No.512
40 degree C	1.0

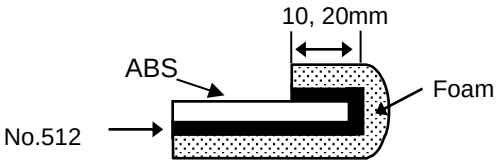


Properties

●Resistant to repulsion of foam material

Foam material	Folding length	23 degree C X 24 hrs.	70 degree C x 2 hrs.
Ester type urethane foam	10 mm	0.5	1.0
	20 mm	0	0

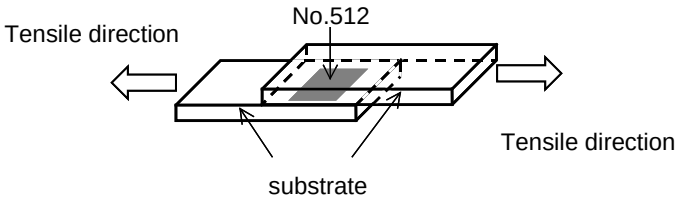
(Unit: mm)
Set temperature: 23, 70 degree C
Foam thickness: 10mm
Tape width: 10mm
Folding length: 10mm, 20mm
Pressing condition: 1 pass back and forth with 2-kg roller
Substrate: ABS plate(2mm thickness)
Measurement:
23 degree C->after setting 24 hours
70 degree C->floating and peeling after 2 hours measured



●Shear strength for each temperature

Temperature	No.512
0 degree C	700
23 degree C	430
40 degree C	250

(Unit: N/20mmx20mm)
Substrate: stainless steel plate/stainless steel plate
Tape area: 20mm×20mm
Pressing condition: 1 pass back and forth with 5-kg at 23 degree C, 50%RH
Applying condition: Each temperature for 30min
Measurement temperature:0 degree C, 23 degree C, 40 degree C
Peeling speed: 50mm/min



●180 degree peeling adhesion for each pressure

Pressure bonding	No.512
0.1 kg roller	10.7
0.5 kg roller	13.3
2 kg roller	14.8
5 kg roller	15.3

(Unit：N/20 ㎜)
Substrate : stainless steel plate
Lining material:PET#25
Pressing condition: 1 pass back and forth with 0.1kg, 0.5kg, 2kg, 5kg at 23 degree C, 50%RH
Applying condition: 23 degree C/50%RH×30min
Peeling speed: 300 ㎜/min
Peeling angle: 180 degree
Measurement temperature: 23 degree C/50%RH

Properties

●180 degree peeling strength after application -(1) 23 degree C setting -

Temperature	Time	No.512
23 degree C	1 minute	13.5
	30 minutes	14.8
	4 hours	15.0
	12 hours	15.2
	24 hours	15.3
	48 hours	15.3
	72 hours	15.5
	168 hours	15.9

(Unit: N/20mm)
Substrate: Stainless steel plate
Lining material: PET#25
Peeling speed: 300mm/min
Peeling angle: 180 degree
Measurement temperature: 23 degree C, 50%RH

● 180 degree peeling adhesion (2) Long term storage stability

Condition		No.512
Initial (23 degree C/50%RH × 30min)		14.8
-30 degree C x 30 days		15.0
80 degree C	1 day	17.7
	7 days	22.2
	14 days	24.3
	30 days	24.7
40 degree C /92%RH	14 days	14.5
	30 days	14.6
Heat shock [100cycles]*1		19.4
Heat cycle[40cycles]*2		11.3

(Unit : N/20 ㎜)
Substrate: Stainless steel plate
Lining:PET#25
Pressing conditon:1 pass back and forth with 2kg Roller at 23 degree C/50%RH
Applying condition: Refer to the left fig.
Peeling speed :300 ㎜/min
Peeling angle: 180 degree
Measurement temperature:23 degree C /50%RH
*1: Heat shock condition
[-40 degree C × 30min <-> 90 degree C × 30min] × 100 cycles
*2: Heat cycle condition
[-20 degree C × 6hr-> (1hr) -> 60 degree C/95%RH × 6hr -> (1hr) ->] × 40 cycles

Precautions when using

●Remove all oil, moisture and dirt from the surface of the substrate before applying.

●The tape employs pressure-sensitive adhesive. Be sure to apply pressure with a roller or press when applying. Failure to do so could affect properties or appearance.

●The tape may not adhere well to significantly uneven or distorted surfaces. Level off the surface as much as possible before applying.

●Avoid setting or using such that significant stress is placed on the tape for several hours after application.

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 or conditions under which it is applied. ●Use in combination with another method of joining if there is possibility of an accident.

Published in January 2025