Double-coated rubber adhesive tape

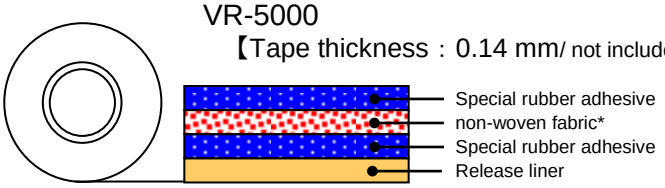
VR-5000

Outline

Nitto VR-5000 is a double-coated adhesive tape consisting of the special rubber adhesive. This tape offers excellent adhesive strength for a wide variety of substrates, and superior resistance to repulsion force for metals and plastic parts. This tape can be applicable to various rubbers and foams, too.

Structure

VR-5000
【Tape thickness：0.14 mm/ not include the liner thickness】



* "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".

Feature

- ●Offers excellent adhesion for various substrates by using the special rubber adhesive.
- ●Offers superior repulsion property.
- ●Ten restricted substances by RoHS are not contained.
- ●Superior converting and handling performance in a die cut process.

Application

- ●Bonding of metals plates, plastic plates, rubbers and foams.
- ●Bonding of parts in:

  Printers, Copiers, Televisions, Other office equipment and Home appliances.

Sizes

Tape thickness(mm)	Width(mm)	Length(M)
0.14	5～1,200	50

For more information, please contact us.

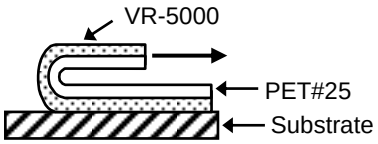
Properties

●180 degree peeling adhesion for each substrate

Substrate	VR-5000
Stainless steel plate	30
Aluminum plate	29
ABS plate	31
PCABS plate	31
Polystyrene plate	32
HIPS plate	32
Polycarbonate plate	32
Polypropylene plate	30
Polyacetal plate	32
Polyethylene plate	15
Polyurethane foam	9
EPT rubber	10
CR rubber	12

(Unit : N/20mm)

Tape size : 20mm width
Lining material : PET#25
Pressing condition : 1 pass back and forth with a 2-kg roller at 23 degree C, 50% RH
Applying condition : 23 degree C/50%RH × 30min
Peeling speed : 300mm/min
Peeling angle : 180 degree
Measurement temp : 23 degree C, 50%RH



●180 degree peeling strength for each temperature

Temperature	VR-5000
0 degree C	25
23 degree C	30
40 degree C	29
60 degree C	23

(Unit : N/20mm)

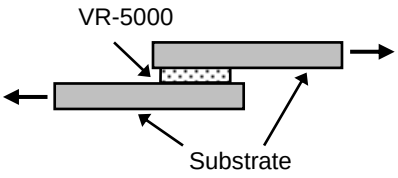
Substrate : Stainless steel plate
Tape size : 20mm width
Lining material : PET#25
Pressing condition : 1 pass back and forth with a 2-kg roller at 23 degree C, 50%RH
Applying condition : Each temperature for 30min
Peeling speed : 300mm/min
Peel angle : 180 degree
Measurement temp : 0,23,40,60 degree C

● Shearing adhesive strength for each substrate

Substrate	VR-5000
Stainless steel plate	721
Aluminum plate	473
ABS plate	330
Polystyrene plate	300
Polycarbonate plate	300

(Unit : N/20mm×20mm)

Tape area : 20mm×20mm
Pressing condition : 1 pass back and forth with 5-kg at 23 degree C/50%RH
Applying condition : 23 degree C/50%RH×30min
Peeling speed : 50mm/min
Measurement temp : 23 degree C/50%RH

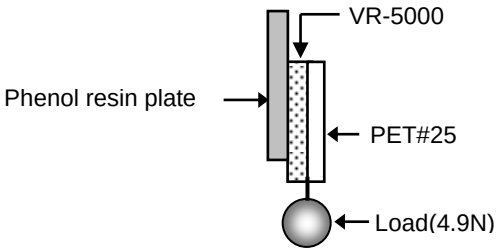


● Holding power

Temperature	VR-5000
23 degree C	0.1
40 degree C	0.2
60 degree C	0.2

(Unit : mm/hr)

Substrate : Phenol resin plate
Lining material : PET#25
Pressing condition : 1 pass back and forth with 2-kg at 23 degree C/50%RH
Applying condition : 23 degree C/50%RH×30min
Tape area : 20mm×10mm
Load : 4.9N(500gf)
Load time : 1hr

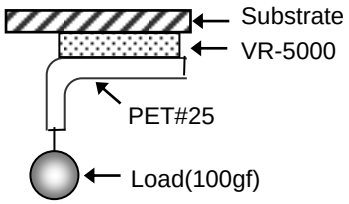


● Static load peeling

Substrate	VR-5000
Stainless steel plate	0.5
ABS plate	1.1
Polystyrene plate	1.1
Polypropylene plate	0.5

(Unit : mm)

Tape area : 10mm×50mm
Backing material : PET#25
Pressing condition : 1 pass back and forth with a 2-kg roller at 23 degree C/50%RH
Applying condition : 23 degree C/50%RH×30min
Load : 0.98N(100gf)
Application temp : 23 degree C/50%RH
Load time : 24hrs



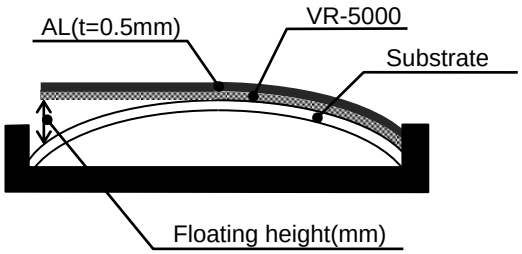
●Resistance to repulsion for plastic plate

Substrate	VR-5000
ABS plate	< 1
Polypropylene plate	< 1
Polystyrene plate	< 1

(Unit：mm)

Tape area ：20mm×180mm
Substrate size ：30mm×200mm
Lining material ：AL（t=0.5mm）
Pressing condition ：23 degree C/50%RH
Applying condition ：23 degree C/50%RH for 24 hrs
Repulsion condition ：

Laminate a substrate and AL plate with tape by laminating machine. Fit the left sample into wooden mold then leave it at 70 degree C x 72 hrs and measure the floating height.



●180 degree peeling adhesion -Aging(durability) at each condition after applying

Condition		VR-5000
Initial(23 degree C/50%RH×30min)		30
−30 degree C×30 days		34
80 degree C	14 days	35
	30 days	35
40 degree C/92%RH×30 days		37
60 degree C/95%RH×30 days		38
Heat shock[100cycle]*1		35
Heat cycle[40cycle]*2		37

(Unit：N/20mm)

Substrate ：Stainless plate
Lining material ：PET#25
Pressing condition ：1 pass back and forth with 2-kg roller at 23 degree C/50%RH
Applying condition ：Refer to the left table
Peeling speed ：300mm/min
Peeling angle ：180 degree
Measurement temperature ：23 degree C/50%RH

*1：Heat shock condition
[-40 degree C × 30min⇔90 degree C × 30min]
100cycle

*2：Heat cycle condition
[-20 degree C × 6hr ⇒ (1hr) ⇒ 60 degree C/95%RH × 6hr ⇒ (1hr) ⇒]
40cycle

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.
- Depending on a rubber material, there may be a risk of affecting adhesive property over time due to migration of component from rubber material. Please conduct a thorough evaluation in advance, on initial adhesive strength and its change over time.
- This product uses a rubber adhesive, which is easily affected by heat and oxygen compared to acrylic adhesive. Please conduct a thorough evaluation in advance on initial adhesive properties and its change over time, to determine application area and usage.

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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