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Product Data Sheet

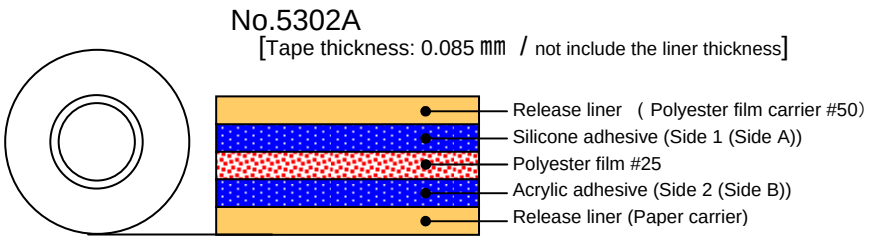
Double-coated adhesive tape for silicone rubber bonding

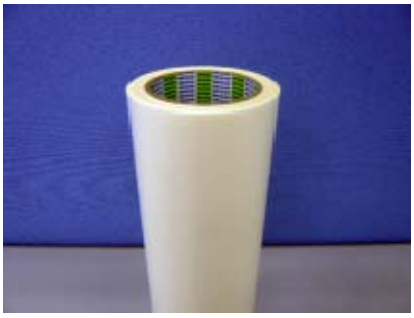
No.5302A

Outline

No.5302A is a double-coated adhesive tape consisting of silicone adhesive and acrylic adhesive with polyester film carrier.
No.5302A is excellent for fixing silicone material components.

Structure





Features

- Uses silicone adhesive on the tape side 1 (side A) that adheres well to silicone rubber.
- Uses acrylic adhesive on the tape side 2 (side B) that adheres well to metallic plates and all types of plastics materials.
- Excellent processability of die-cutting by double release liner structure.
- The six hazardous materials restricted by the RoHS directive are not compounded.

Applications

- For bonding silicone rubber.
- For bonding silicone-coated surface.

Size

Tape thickness (mm)	Width (mm)	Length (M)
0.085	6-500	20

For details, please contact the department in charge of the product.

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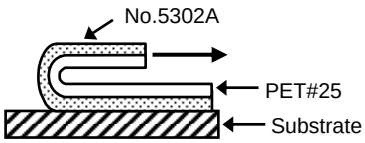
Properties

- 180 degree peeling adhesive strength - Silicone adhesive side

Substrate	No.5302A
Stainless steel plate	10.0
Silicone rubber	4.3

(Unit: N/20 mm)
Sample width: 20mm
Lining material: PET #25
Pressing condition:
1 pass back and forth with a 2 kg roller
at 23degreeC/50%RH
Applying condition:
23degreeC/50%RH x 30min
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: 23degreeC/50%RH
*Silicone rubber: Our company's possession



- 180 degree peeling adhesive strength - Acrylic adhesive side

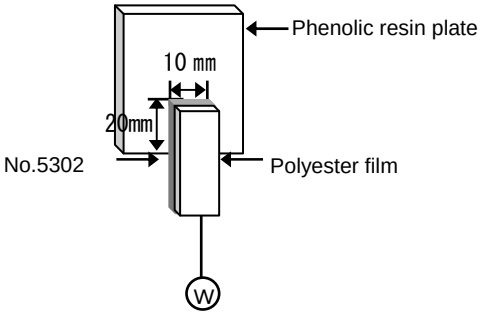
Substrate	No.5302A
Stainless steel plate	11.4
Aluminum plate	11.0
Acrylic plate	12.5
ABS plate	10.0
PP plate	7.0
Polystyrene plate	9.8

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

- Holding power

Measurement temperature	Silicone adhesive	Acrylic adhesive
40 degree C	0.1	0.4

(Unit: mm/hr)
Substrate: Phenolic resin plate
Lining material: PET #25
Pressing temperature: 23degreeC/50%RH
Applying condition:
40 degree C x 30min
Measurement temperature: 40 degree C
Application area: 20 mm x 10 mm
Load: 4.9N(500g)



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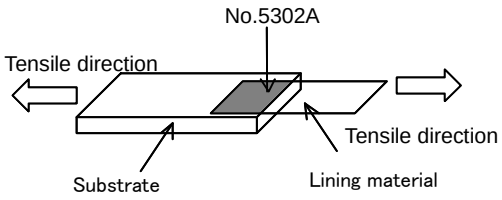
- Shearing adhesive strength

Substrate	Silicone adhesive	Acrylic adhesive
Stainless steel plate	-	265
Silicone rubber	80	-

(Unit: N/20mmx20mm)
Sample: 20mm x 20mm
Lining material: PET #100
Pressing condition:
49N load/10 sec at 23degreeC/50%RH
Applying condition:
23degreeC/50%RH x 30 min
Measurement temperature:
23degreeC/50%RH
Peeling speed: 50 mm/min



- 180 degree peeling adhesive strength / Aging after pressure bonding - Silicone adhesive side

Aging	Silicone rubber	Stainless steel plate
1 min later	2.4	6.8
30 min later	4.3	10.0
2 hrs later	4.9	11.3
48 hrs later	5.8	12.0
72 hrs later	5.9	12.3

(Unit: N/20mm)
Substrate:
Stainless steel plate, Silicone rubber
Sample width: 20mm
Lining material: PET #25
Pressing condition:
1 pass back and forth with a 2 kg roller at 23degreeC/50%RH
Applying condition:
23degreeC/50%RH x 1 min, 30 min, 2 hrs, 24 hrs, 72 hrs
Peeling speed: 300mm/min
Peeling angle: 180 degree
Measurement temperature:
23degreeC/50%RH

- 180 degree peeling adhesive strength / Aging after pressure bonding - Acrylic adhesive side

Aging	Acrylic adhesive / Stainless steel plate
1 min later	9.2
30 min later	11.4
2 hrs later	12.5
48 hrs later	13.7
72 hrs later	14.5

(Unit: N/20mm)
Substrate: Stainless steel plate
Sample width: 20mm
Lining material: PET #25
Pressing condition:
1 pass back and forth with a 2 kg roller at 23degreeC/50%RH
Applying condition:
23 degreeC/50%RH x 1 min, 30 min, 2 hrs, 24 hrs, 72 hrs
Peeling speed: 300mm/min
Peeling angle: 180 degree
Measurement temperature:
23degreeC/50%RH

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- 180 degree peeling adhesive strength by measurement temperature - Silicone adhesive side

Measurement temperature	Silicone rubber	Stainless steel
0 degree C	6.8	12.4
10 degree C	5.4	11.4
23 degree C	4.3	10.0
40 degree C	3.8	8.8
60 degree C	3.5	7.3
80 degree C	3.2	6.4

(Unit: N/20mm)
Substrate:
Stainless steel plate, Silicone rubber
Sample width: 20mm
Lining material: PET #25
Pressing condition:
1 pass back and forth with a 2 kg roller at measurement temperature
Applying condition:
Measurement temperature x 30 min
Peeling speed: 300mm/min
Peeling angle: 180 degree
Measurement temperature:
0, 10, 23, 40, 60, 80 degree C

- 180 degree peeling adhesive strength by measurement temperature - Acrylic adhesive side

Measurement temperature	Acrylic adhesive / Stainless steel plate
0 degree C	15.7
10 degree C	13.4
23 degree C	11.4
40 degree C	10.8
60 degree C	9.1
80 degree C	7.3

(Unit: N/20mm)
Substrate: Stainless steel plate
Sample width: 20mm
Lining material: PET #25
Pressing condition:
1 pass back and forth with a 2 kg roller at measurement temperature
Applying condition:
Measurement temperature x 30 min
Peeling speed: 300mm/min
Peeling angle: 180 degree
Measurement temperature:
0, 10, 23, 40, 60, 80 degree C

- 180 degree peeling adhesive strength by application pressure

Application Pressure	Silicone adhesive <To silicone rubber>	Acrylic adhesive <To stainless steel>
0.1 kg roller	3.2	6.4
0.5 kg roller	3.5	7.3
2 kg roller	5.4	11.4
5 kg roller	6.8	12.4

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

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- 180 degree peeling adhesive strength

  - Leave the sample under each condition after application. (Durability)

Conditions		Silicone adhesive <To silicone rubber>	Acrylic adhesive <To stainless steel>
Initial (23degreeC/50%RH x 30 min)		4.3	11.4
-30 degree C x 30 days		5.1	16.5
70 degree C	14 days	9.3	21.8
	30 days	9.5	22.3
40 degree C/92%RH x 30 days		9.1	21.2
60 degree C/92%RH x 30 days		4.5	16.8
Heat shock [100 cycles]*1		7.0	19.5
Heat cycle [40 cycles]*2		7.1	22.0

(Unit: N/20mm)
Substrate:
Stainless steel plate, Silicone rubber
Lining material: PET#25
Pressing condition:
1 pass back and forth with a 2kg roller at 23 degree C/50%RH
Application 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 degree C x 30min <->90 degree C x 30min] x 100 cycles

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

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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.

Published in October 2013