

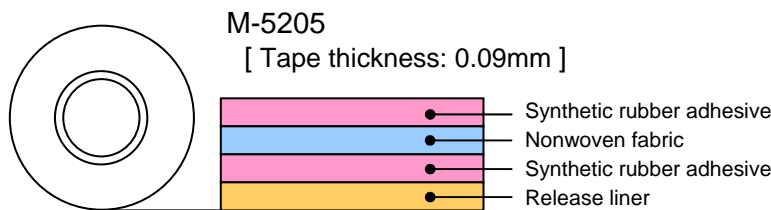
Heat activated adhesive tape

M-5205

Outline

Nitto Denko M-5205 is a heat activated adhesive tape consisting of flexible nonwoven fabric coated with adhesive that can be applied after heating for a short period of time.

Structure



Features

- Can be applied at low temperatures in a short period of time by heating(100-120 degrees C x approx. 0.3MPa x approx. 10 seconds).
- Slight adhesion exists before heating, enabling positioning and temporary fixing.
- Excellently adhere to metals and plastics.
- The six hazardous materials restricted by the RoHS directive are not compounded.

Applications

- Mounting decorative covers of memory cards and frame parts
- Fastening of card laminate film

Sizes

Tape thickness (mm)	Width (mm)	Length (M)
0.09	20-500	50, 100

For details, please contact us.

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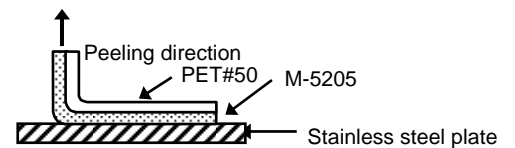
Properties

- Various adhesive properties/Substrate: Stainless

Properties	M-5205
90 degree peeling adhesive strength [N/20mm]	23.8
Shearing adhesive strength [N/cm ²]	450
Tearing adhesive strength [N/20x100mm]	64
T shape peeling strength [N/20mm]	20

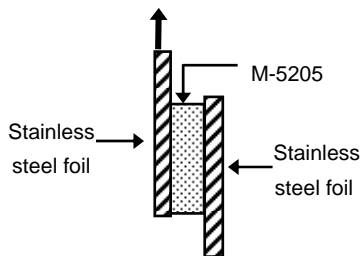
[90 degree peeling adhesive strength]

Substrate: Stainless steel plate
Lining material: #50 Polyester film
Bonding conditions:
100 degree C x 0.3MPa x 10 sec
Measurement temperature: 23°C x 50%RH
Peeling angle: 90 degree
Peeling speed: 50 mm/min



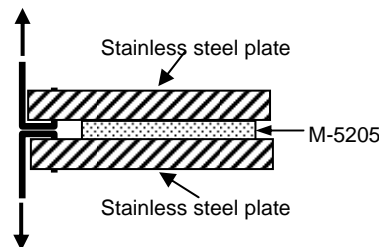
[Shearing adhesive strength]

Substrate: Stainless steel foil 0.1mm
Bonding conditions:
100 degree C x 0.3MPa x 10sec
Measurement temperature:
23 degree C x 50%RH
Peeling speed: 10mm/min



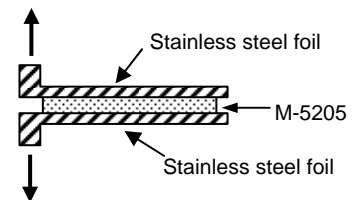
[Tearing adhesive strength]

Substrate: Stainless steel plate 0.4mm
Bonding conditions:
100 degree C x 0.3MPa x 10sec
Measurement temperature:
23 degree C x 50%RH
Peeling speed: 50mm/min



[T shape peeling strength]

Substrate: Stainless steel foil 0.1mm
Bonding conditions:
100 degree C x 0.3MPa x 10sec
Measurement temperature:
23 degree C x 50%RH
Peeling speed: 50mm/min

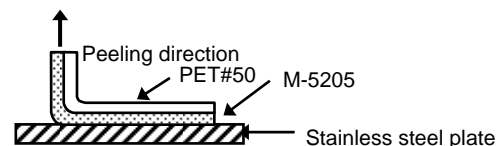


- 90 degree peeling adhesive strength - for each substrate

Substrates	M-5205
Stainless	23.8
Aluminum	23.8
PET	22.4
PBT	21.4
ABS	22.2
PC	22.0

(Unit:N/20mm)

Lining material: #50 Polyester film
Bonding conditions:
100 degree C x 0.3MPa x 10 sec
Measurement temperature: 23 degree C x 50%RH
Peeling angle: 90 degree
Peeling speed: 50 mm/min



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- 90° peeling adhesive strength - for each temperature

Temperature	M- 5205
23 degree C	23.8
40 degree C	19.3
60 degree C	12.5
80 degree C	8.5

(Unit: N/20mm)

Substrate: Stainless steel plate

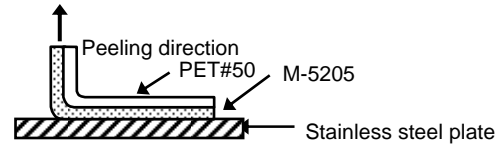
Lining material: #50 Polyester film

Bonding conditions:

100 degree C x 0.3MPa x 10 sec

Peeling angle: 90 degree

Peeling speed: 50 mm/min



- Durability

	90 degree peeling adhesive strength [N/20mm]	Shearing adhesive strength [N/cm ²]
Initial	23.8	450
70 degree C x95%RHx168Hr	28.5	455
-30 degree C to + 80 degree C :10 cycles*	27.2	455

*Heat cycle condition: [-30 degree C x1h->(1h)->80 degree C x1h->(1h)->] X 10 cycles

[90° peeling adhesive strength]

Substrate: Stainless steel plate

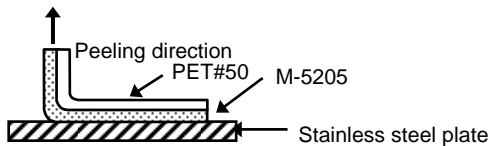
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Measurement temperature: 23 degree C x 50%RH

Peeling angle: 90 degree

Peeling speed: 50 mm/min



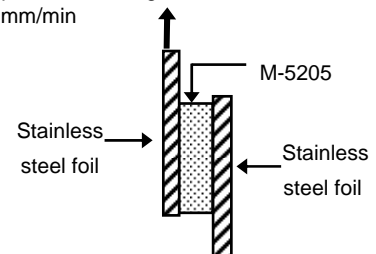
[Shear adhesive strength]

Substrate: Stainless steel foil 0.1mm

Bonding conditions: 100 degree C x 0.3MPa x 10sec

Measurement temperature: 23 degree C x 50%RH

Peeling speed: 10mm/min



- Shearing holding performance / Temperature dependency

Temperature	M- 5205
40 degree C	0
60 degree C	0
80 degree C	0.1
100 degree C	4.0

(UNIT: Shear mm/hr)

Substrate: Stainless steel foil 0.1mm

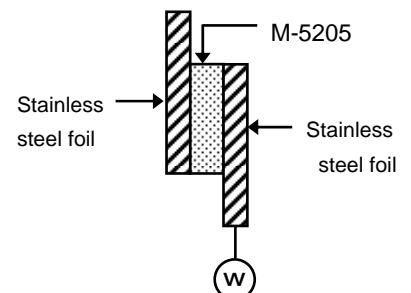
Sample: 10 x 20mm

Bonding conditions:

100 degree C x 0.3MPa x 10sec

Weight: 200g

Measurement time: One hour



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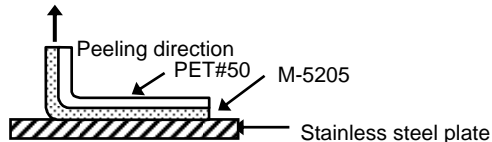
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- Adhesive properties by bonding condition.

Temperature (degree C)	Time (Sec)	Pressure (MPa)	90° peeling adhesive strength [N/20mm]	Shear adhesive strength [N/cm ²]
80	10	0.3	15.5	369
90	10	0.3	22.3	443
100	2	0.3	16.8	371
	5	0.3	20.1	422
	10	0.1	17.6	382
		0.2	21.5	441
		<u>0.3</u>	<u>23.8</u>	<u>450</u>
		0.5	25.9	457
30	0.3	25.2	451	
110	10	0.3	25.2	467
120	10	0.3	26.1	470

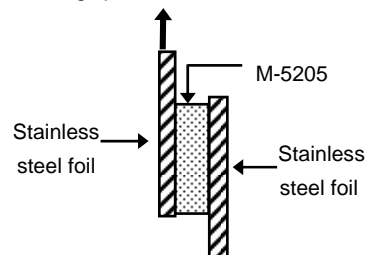
[90 degree peeling adhesive strength]

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 Measurement temperature: 23 degree C x 50%RH
 Peeling angle: 90 degree
 Peeling speed: 50 mm/min



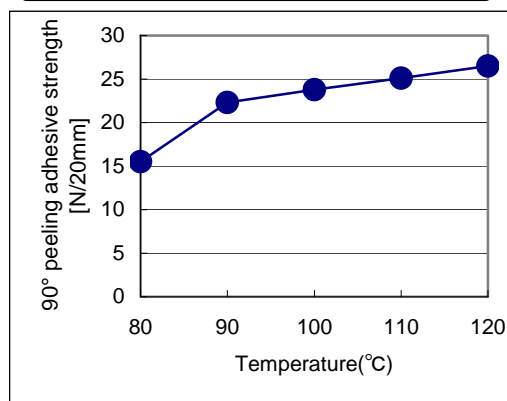
[Shear adhesive strength]

Substrate: Stainless steel foil 0.1mm
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 Measurement temperature: 23 degree C x 50%RH
 Peeling speed: 10mm/min

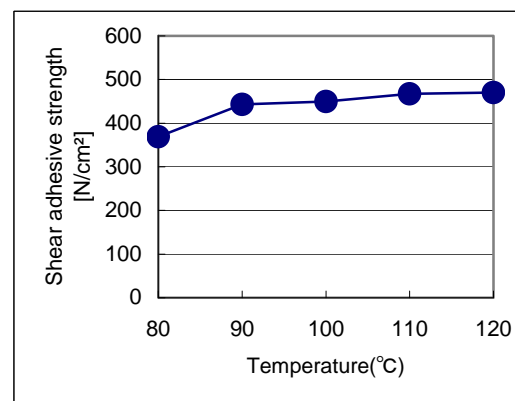


Bonding temperature-adhesive strength relationship (Pressure: 0.3MPa, Time: 10sec)

90 degree peeling adhesive strength



Shear adhesive strength



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Precautions when using

- Remove all oil, moisture and dirt from the surface of the substrate before applying.
- The tape may not adhere well to significantly uneven or distorted surfaces. Level off the surface as much as possible before applying.
- Nitto Denko M-5205 is a thermal bonding adhesive tape. Be sure to evaluate the bonding conditions (heat, pressure, time) and apply with sufficient pressure using a roller or press. Failure to do so could affect properties or appearance.
- Be careful not to get burned when applying tape.
- It takes some time before the tape exhibits its full adhesive strength. Allow the tape to set for several hours before placing in a position or using in a manner that places stress on the tape.

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
<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.

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