

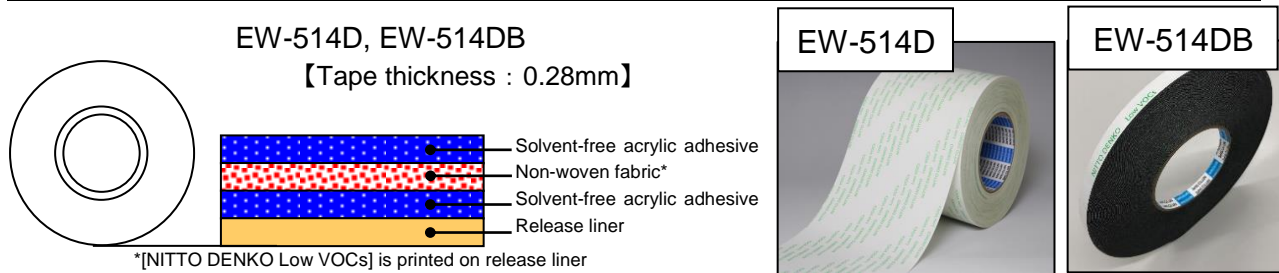
Double coated thick tape with milder smell

EW-514D, EW-514DB

Outline

Nitto EW-514D and EW-514DB are double-coated adhesive tapes that use solvent-free acrylic adhesive to reduce the amount of VOC(*) emitted and milder smell. (VOC: Volatile Organic Compounds) EW-514D and EW-514DB are good performance for rough surface because of its thickness. EW-514D and EW-514DB are suitable for plastic materials and metal (For example, Foam and non-woven fabric).

Structure



* "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".

*EW-514DB is black type of EW-514D. EW-514DB makes use of the black non-woven.

Feature

- EW-514D, EW-514DB have no organic solvent such as Toluene, Xylene and Ethyl acetate etc.
- EW-514D, EW-514DB are lowered minimal volatile organic compounds (VOC) and achieve milder smell.
- EW-514D, EW-514DB are good performance for rough surface because of its thickness.
- Ten restricted substances by RoHS are not contained.

Application

- Fixing for cosmetic case, beauty electric appliance and building materials which is required smell fresh.
- Fixing for interior parts (Ex. Acoustic material, Wire-harness) of automotive which required low VOC.
- Fixing of cushioning of home electric appliance / OA equipment.

Sizes

Tape thickness (mm)	Width(mm)	Length(m)
0.28	10 - 1050	50

For more information, please contact us.

EW-514D, EW-514DB 10-P-0317_E (1/7)

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Properties

● VOC emission measurement values - JIS A-1901: 2015 Small sized chamber method -

Measurement Materials	Guide line value [$\mu\text{g}/\text{m}^3$]	EW-514D, EW-514DB
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-ethylhexyl 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 EW-514D and EW-514DB do not exceed indoor concentration guideline value set by Ministry of Health, Labor and Welfare.

EW-514D, EW-514DB 10-P-0317_E (2/7)

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● 180 degree peeling adhesion for each substrate

Substrate	EW-514D, EW-514DB
Stainless steel plate	14.0
Aluminum plate	12.5
ABS plate	14.0
Polypropylene plate	12.0
Acrylic plate	17.0
PCABS plate	16.0
Polystyrene plate	18.0
Polycarbonate plate	16.0
HIPS plate	18.5
PET plate	18.3
POM plate	12.0
Glass plate	13.0
Veneer plate	11.0
Ether urethane foam	9.0
Ester urethane foam	16.0
Chip urethane	7.0
Non-flaming nonwoven fabric	5.0
Wool felt	5.0
Roof material of automotive	20.0
PVC film	18.0

(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

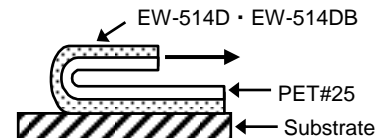
Applying condition: 23 degree C, 50%RH x 30min

Peeling speed: 300 mm/min

Peeling angle: 180 degree

Measurement temperature: 23 degree C, 50%RH

〈Test method〉



● 180 degree peeling strength for each temperature

Temperature	EW-514D, EW-514DB
-20 degree C	24.0
-10 degree C	19.0
0 degree C	17.0
10 degree C	16.5
23 degree C	14.0
40 degree C	14.0
60 degree C	13.0
80 degree C	11.0
100 degree C	9.0

(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:

-20,-10,0, 10, 23, 40, 60, 80,100 degree C

EW-514D, EW-514DB 10-P-0317_E (3/7)

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● 180 degree peeling strength after application -Aging after application-

Aging after application	EW-514D, EW-514DB
1 min later	13.5
30 min later	14.0
24 hours later	16.5
48 hours later	18.0
72 hours later	18.5
168 hours later	19.0

(Unit: N/20mm)
Substrate: Stainless steel plate
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 1min, 30min, 24hrs, 48hrs, 72hrs, 168hrs
Peeling speed :300mm/min
Peeling angle: 180 degree
Measurement temperature:23 degree C/50%RH

● 180 degree peeling adhesion for each pressure

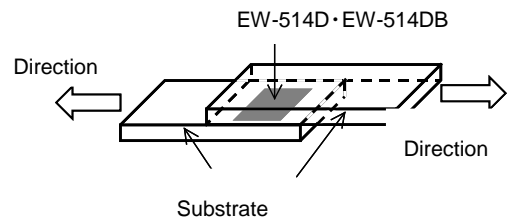
Pressure bonding	EW-514D, EW-514DB
0.1 kg roller	13.5
0.5 kg roller	14.0
2 kg roller	14.0
5 kg roller	15.0

(Unit : N/20 mm)
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 x 30min
Peeling speed: 300 mm/min
Peeling angle: 180 degree
Measurement temperature: 23 degree C/50%RH

● Shearing adhesive strength for each substrate

Substrate	EW-514D, EW-514DB
Stainless plate / Stainless plate	220
Aluminum plate / Aluminum plate	200
ABS plate / ABS plate	210
PP Plate / PP Plate	190

(Unit: N/20mmx20mm)
Tape area :20mm x 20mm
Pressing condition: 1 pass back and forth with 5-kg at 23 degree C/50%RH
Applying condition :23 degree C/50%RH x 30min
Measurement temperature :23 degree C/50%RH
Peeling speed:50mm/min



EW-514D, EW-514DB 10-P-0317_E (4/7)

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● Shearing adhesive strength for each temperature

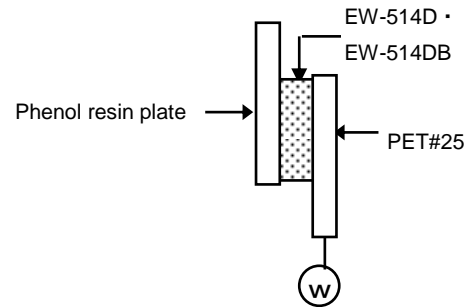
Temperature	EW-514D, EW-514DB
0 degree C	510
23 degree C	220
40 degree C	130

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

● Holding power

Temperature	EW-514D, EW-514DB
23 degree C	0.8
40 degree C	1.5

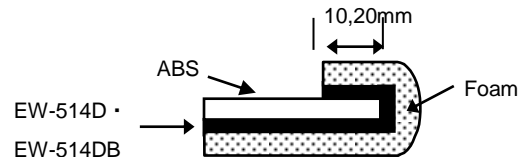
(Unit: mm)
Substrate: Phenol resin plate
Tape area:10mm x 20 mm
Applying condition: Measurement temperature x 30min
Measurement temperature:23 ,40 degree C
Load: 4.9N(500g)
Load time: 1 h



● Resistant to repulsion of rough surface material

Material	Folding length	EW-514D, EW-514DB
Ether urethane foam	10mm	0
	20mm	0
Ester urethane foam	10mm	0.5
	20mm	0

(Unit: mm)
Materials: Urethane foam, nonwoven fabric
Set temperature: 23, 70 degree C
Foam thickness: 10mm
Tape width: 10mm
Folding length: 3-20mm
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



EW-514D, EW-514DB 10-P-0317_E (5/7)

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● Resistance to repulsion for plastic plate

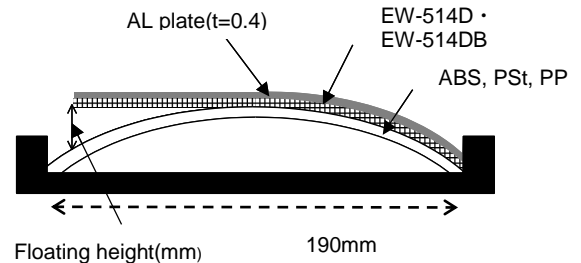
Substrate	EW-514D, EW-514DB
ABS plate	0
Polystyrene plate	0
Polypropylene plate	0

(Unit: mm/72Hr)

AL plate: 20mm x 180mm

Substrate size: 30mm x 200mm

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 72Hrs and measure the floating height.



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

Condition		EW-514D, EW-514DB
Initial (23 degree C/50%RH x30min)		14.0
-30 degree C x 30 days		16.0
80 degree C	1 day	21.0
	7 days	22.0
	14 days	24.0
	30 days	25.0
40 degree C 92%RH	14 days	16.0
	30 days	16.5
60 degree C 90%RH	14 days	15.0
	30 days	15.5
Heat shock[100cycle]*		16.0
Heat cycle[40cycle]**		16.0

(Unit: N/20mm)

Substrate: Stainless plate

Lining material: PET#25

Pressing condition: 1 pass back and forth with 2kg at 23 degree C/50%RH

Applying condition: Refer to the left fig.

Peeling speed : 300 mm/min

Peeling angle: 180 degree

Measurement temperature: 23degree C/50%RH

* Heat shock condition

[-40 degree C x 30min <-> 90 degree C x30min] x100cycles

**Heat cycle condition

[-20°Cx6hr⇒(1hr)⇒60°C/95%RHx6hr⇒(1hr)⇒] x40cycle

They are measured after 24 hours at 23 degree C/50%RH.

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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
<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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