

Clean Removable Low-VOC Double Coated Tissue Tape 1110

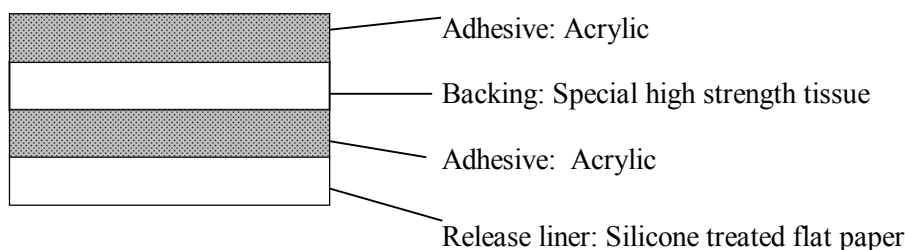
1. Description:

Cleanly removable low-VOC (Volatile Organic Compounds) double coated tape #1110 has special high strength tissue backing with acrylic adhesive on both sides. #1110 provides high adhesion to a wide variety of materials and it can be removed with minimum residuals on the substrate without tissue break after long term after bonding. 14 substances*¹ specified by Health, Labor and Welfare Ministry in Japan are not intentionally used for the tape. The amount of VOCs*² that causes sick house syndrome is very low from the tape.

*1: Formaldehyde, Toluene, Xylene, Paradichlorobenzene, Ethyl benzene, Styrene, Chlorpyrifos, Di-n-butyl phthalate, Tetradecan, Nonanal, Di-2-ethylhexyl phthalate, Diazinon, Acetaldehyde, Fenobucarb, 14 substances.

*2: object substance of above guideline

2. Structure:



3. Key Features:

- (1) Strong adhesion to various substrates
- (2) Clean removable from substrates without tissue backing break
- (3) Low amount of VOC evaporated from the tape

4. Applications:

- (1) Bonding of films or foams inside electronic devices
- (2) Decoration materials attachment for electric appliance
- (3) Metal or plastic nameplate attachment
- (4) Interior base sheet fixing for automotive
- (5) Cushion attachment for toys, musical instruments, leisure gears, etc.

5. General Properties:

Product name		1110
Color	Tape	Colorless opaque
	Liner	White (With "3M Low VOC" logo)
Thickness (mm)	Tape	0.150
	Liner	0.110
Tensile strength (N/cm)	Length direction	16.5
	Width direction	13.7
180 degree peel adhesion (N/cm)		8.2
Dynamic shear strength (N/c m ²)		169.0

Test Method

Thickness: Using thickness gauge with caliper foot of 5mm diameter (JIS S 0237)

Tensile strength:

Distance between chucks: 100 mm, testing speed: 300 mm/min

180 degree peel adhesion:

To stainless steel (SUS 304 BA), support material: 0.025mm PET, lamination: 2 kg rubber roller once for each direction, dwell: 20-40 minutes at RT, testing speed: 300 mm/min

Dynamic Shear Strength:

To stainless steel (SUS 304 BA), lamination: 5 kg rubber roller once in each direction, dwell: 24 hours at RT, testing speed: 300 mm/min

6. 180 Degree Peel Adhesion to Various Substrates (N/cm):

Substrate	SUS 304 (BA)	PC/ABS	ABS	PC	Acrylic	PS	PP	PE
1110	8.2	8.0	7.8	9.6	8.6	7.2	5.5	3.6

Test Method

180 degree peel adhesion:

Support material: 0.025mm PET, lamination: 2 kg rubber roller once for each direction, dwell: 20-40 minutes at RT, testing speed: 300 mm/min

7. Dynamic Shear Strength at Various Temperatures:

Temperature	1110
5°C	301.9
23°C	169.0
50°C	124.3
75°C	53.1
100°C	26.0

(Unit: N/c m²)

Test Method

Dynamic Shear Strength:

To stainless steel (SUS 304 BA), lamination: 5 kg rubber roller once in each direction, dwell: 24 hours at RT, then condition at each temperature, testing speed: 300 mm/min

8. Static Shear Holding Power, Slippage:

	70°C
1110	0.8

(Unit: mm)

Test Method

Static Shear Holding Power, Slippage:

To stainless steel (SUS 304 BA), tape specimen size: 25x25mm, lamination: 2 kg rubber roller once in each direction, dwell: 1 hour at 70C, then load 500g weight and measure slippage distance after 5,000 minutes.

9. Adhesion Residue:

	Removability	Adhesive residue
SUS 304 (BA)	No break	No residue
PC/ABS	No break	No residue
ABS	No break	No residue
Acrylic	No break	No residue
PS	No break	No residue

Test Method

Laminate tape on to each substrate, supported with 0.050 mm tissue, lamination: 2 kg rubber roller once for each direction, aging: 65C x 95%RH for 100 hours, removal at RT, testing speed: 5 m/min, peel direction: 180 degree

10. VOC measurement:

Component	Guideline Value (ug/m ³)	1110
Formaldehyde	100	2.8
Toluene	260	9.0
Xylenes	870	2.0
Paradichlorobenzene	240	<0.28
Ethyl benzene	3800	1.1
Styrene	220	<0.28
Tetradecane	330	<0.28
Nonanal	41(Tentative)	2.0
Acetaldehyde	48	<0.8
TVOC	400 (Tentative target)	162

Test MethodJIS A 1901: 2003 Small Chamber method, measured on 7th day

* Within 14 target substances of indoor concentration guideline by Health, Labour and Welfare Ministry, none of Chlorpyrifos, BPMC (termite poison), Di-n-butyl phthalate, Di-2-ethylhexyl phthalate (plasticizer), Diazine (herbicide) are used as materials for #1110.

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住友スリーエム株式会社
テープ・接着剤製品事業部
〒158-8583
東京都世田谷区玉川台2-33-1
<http://www.mmm.co.jp/tape-adh/>

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