

3M

Technical Data Sheet

テープ・接着剤製品

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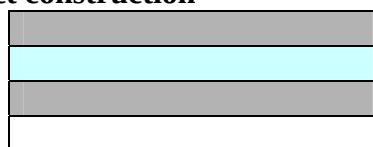
Low VOC PET double coated tape 4511-30, 4511-50, 4511-100

Product description

4511 series are double coated tape that have acrylic adhesive on the both sides of PET backing. These products have good adhesion on various substrates and can be used for bounding and temporary holding of various materials. Also they have the good die cut performance because of PET backing. It is very low that outgas of specific 14 VOCs ^{*1} designated by Health, Labor and Welfare Ministry of Japan.

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

Product construction



Acrylic adhesive
PET backing
Acrylic adhesive
Paper liner

Properties

- Low outgas of specific chemicals designated by Health, Labor and Welfare Ministry from the tape
- High adhesion on various substrates
- Good adhesion strength at high temperature
- Good die cut ability because of PET film backing
- Thickness variation (0.03mm, 0.05mm and 0.1mm)

Application

- Parts bonding in OA, home appliance
- Bonding and temporally holding of auto interior parts
- High adhesion on various substrates

Color and thickness

Item			4511-30	4511-50	4511-100
Thickness	Tape	mm	0.030	0.050	0.100
	Liner	mm	0.130	0.130	0.130
Color	Tape	mm	Transparent	Transparent	Transparent
	Liner	mm	White	White	White

180 degree peel adhesion on various substrates

	Substrates	4511-30	4511-50	4511-100
180 degree peel adhesion (N/10mm)	Stainless steel (BA)	3.4	3.7	6.3
	PC	4.2	4.2	7.5
	PP	3.0	3.3	6.2
	ABS	3.7	3.9	6.4

Test method: Backing up by 0.025mm PET film, Apply pressure once for each direction by 2kg rubber roller
Dwell at RT for 30 min, Test speed 300mm/min.

Static Shear Strength

	4511-30	4511-50	4511-100
Static Shear Strength Slippage distance/mm (condition:500g/25x25mm@70°C)	0.5	0.5	0.3

Test method: Backing up by 0.025mm PET film, Substrate is stainless steel (BA),
Apply pressure once for each direction by 2kg rubber roller,
Dwell at 40°C for 30 min, Test temp 70°C
Load 500g/25x25mm

Outgas data by 3M method (micro gram/test piece)

Chemicals	4511-30	4511-50	4511-100
Formaldehyde	< 0.05	< 0.05	< 0.05
Acetaldehyde	< 0.04	< 0.04	< 0.04
Toluene	< 0.1	< 0.1	< 0.1
Xylene	< 0.1	< 0.1	< 0.1
Ethyl benzene	< 0.1	< 0.1	< 0.1
Styrene	< 0.1	< 0.1	< 0.1
Tetra decane	< 0.1	< 0.1	< 0.1
N-butyl phthalate	< 0.1	< 0.1	< 0.1
di-2 ethylhexyl phthalate	< 0.1	< 0.1	< 0.1

Test method

Test piece size 8cm x 10cm, Using Tedlar bag, Collecting volume: 4L,
Heating condition: 65°C x 2Hr,
Absorption tube: Tenax TA for VOC, DNPH cartridge for aldehydes
After heating, outgas in Tedlar bag are absorbed by absorption tube and analyzed by GC-MS or HPLC

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