

Environmentally friendly tapes

Low-smell and Ultra Low-VOC Double-faced Tape 5782LSV

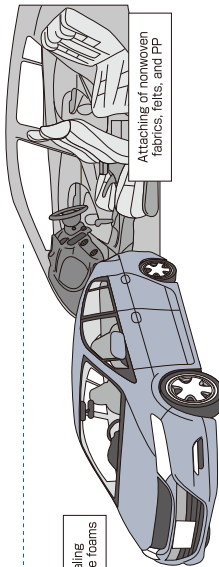
Our double-faced adhesive tape 5782LSV has been developed to adhere to molded products made from resin (e.g., polypropylene), as well as polyurethane foams. The tape suppresses the emission of VOCs (volatile organic compounds) and odor as much as possible to fulfill "less impact on both environment and humans".

Advantages

- The VOC emission is substantially reduced, compared to current products.
- The tape minimizes the odor emission and helps create a comfortable environment in confined spaces such as vehicle cabins.
- The tape provides excellent adhesion against adherends made from olefins, such as PP and PE, and urethane foams.
- The tape is free from the thirteen sick house syndrome chemical substances regulated by the Ministry of Health, Labour and Welfare, which are harmful to human bodies.

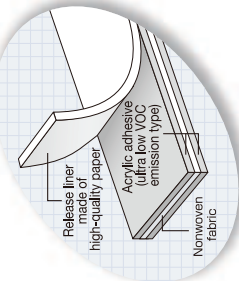
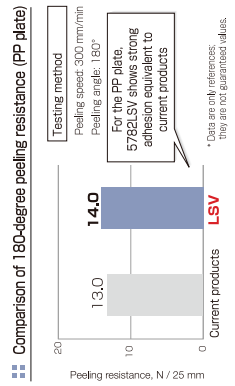
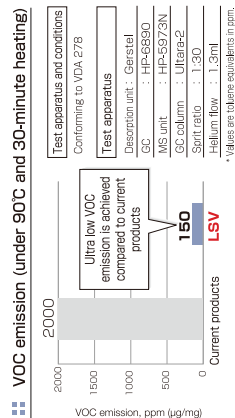
Applications

Attaching of various sealing materials, including urethane foams



Thirteen sick house syndrome chemical substances regulated by THE MINISTRY OF HEALTH, LABOUR AND WELFARE
Formaldehyde, toluene, xylene, chloroform, p-dichlorobenzene, ethylbenzene, styrene, dibutyl phthalate, diethylhexyl phthalate, tetradecane, diazolin, acetaldehyde, fenobucarb

Characteristics



Environmental Conservation - efforts of various industrial sectors toward low VOC emission

From 1990s, the indoor air pollution caused by chemical substances, or sick house syndrome, has attracted remarkable attention as a serious problem since it affects the human health. VOCs (volatile organic compounds), which are chemical substances, are regarded as major problem contributors. The Ministry of Health, Labour and Welfare has established the "Committee on Sick House Syndrome: Indoor Air Pollution" to promote activities to take effective measures against VOCs.

Living environment

THE MINISTRY OF HEALTH, LABOUR AND WELFARE's "Committee on Sick House Syndrome: Indoor Air Pollution"
Year of 2000: The committee determined the indoor concentration guideline for volatile organic compounds (VOCs) such as formaldehyde, toluene, and xylene.
Year of 2002: An interim report was prepared.



Determination of indoor concentration guideline for thirteen VOCs

Measuring methods for VOCs emitted from building materials, adhesives, and paints are defined in JIS A1901 "Small chamber method"

The sick house syndrome introduced into vehicle cabins by VOCs is also regarded as a serious problem. The European countries, including Germany, initiated measures against VOCs from the beginning of 2000. In Japan, Japan Automobile Manufacturers Association, Inc. (JAMA) is promoting the VOC reduction campaign under the slogan of "Fulfillment of a more comfortable cabin environment."

Vehicles in Europe

Germany's automobile manufacturers association, or VDA, prepared its "Analysis method for diffusion of VOCs."

- TVOC (= Total VOC)
- VDA277 (edition: 1995-01)
- VDA278 (edition: 2002-09)
- Thermodesorption
- Organic emission tests
- Static headspace (TVOC-determination)
- Dynamic headspace (VOC, Fog)



GC-MS (measuring machine conforming to VDA 278)

JAMA

JAMA announced "Voluntary activity toward reduction of VOCs in vehicle cabins" in 2005. JAMA news release

- By considering the vehicle cabin as a part of our living space, JAMA started the voluntary activity to reduce the thirteen chemical substances specified by THE MINISTRY OF HEALTH, LABOUR AND WELFARE so that they can meet the indoor concentration guideline.
- Timing and target vehicles: Passenger vehicles newly sold in and after 2007 (those vehicles produced and sold in Japan)
- The VOC level in vehicle cabins should be reduced to meet the guideline. Even after the VOC level meets the requirements, every manufacturer should make efforts to reduce the indoor concentration of VOCs further.

Role of Sekisui's double-faced tapes

■ Low-odor and ultra low-VOC double-faced tape 5782LSV

The high-adhesion double-faced adhesive tape 5782LSV not only meets the guideline for thirteen VOCs specified by THE MINISTRY OF HEALTH, LABOUR AND WELFARE, but also cuts the total VOC (TVOC) by more than 90 % compared to current products. Thanks to its ultra-low VOC emission characteristics, #5782LSV can be applied to European vehicles controlled under strict EU regulations. Since the tape substantially cuts the odor, it will be an optimal material for use in vehicle cabins.

We have been realizing "contribution to environmental conservation" by means of our outstanding technologies. We are making the utmost efforts to process products that feature less impact to the environment (e.g., 5782LSV double-faced tapes) under the slogan of "creation of products without impacts on either environment or humans".

- Environmentally friendly product lineup
- ▶ 5782LSV ▶ 5782 ▶ 735A

Daily VOC emission from 5782LSV in VOC chamber

Substances specified in THE MINISTRY OF HEALTH	LABOUR AND WELFARE guideline (μg/m ³)	5782LSV
Formaldehyde	100	7
Acetaldehyde	48	5
Toluene	260	N.D.
Xylene	870	N.D.
Ethylbenzene	3800	N.D.
Styrene	220	6
Tetradecane	330	N.D.
Diethylhexyl phthalate	120	N.D.
Dibutyl phthalate	220	N.D.
Diazolin	0.28	N.D.
Fenobucarb	33	N.D.
p-dichlorobenzene	240	N.D.
Chloroform	1 (0.1 for infants)	N.D.

* The measuring method conforms with JIS A1901. N.D.: The level is below the detection limit (0.001 μg/m³)

* Data are only references; they are not guaranteed values.

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