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3M Automotive Engineered Attachment Systems

Technical Data Sheet

Double Coated Acrylic Tape

#5530

General Information

#5530 is a double coated acrylic tape and has a high durability because it is developed based on a technology of the Acrylic Foam Tape which has been used on car interior and exterior parts attachment for more than ten years in the automotive market.　The tape thickness is very thin which is 0.2 mm; however, the tape application process is easy because it has a non-woven cloth base in the tape.

Features

a) Shows a high initial and final adhesion.

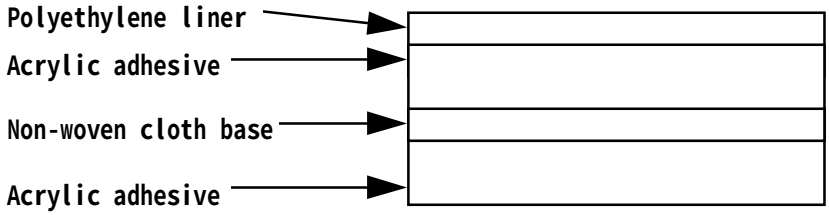
b) Can be applied at a carved surface because the non-woven cloth base is flexible.

c) Excels in weather and solvent resistance

d) Provides very high strengths in the peeling and shear directions.

e) Shows a high adhesion at high temperature.

Configuration



* Tape thickness : 0.2 mm (Semi-transparent color),　* Liner thickness : 0.145 mm (Red color)

Usage

Attachment of a pad, protector rubber and end rubber, etc.

Test results

(Reference)

Items		Substrates	#5530	Y9448S
Color		–	Semi-transparent	Semi-transparent
Thickness (mm)		–	0.20	0.15
180 Peeling Strength N/25mm (kgf/25mm)	Initial state	Painted plate	15.3 (1.5)	9.8 (1.0)
		PVC plate	18.4 (1.9)	17.6 (1.8)
		EPDM plate	14.6 (1.5)	13.7 (1.4)
	Normal state	Painted plate	16.9 (1.7)	15.7 (1.6)
		PVC plate	27.9 (2.9)	27.4 (2.8)
		EPDM plate	31.4 (3.2)	25.5 (2.6)
	At high temperature	Painted plate	11.8 (1.2)	2.9 (0.3)
		PVC plate	10.1 (1.0)	5.9 (0.6)
		EPDM plate	9.8 (1.0)	2.6 (0.3)
	Heat aging	Painted plate	31.0 (3.2)	29.4 (3.0)
		PVC plate	9.7 (1.0)	9.8 (1.0)
		EPDM plate	23.5 (2.4)	21.6 (2.2)
	Humidity aging	Painted plate	29.8 (3.0)	28.4 (2.9)
		PVC plate	24.6 (2.5)	19.6 (2.0)
		EPDM plate	28.4 (2.9)	25.5 (2.5)
Shear strength MPa (kgf/sqcm)	Initial state	Painted plate and PVC plate	0.85 (8.7)	0.62 (6.3)
	Normal state		0.88 (9.0)	0.67 (6.8)
	At high temperature		0.26 (2.7)	0.14 (1.4)
	Heat aging		0.99 (10.1)	0.66 (6.8)
	Warm water immersion		0.90 (9.2)	0.71 (7.3)
	Gasoline immersion		0.90 (9.2)	0.47 (4.8)
	Wax-remover immersion		0.75 (7.7)	0.42 (4.3)

∗Painted plate : White color painted plate used on a vehicle.

∗PVC plate : N200 primer (10 times diluted C100 primer) is applied to the PVC plate.

∗EPDM plate : K520 primer is applied to the sponge type EPDM plate.

Test methods

(1) Thickness : Measured by a dial thickness gauge (in accordance with JIS Z0237)

(2) 180˚ peel strength : Peel off the tape in 180˚ direction and measure the adhesion to the substrate with a tensile strength test machine after the exposure in the following conditions.

* Tape size : 25mm width, * Rolling pressure : 5kg roller one-way, * Peeling speed : 50mm/min.

(a) Initial state : 23℃ x 20min., (b) Normal state : 23℃ x 24hrs., (c) At high temperature : b→at 80℃

(d) Heat aging : (b)→80℃ x 336hrs.→(b), (e) Humidity aging : (b)→50℃, 95% relative humidity x 336hrs.→(b)

(3) Shear strength : Measure the strength needed to shear.

* Tape size : 25mm x 25mm, * Rolling pressure : 5kg roller one-way, * Tensile speed : 50mm/min.

(a),(b),(c),(d) : as same as (2), (f) Warm water immersion : (b)→40℃ water x 336hrs.→(b),

(g) Gasoline immersion : (b)→gasoline x 1hr.→(b), (h) Wax-remover immersion: (b)→wax-remover x 1hr.→(b)