Dexerials

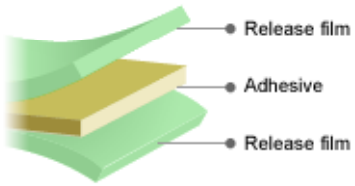
Technical Data Sheet

Thermal conductive adhesive transfer tapes UT5918W

Features

■ The environmental impacts are few adhesive tapes because of the UV cure type manufacturing method that doesn't use an organic solvent at adhesive coating.
■ It is possible to excel in heatproof, and to use it under the environment of 120℃.
■ It has a high heat conduction performance.

Structure



main component	Acrylic resin
carrier	non-carrier
color	White
adhesive thickness（μm）	about 180
release paper (or film) thickness（μm）	about 75 + 50
bonding strength（N/20mm）※	25
st'd size (width & length)）	Single sheet (480×700mm）

※ Peeling strength（90° ）Measurements

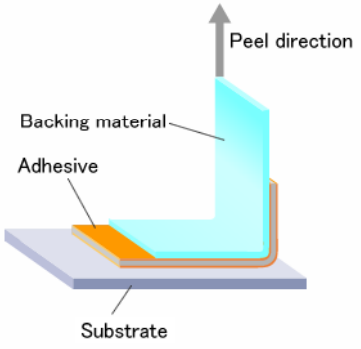
Suitable use

■ It is suitable for the bonding usage of a metal that the heat conduction performances such as the heat radiation parts in electricity and an electronic equipment are demanded (aluminum and stainless steel plate, etc.) and plastic (ABS, PS, and acrylic, etc.) materials.

Technical data

1. bonding strength on various type of substrate(90° peeling)

＜test piece condition＞
tape width：20㎜
bonding condition：Roller 2kg one round trip
measuring condition：23℃±5℃ 60%±20%RH
peel speed：300㎜/min
backing material：40μm AL foil
[Measurement after RT is left for one day]



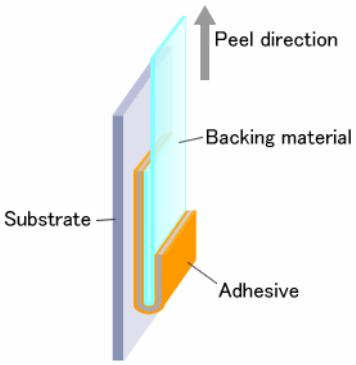
＜ Peeling strength test（90° ）＞

＜test data＞

(N/20mm)

Substrate	SUS	ABS	AL	PI
90° Peeling strength	25.4	16.2	14.8	14.2

2. bonding strength on various type of substrate(180° peeling)



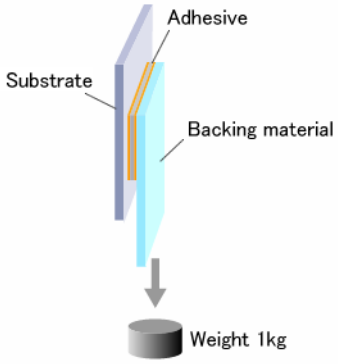
＜ Peeling strength test（180° ）＞

＜test piece condition＞
tape width：20㎜
bonding condition：Roller 2kg one round trip
measuring condition：23℃±5℃ 60%±20%RH
peel speed：300㎜/min
backing material：25μmPET
[Measurement after RT is left for one hour]

＜test data＞ （N/20mm）

Substrate	SUS	ABS	AL	PI
180° Peeling strength	13.8	10.8	10.5	11.0

3. Holding power under each temperature



＜Holding power test＞

＜test piece condition＞
substrate：Stainless plate（SUS304）
bonding area：25mm×25mm
bonding condition：Roller 2kg one round trip
[Measurement after it leaves it for 30 minutes
under each temperature in one hour]
[creep length (mm) after one hour by 1kg load is measured.]

＜ test data ＞

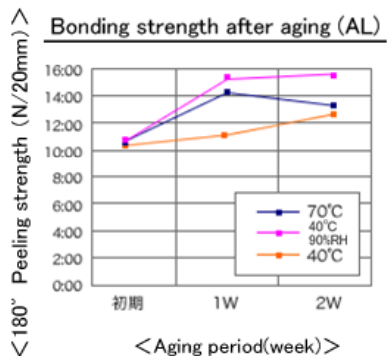
Measurement temperature	80℃	120℃
creep length（mm）	0.3	0.4

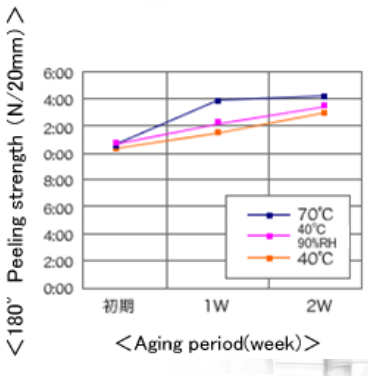
4. Reliability of bonding strength under each environment after it bonds（180° peeling）

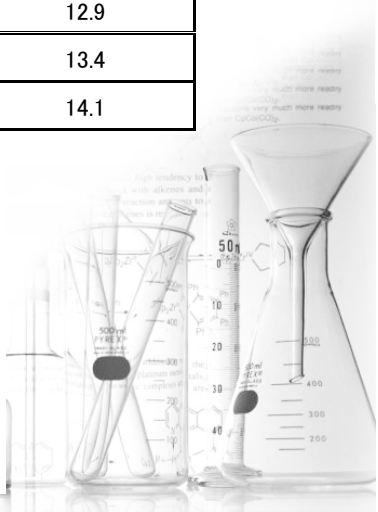
＜ test piece condition ＞
substrate：Stainless plate（SUS304） peel speed ：300mm/min
tape width ：20mm measuring condition ：23℃±5℃ 60%±20%RH
bonding condition：Roller 2kg one round trip backing material ：25μmPET
〔After aging, it measures it under each environment after it leaves it on the RT the first.〕

＜ test data ＞ （N/20mm）

			initial	1 Week	2 Weeks
180° Peeling	AL	40℃	10.5	11.0	12.5
		40℃ 90%RH		14.6	15.2
		70℃		14.1	13.4
	PI	40℃	11.0	11.9	12.9
		40℃ 90%RH		12.5	13.4
		70℃		13.9	14.1

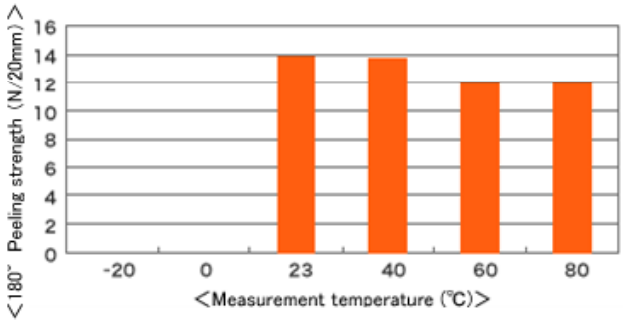






5. Bonding strength under each temperature（180° Peeling）

＜test piece condition＞
substrate：Stainless plate（SUS304）
tape width：20㎜
bonding condition：Roller 2kg one round trip
measuring condition：23℃±5℃ 60%±20%RH
peel speed：300㎜/min
backing material：25μmPET
〔Measurement after it leaves it for 30 minutes under each temperature after it leaves it on RT the first)

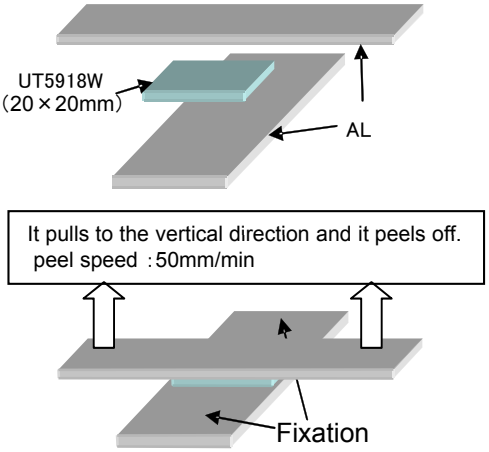


＜ test data ＞ （N/20mm）

Measurement temperature	−20	0	23	40	60	80
180° Peeling strength	Jerky	Jerky	13.8	13.7	11.8	11.8

6. Bonding strength under each temperature（Vertical tensile strength test）

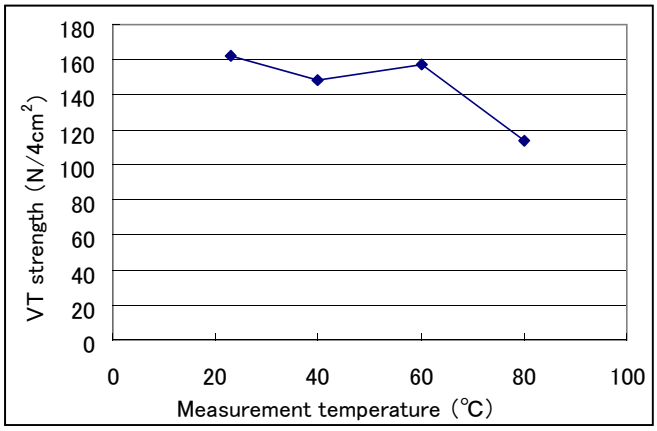
＜ test piece condition ＞
bonding area：20mm × 20mm
substrate ：AL
bonding condition ：Normal temperature press 294.3kPa × 10sec
peel speed ：50mm/min
〔Measurement after it leaves it for 30 minutes under each temperature after it leaves it on RT the first)



＜Vertical tensile strength test＞

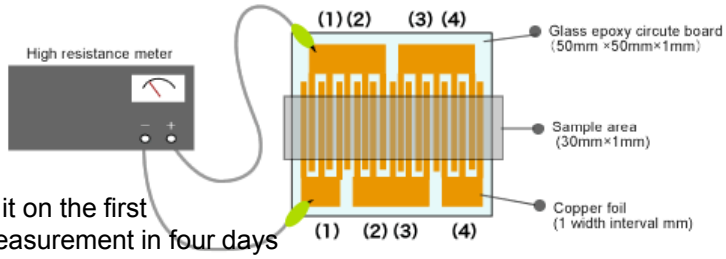
＜ test data ＞

Measurement temperature（℃）	23	40	60	80
Vertical tensile strength（N/4cm²）	162.6	148.1	157.4	114.1



Measurement method of surface resistance

7. Electrical properties1（surface resistance）



＜ test piece condition ＞

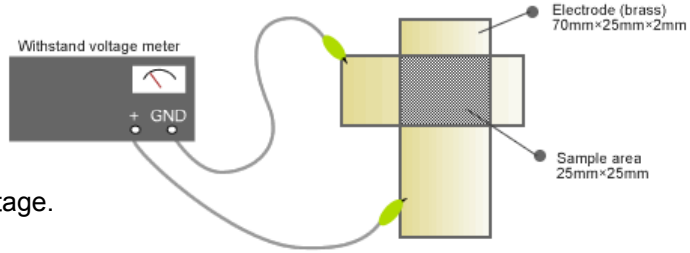
measurement voltage：500V
CHARGE TIME：60sec
initial：23℃ 65%RH Measurement after it leaves it on the first
moisture resistance：60℃ 95%RH Immediate measurement in four days

＜ test data ＞

		initial	moisture resistance
surface resistance（Ω）	（1）	1.5×10^{12}	1.5×10^{12}
	（2）	1.5×10^{12}	1.5×10^{12}
	（3）	1.5×10^{12}	1.5×10^{12}
	（4）	1.5×10^{12}	1.5×10^{12}

Measurement method fo Dielectrin voltage and Withstand voltage

8. Electrical properties2
（dielectric voltage、withstand voltage）



＜ test piece condition ＞

setting current ：0.5mA
voltage rate of climb：about 0.1kV/sec（manual）
judgment：The voltage value which maintains
insulation for 1 minute was set to withstand voltage.

＜ test data ＞

dielectric voltage Measurement value（kV）	4.95	withstand voltage Measurement value（kV）	4.08
dielectric voltage（kV/mm）	26.76	withstand voltage（kV/mm）	22.05

9. heat resistance：It depends on our heat resistance meter.

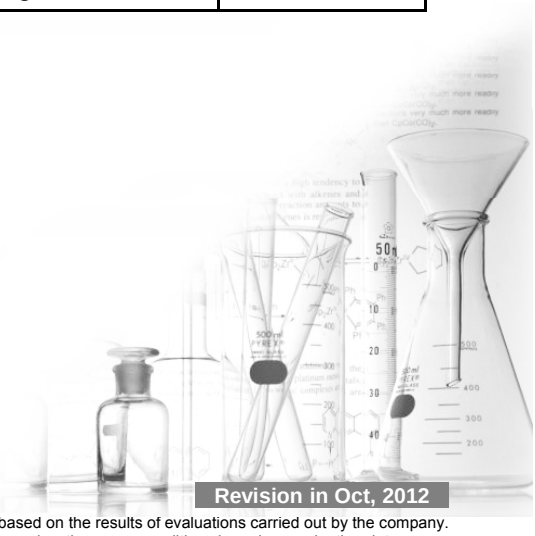
＜ test piece condition ＞

test size：20mm × 20mm
Electric power of set heater：10W
pressure：0.197MPa
〔Measurement after RT is left for 30 minutes or more〕

＜ test data ＞

heat resistance（℃/W）	2.40
Thermal conductivity（W/(m·K)）*	0.35

* Calculation from heat resistance.



Revision in Oct, 2012

Note on the characteristic data given— Data on the characteristics of the products described in this catalog are based on the results of evaluations carried out by the company. This does not guarantee that the characteristics of the product conform with your usage environment. Before use, review the usage conditions based on evaluation data obtained from the equipment and substrates actually used.

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