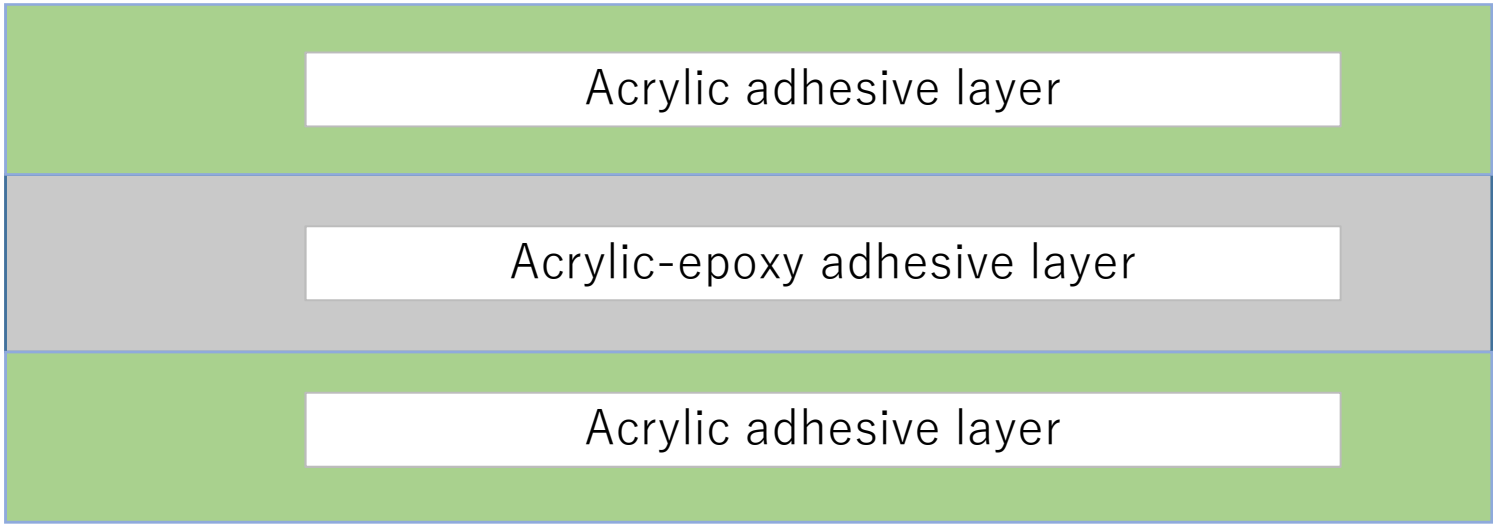
®Molecule Gradient Double Tack Tape

Heat resistance tape 【200Y】

2017. Nov.

Structure of 200Y-series adhesive

The structure of 200Y-series is as follow.



The 200Y-series tape has three-layers structure.
The 200Y-series tape has epoxy-layer that has very strong adhesive force in center-layer.

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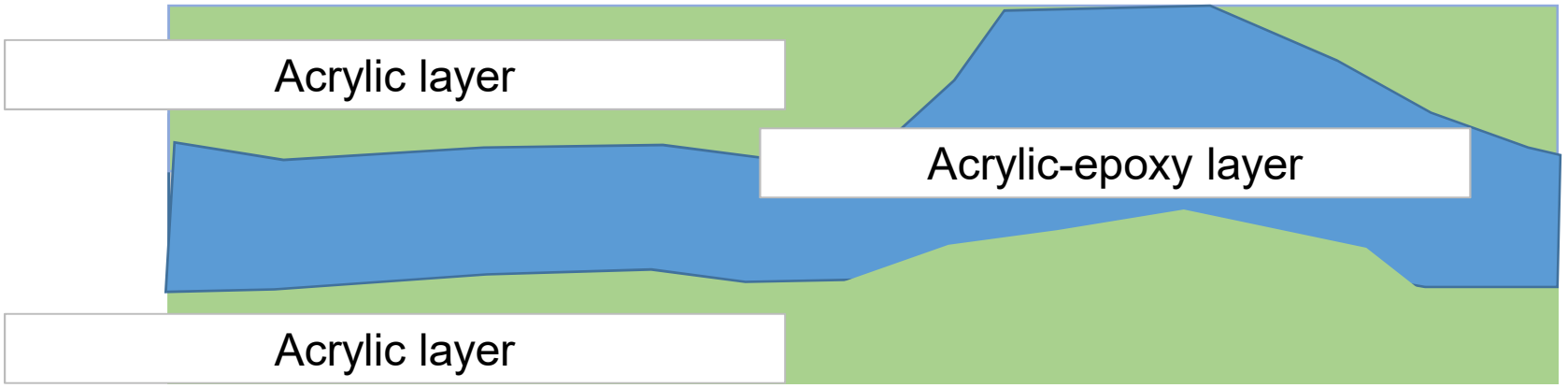
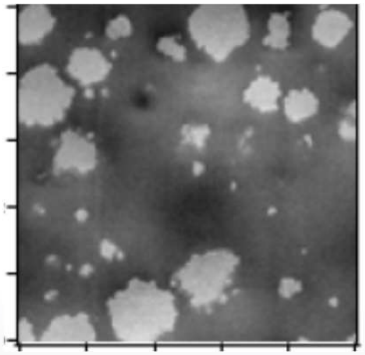
Inside-flowing at heating

The center-layer partially flows to surface from center at heating.

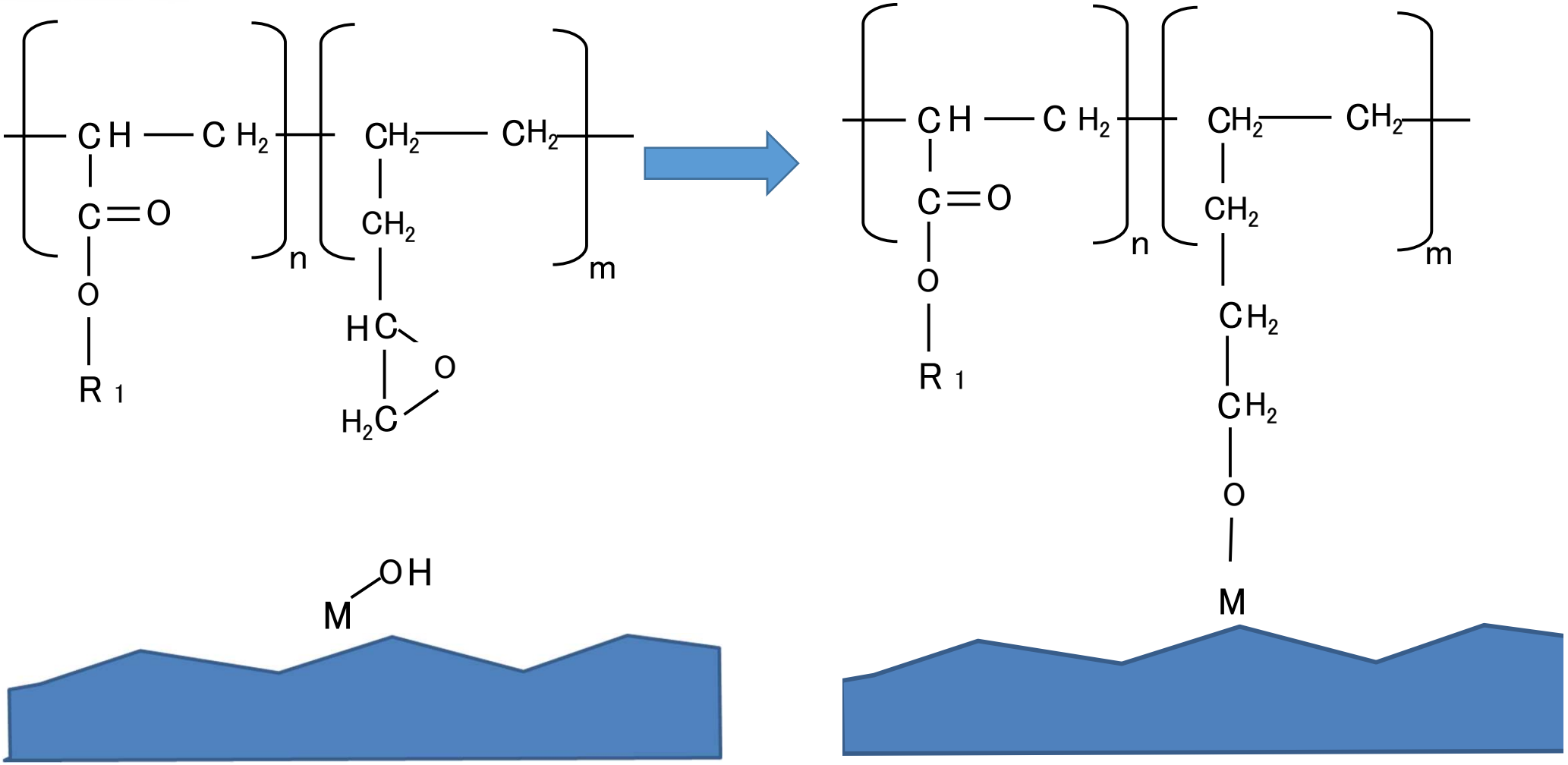
Cross-section diagram



Surface diagram



Adhesive mechanism



The central acrylic-epoxy layer has chemical-bonding to surface that has hydroxyl-group or active-radical carbonyl group.

Products & Characteristic

Product	Thickness (t=mm)	Color	Peel adhesive SUS 23℃	Peel adhesive SUS 200℃×1h
200Y12.5	0.0125	Transparent	6.5	7
200Y30	0.03	Transparent	8.5	12.5
200Y50	0.05	Transparent	14.5	18

Basic characteristics

Adhesion

	SUS		Aluminium		Glass		Glass epoxy	
	Before cure	After cure	Before cure	After cure	Before cure	After cure	Before cure	After cure
200Y12.5	6.9	7.1	5.4	6.3	7.1	8.5	4.3	5.2
200Y30	8.6	12.3	7.5	11.4	7.5	10.4	7.1	9.3
200Y50	14.5	17.9	16.7	16.8	13.2	18.1	12.4	14.2

Elongation

	Elongation %		breaking strength N	
	Before cure	After cure	Before cure	After cure
200Y12.5	264	1.3	253	1.2
200Y30	350	2.6	304	3.1
200Y50	438	3.8	387	4.5

■Evaluated

KGK : 200Y12.5 200Y30 200Y50

■Test method

Test Parameters		
Materials	SUS plate Aluminium Glass Glass epoxy	
Assembly Procedure-Rolled	Rolled	2-times
	Force	20N
	Speed	300mm/s
Test Conditions	Temperter (Before cure)	23℃
	Temperter (After cure)	200℃
	Dwell Time	1h

Adhesion strengthening of 200Y

180 deg peel

Product : 200Y50 0.05t

Temperature	℃		60	60	60	60	60	60	60	60		70	70	70	70	70	70	70	70		80	80	80	80	80	80	80	80
Cure	second		3	3	5	5	10	10	20	20		3	3	5	5	10	10	20	20		3	3	5	5	10	10	20	20
Bonding Pressure	Mpa		0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5		0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5		0.2	0.5	0.2	0.5	0.2	0.5	0.2	0.5
RT	Adherend	unit																										
T0	PI/SUS	N/cm	0.4	0.5	1.2	1.5	3.8	3.9	4.2	4.4		1.1	1.2	2.5	2.8	3.7	4.1	4.9	5.1		2.5	2.7	3.5	3.6	5.8	6.1	6.5	6.7
T24	PI/SUS	N/cm	0.5	0.6	1.5	1.8	3.9	4.1	4.4	4.6		1.3	1.4	2.7	2.9	3.8	4,2	5.1	5.4		2.8	2.9	3.6	3.8	6.1	6.2	6.7	6.9

T0 adhesive force tested within 30 minutes after bonding.

T24 adhesive force tested 24 hours after bonding.

Test method

REL 3: STS: *1hr ramp (up & down) + 6hrs dwell @ 85C/20%RH + 24hrs dwell before testing.*

Material properties	Condition	Material name
Chemistry		
Thickness (um)		
Cure temp.	60C, 70C, 80C	
Cure time	3s, 5s, 10s, 20s	
Bonding Pressure	0.2 - 0.5 Mpa	
180 deg Peel test at following bonding conditions (300mm/min) on PI	RT (T0 and T24)	
	REL 1: 65C/90%RH at 100 hrs, 200 hrs, 300 hrs, 400 hrs, 500 hrs	
	REL 2: Thermal cycling (-40C -> 85C;100 cycles)	
	REL 3: STS	

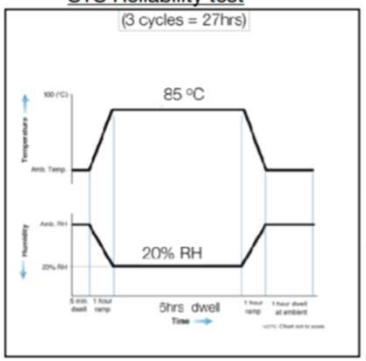
T0 adhesive force tested within 30 minutes after bonding.

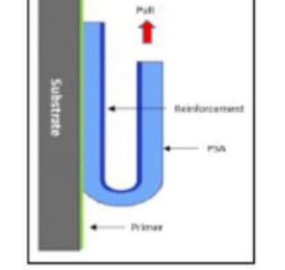
T24 adhesive force tested 24 hours after bonding.

REL 1 65℃90%RH at 100 hrs 200 hrs 300 hrs 400 hrs 500 hrs

REL 2 Thermal cycling -40 to 85 deg 100 cycles

REL 3 5 min + 1hour to 85 deg 20%RH 5hour +1 hour to RT
and 6hour 85 deg 20%RH
and 24 hour stay





®Molecule Gradient Double Tac Tape

User is responsible for determining whether the KGK product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a KGK product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a KGK product. Given the variety of factors that can affect the use and performance of a KGK product, some of which are uniquely within the user's knowledge and control,
It is essential that the user evaluate the KGK product to determine whether it is fit for a particular purpose and suitable for the user's method of application.
KGK make no warranties on above data.

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