311 Automotive Engineered Attachment Systems Technical Data Sheet

Acrylic Foam Tape GT7100 Series

General Information :

The Acrylic Foam Tape GT7100 Series, which is made by a special process, has a superior adhesion performance and high flexibility. This tape is specially designed for exterior and interior parts attachments of automobiles. GT7100 series provides equivalent adhesion properties to conventional Acrylic Foam Tape and comparable initial adhesion performance at low ambient temperature with Hi-Tack Acrylic Foam Tape designed for an improvement of low temperature workability.

Features :

- a) Excellent adhesive performance at low temperatures in comparison with those of the conventional Acrylic Foam Tape.
- b) Follows the shrinkage and elongation of the plastic part caused by the temperature change, and has good stress relaxation properties which are very important for the automotive parts attachments.
- c) Has a high final adhesion and peel strength.
- d) Excels in a variety of weather, solvent and high temperature resistance.

Configuration :



Products line up :

Product No.	Таре		Liner			
FIGULETING.	Thickness	Color	Color	Material		
GT7102	0.2mm					
GT7104	0.4mm]				
GT7106	0.6mm					
GT7108	0.8mm					
GT7110	1.0mm	Gray				
GT7112	1.2mm		Translucent	Polyothylopo		
GT7116	1.6mm		Red	Folyeutylette		
GT7120	2.0mm					
GT7125	2.5mm					
GT7130	3.0mm					
GT7135	3.5mm	White				
GT7140	4.0mm					

Usage :

Body side molding, Weather strip, Bumper molding, Roof molding, Window molding, Emblem, Door edge molding, End rubber, Pad protector, Mud guard, Big side protector, Side visor, etc.

Test result (Vol. 1) :

Items		Substrates	GT7112	#5305 (Reference)	#4211 (Reference)
	Thickness (mm)	-	1.2	1.2	1.2
180 Peeling strength N/cm	Initial	Painted panel	11.4	11.4	10.6
	(20 minutes after adhesion)	PVC panel	16.9	15.7	16.9
	Noraml	Painted panel	14.9	14.9	14.9
	(24 hours after adhesion)	PVC panel	17.0	15.7	17.2
	At high temperature	Painted panel	8.1	7.8	8.2
	(At 80C ambient temp)	PVC panel	8.5	7.8	8.6
	Heat aging	Painted panel	19.7	19.2	20.0
	(336 hours at 80C)	PVC panel	16.2	15.3	16.5
	Warm water immersion	Painted panel	16.5	15.7	16.9
	(336 hours in 40C water)	PVC panel	16.2	15.3	16.5
Shear strength MPa	Initail		0.61	0.54	0.63
	Noraml	Dointed nanol	0.61	0.55	0.63
	At high temperature	and PVC panel	0.20	0.19	0.21
	Warm water immersion		0.58	0.53	0.60
	Gasoline immersion (1 hour)		0.60	0.54	0.62
	Wax-remover immersion (1 hour)		0.53	0.47	0.55

* Painted panel : White paint used on a vehicle

* N-200 primer (10 time diluted C-100 primer) is applied on the PVC panel



Test methods :

Compression load



Pile 25mm by 25mm tapes to a thickness of approximately 10mm, and measure load by compression test machine in 10mm/minute test speed when it is compressed to 75% from initial thickness



Test result (Vol. 2) :

Items		Substrates	GT7102	GT7104	GT7106	GT7108	GT7110	GT7112
Thickness (mm)		-	0.2	0.4	0.6	0.8	1.0	1.2
	Initial	Painted panel	6.9	8.5	9.4	10.2	10.8	11.4
	(20 minutes after adhesion)	PVC panel	10.5	12.0	13.0	14.2	15.5	16.9
	Normal	Painted panel	8.2	11.0	11.5	12.6	13.7	14.9
180	(24 hours after adhesion)	PVC panel	11.8	12.8	13.8	14.7	16.0	17.0
Peeling strength N/cm	At high temperature	Painted panel	5.2	6.1	7.0	7.5	7.7	8.1
	(At 80C ambient temp)	PVC panel	5.5	6.2	7.2	8.1	8.3	8.5
	Heat aging	Painted panel	12.7	14.2	15.8	17.4	18.2	19.7
	(336 hours at 80C)	PVC panel	4.0	8.0	10.9	13.4	15.0	16.2
	Warm water immersion	Painted panel	9.9	12.1	13.5	15.3	15.9	16.5
	(336 hours in 40C water)	PVC panel	9.1	10.8	12.5	14.0	15.0	16.2
	Initial		0.84	0.75	0.73	0.70	0.66	0.61
Choro	Normal	Dointed nanal	0.86	0.79	0.75	0.71	0.65	0.61
Share	At high temperature	and	0.28	0.24	0.23	0.22	0.21	0.20
MDa	Warm water immersion		0.84	0.75	0.71	0.67	0.63	0.58
мга	Gasoline immersion (1 hour)	PVC panel	0.83	0.75	0.72	0.69	0.63	0.60
	Wax-remover immersion (1 hour)		0.75	0.69	0.64	0.61	0.58	0.53
Items								
	ltems	Substrates	GT7116	GT7120	GT7125	GT7130	GT7135	GT7140
	Items Thickness (mm)	Substrates	GT7116 1.6	GT7120 2.0	GT7125 2.5	GT7130 3.0	GT7135 3.5	GT7140 4.0
	Items Thickness (mm) Initial	Substrates - Painted panel	GT7116 1.6 12.4	GT7120 2.0 12.7	GT7125 2.5 13.4	GT7130 3.0 13.8	GT7135 3.5 14.8	GT7140 4.0 15.3
	Items Thickness (mm) Initial (20 minutes after adhesion)	Substrates - Painted panel PVC panel	GT7116 1.6 12.4 19.2	GT7120 2.0 12.7 20.9	GT7125 2.5 13.4 23.5	GT7130 3.0 13.8 24.3	GT7135 3.5 14.8 24.6	GT7140 4.0 15.3 25.8
	Items Thickness (mm) Initial (20 minutes after adhesion) Normal	Substrates - Painted panel PVC panel Painted panel	GT7116 1.6 12.4 19.2 16.1	GT7120 2.0 12.7 20.9 17.4	GT7125 2.5 13.4 23.5 19.2	GT7130 3.0 13.8 24.3 21.2	GT7135 3.5 14.8 24.6 23.5	GT7140 4.0 15.3 25.8 25.3
180	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion)	Substrates - Painted panel PVC panel Painted panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2	GT7120 2.0 12.7 20.9 17.4 21.0	GT7125 2.5 13.4 23.5 19.2 23.3	GT7130 3.0 13.8 24.3 21.2 24.5	GT7135 3.5 14.8 24.6 23.5 25.1	GT7140 4.0 15.3 25.8 25.3 25.9
180 Peeling	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature	Substrates - Painted panel PVC panel Painted panel PVC panel Painted panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4	GT7120 2.0 12.7 20.9 17.4 21.0 8.6	GT7125 2.5 13.4 23.5 19.2 23.3 9.0	GT7130 3.0 13.8 24.3 21.2 24.5 9.4	GT7135 3.5 14.8 24.6 23.5 25.1 9.4	GT7140 4.0 15.3 25.8 25.3 25.9 9.6
180 Peeling strength	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp)	Substrates - Painted panel PVC panel PVC panel PVC panel PVC panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging	Substrates - Painted panel PVC panel PVC panel PVC panel PVC panel PVC panel Painted panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C)	Substrates - Painted panel PVC panel PVC panel PVC panel Painted panel PVC panel PVC panel PVC panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion	Substrates - Painted panel PVC panel PVC panel PVC panel PVC panel PVC panel PVC panel PVC panel PVC panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water)	Substrates - Painted panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water) Initial	Substrates Painted panel PVC panel PVC panel PVC panel PVC panel PVC panel Painted panel PVC panel PVC panel PVC panel PVC panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6 0.56	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3 0.52	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1 0.48	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8 0.47	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0 0.45	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7 0.45
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water) Initial Normal	Substrates - Painted panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6 0.56 0.56	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3 0.52 0.52	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1 0.48 0.49	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8 0.47 0.47	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0 0.45 0.45	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7 0.45 0.45
180 Peeling strength N/cm	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water) Initial Normal At high temperature	Substrates - Painted panel PVC panel Painted panel PVC panel Painted panel and	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6 0.56 0.56 0.19	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3 0.52 0.52 0.52 0.18	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1 0.48 0.49 0.17	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8 0.47 0.47 0.47	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0 0.45 0.45 0.15	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7 0.45 0.45 0.45 0.15
180 Peeling strength N/cm Share strength	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water) Initial Normal At high temperature Warm water immersion	Substrates - Painted panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6 0.56 0.56 0.19 0.53	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3 0.52 0.52 0.52 0.18 0.49	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1 0.48 0.49 0.17 0.47	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8 0.47 0.47 0.47 0.16 0.46	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0 0.45 0.45 0.15 0.44	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7 0.45 0.45 0.45 0.15 0.42
180 Peeling strength N/cm Share strength MPa	Items Thickness (mm) Initial (20 minutes after adhesion) Normal (24 hours after adhesion) At high temperature (At 80C ambient temp) Heat aging (336 hours at 80C) Warm water immersion (336 hours in 40C water) Initial Normal At high temperature Warm water immersion Gasoline immersion (1 hour)	Substrates - Painted panel PVC panel	GT7116 1.6 12.4 19.2 16.1 19.2 8.4 9.3 22.2 18.6 19.3 18.6 0.56 0.56 0.19 0.53 0.52	GT7120 2.0 12.7 20.9 17.4 21.0 8.6 9.5 24.5 20.5 21.2 20.3 0.52 0.52 0.52 0.52 0.18 0.49 0.48	GT7125 2.5 13.4 23.5 19.2 23.3 9.0 9.7 26.8 23.2 23.5 22.1 0.48 0.49 0.17 0.47 0.47	GT7130 3.0 13.8 24.3 21.2 24.5 9.4 10.2 29.6 26.0 25.7 24.8 0.47 0.47 0.47 0.47 0.46 0.46 0.45	GT7135 3.5 14.8 24.6 23.5 25.1 9.4 10.5 31.4 29.0 27.2 27.0 0.45 0.45 0.15 0.44 0.44	GT7140 4.0 15.3 25.8 25.3 25.9 9.6 10.5 32.1 31.1 28.9 28.7 0.45 0.45 0.45 0.45 0.42 0.44

Test methods :

- (1) Thickness : Measured by a dial thickness gauge (in accordance with JIS Z0237)
- (2) 180 \degree peel strength : Peel off the tape in 180 \degree direction and measure the adhesion to the substrate with

a tensile strength test machine after the exposures in the following conditions.

- a) Initial state : 23°C x 20 min.
- b) Normal state : 23°C x 24 hrs.
- c) At high temperature : b) \rightarrow at 80°C
- d) Heat aging : b) \rightarrow 80°C x 336 hrs. \rightarrow b)
- e) Warm water immersion : b) \rightarrow 40°C water x 336 hrs. \rightarrow b)
 - * Tape size : 25 mm width
 - * Rolling pressure : 5 kg roller one-way
 - * Peeling speed : 50 mm/min.
- (3) Shear strength : Measure the strength needed to shear.
 - a),b),c),e) : as same as the conditions of 180° peel strength
 - f) Gasoline immersion : b) \rightarrow gasoline x 1 hr. \rightarrow b)
 - g) Wax-remover immersion: b) \rightarrow wax-remover x 1 hr. \rightarrow b)
 - * Tape size : 25 mm x 25 mm
 - * Rolling pressure : 5 kg roller one-way
 - * Tensile speed : 50 mm/min.







Notice :

- It is recommended to avoid leaving the products outside for a long term or storing them at high temp. and humid condition, although the products has superior weathering durability.
- The data in this data sheet isn't a warrantee performance but the test result. Adhesion strength varies by a substrate and adhesion condition.