

Test Report

Report No: SHATR110903686

Issue Date:2011-09-29

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Client:	HU SHAN TRANSPORTATION CO., LTD
Address:	#4, Ding-Ping Road, Ruifang, Now Taipei City 22452, Taiwan

The following sample(s) was/were submitted and identified by the client as:

Sample Name	Tailgate
Sample Specification	/
Product or Lot No.	HU-FD3545A-T2(22148062)
Project Name	/
Test Required	Selected test(s) as requested by applicant
Test Specification	GM2617M-2005; ASTM B117-09
Sample Qty.	4pcs
SGS Ref. No.	SHAPL110900829; SHMR110906767
Receipt Date	2011-09-06
Test Period	2011-09-06~2011-09-23

***** To be continued*****

Signed for and on behalf of
SGS-CSTC Standards Technical
Services(Shanghai) Co., Ltd

.....
Grace Li

Assistant Technical Manager

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Summary

No.	Test Item	Specification	Conclusion
1	Dimension stability	GM2617M-2005 3.4.2.5	PASS
2	Temperature heat exposure	GM2617M-2005 3.4.2.7	PASS
3	Resistance to humidity	GM2617M-2005 3.4.2.8	PASS
4	Duration	In SGS house	PASS
5	Misuse	In SGS house	PASS
6	Salt Spray test	ASTM B117-09	PASS
7	ELV directive 2000/53/EC.	IEC 62321:2008	PASS

Note: Pass= Meet requirement;
Fail=Does not meet requirement;
N/A=Not Apply to the judgement

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1. **Test Item:** Dimension stability
Test Spec: GM2617M-2005 3.4.2.5
Test Date: 2011-09-07~2011-09-10
Test Sample Qty: 1
Sample Set Up Mode: set up as client's requirement
Test Method: Test Conditions below table 1, run 2 cycle.

Table 1

Environment	Time(H)
In humidity(95±5%R.H at 38±2°C)	16
At ambient conditions	2
In high temperature (85°C)	16
At ambient conditions	2
In -30±2°C	4
At ambient conditions	2

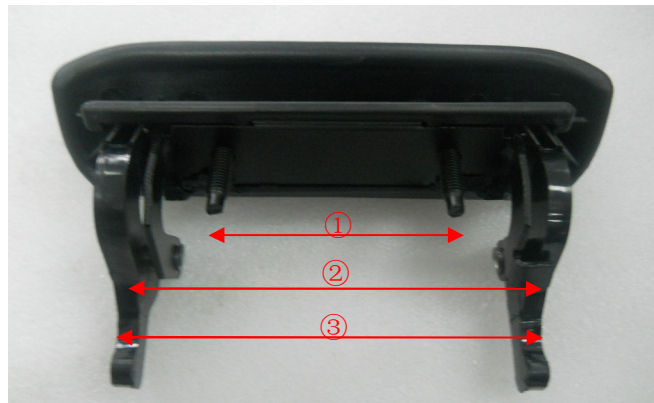


Figure 1

Evaluation Method: Dimension change is less than 5% before and after test. (Reference to figure 1)

Test Equipment:

Equipment Name	Equipment Serial No	Calibration Valid Date
Environment chamber	SHAPL-009	2011-01-09~2012-01-08

Test result:

Dimension Item	Before test	After test	Change	Conclusion
①	66.25mm	66.36mm	0.2%	Pass
②	103.56mm	103.92mm	0.3%	Pass
③	117.78mm	118.34mm	0.5%	Pass

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2. **Test Item:** Temperature heat exposure

Test Spec: GM2617M-2005 3.4.2.7

Test Date: 2011-09-07~2011-09-14

Test Sample Qty: 1

Sample Set Up Mode: set up as client's requirement

Test Method: 74°C for 168 hours

Evaluation Method: there shall be no separation of the materials of construction and skins shall show no bridging, bubbling, wrinkling or peeling back of edges after heat exposure.

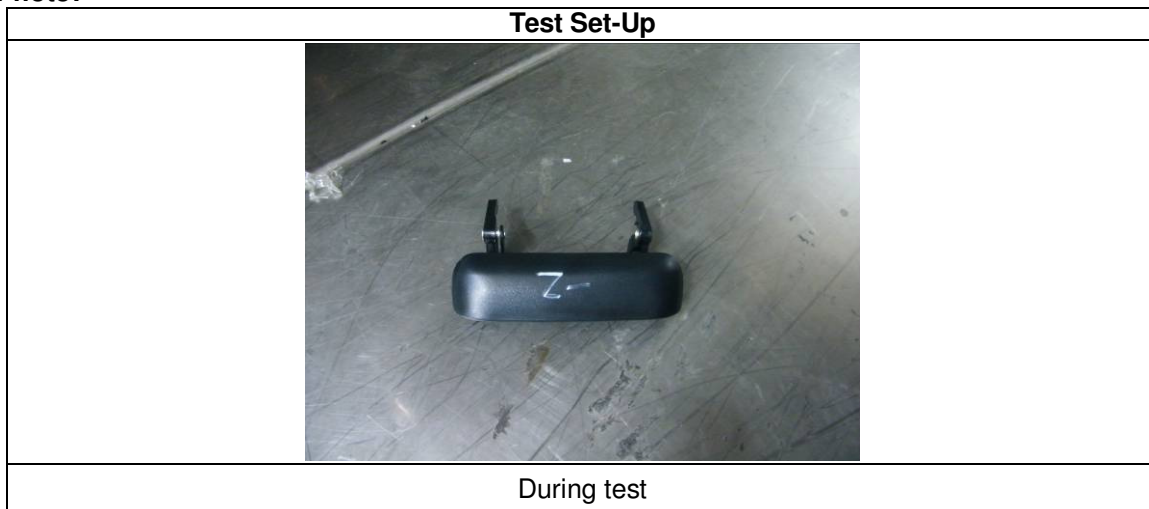
Test Equipment:

Equipment Name	Equipment Serial No	Calibration Valid Date
Environment chamber	SHAPL-008	2011-01-09~2012-01-08

Test result:

Test Sample No	Test Result	Conclusion
SHAPL-110900829-2	No separation of the materials of construction and skins shall show no bridging, bubbling, wrinkling or peeling back of edges after heat exposure.	PASS

Test Photo:



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3. **Test Item:** Resistance to humidity
Test Spec: GM2617M-2005 3.4.2.8
Test Date: 2011-09-13~2011-09-16
Test Sample Qty: 1
Sample Set Up Mode: set up as client's requirement
Test Method: 38±2°C, 95±5%R.H for 96 hours
Evaluation Method: There shall be no tackiness, blooming, loss of adhesion or other change.

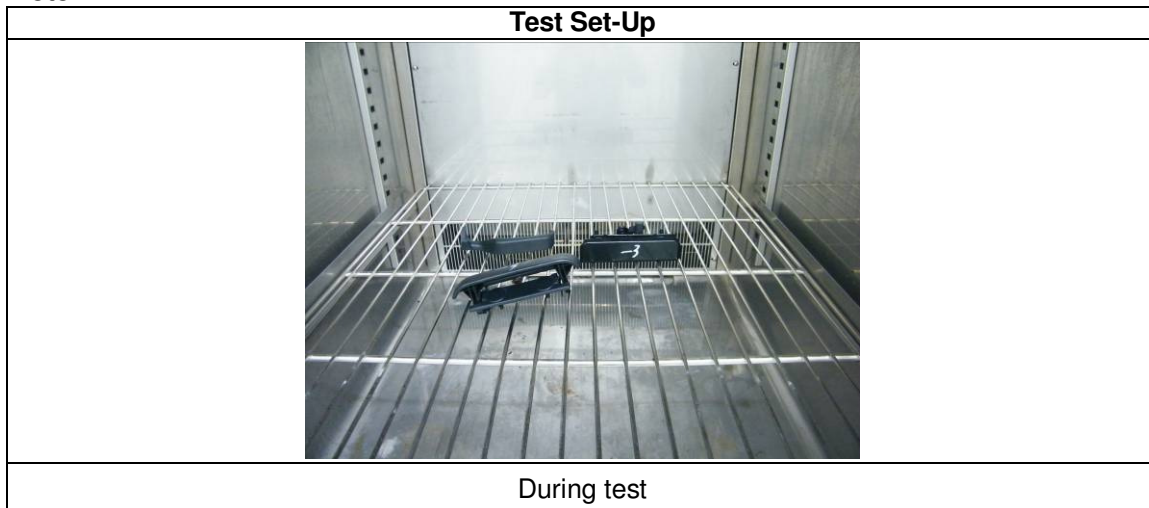
Test Equipment :

Equipment Name	Equipment Serial No	Calibration Valid Date
Environment chamber	SHAPL-006	2011-01-09~2012-01-08

Test result:

Test Sample No	Test Result	Conclusion
SHAPL-110900829-3	No tackiness, blooming, loss of adhesion or other change	PASS

Test Photo:



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4. Test Item: Duration

Test Spec: In SGS house

Test Date: 2011-09-07

Test Sample Qty: 1

Sample Set Up Mode: set up as client's requirement

Test Method: Assembly the SKU and do open and Close for 1500 cycle (10 cycle for 1 min)

Evaluation Method: After test check if there is any function failure

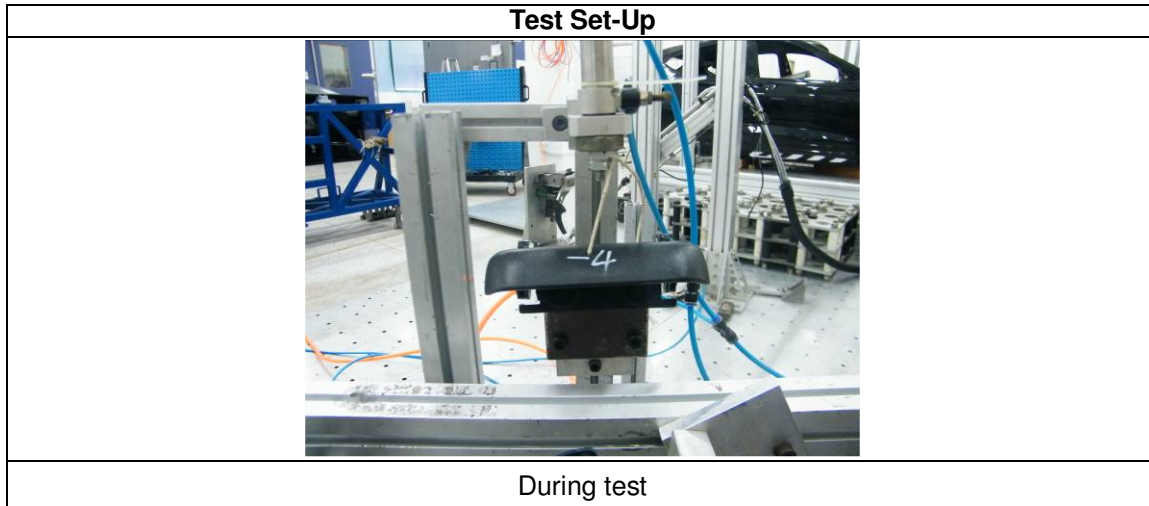
Test Equipment:

Equipment Name	Equipment Serial No	Calibration Valid Date
Air Cylinder Duration test system	SHAPL-202	2011-01-09~2012-01-08

Test result:

Test Sample No	Test Result	Conclusion
SHAPL-110900829-4	Function is OK	PASS

Test Photo:



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5. Test Item: Misuse

Test Spec: In SGS house

Test Date: 2011-09-08

Test Sample Qty: 1

Sample Set Up Mode: set up as client's requirement

Test Method: Add 300N and keep for 15S.

Evaluation Method: After test check if there is any function failure

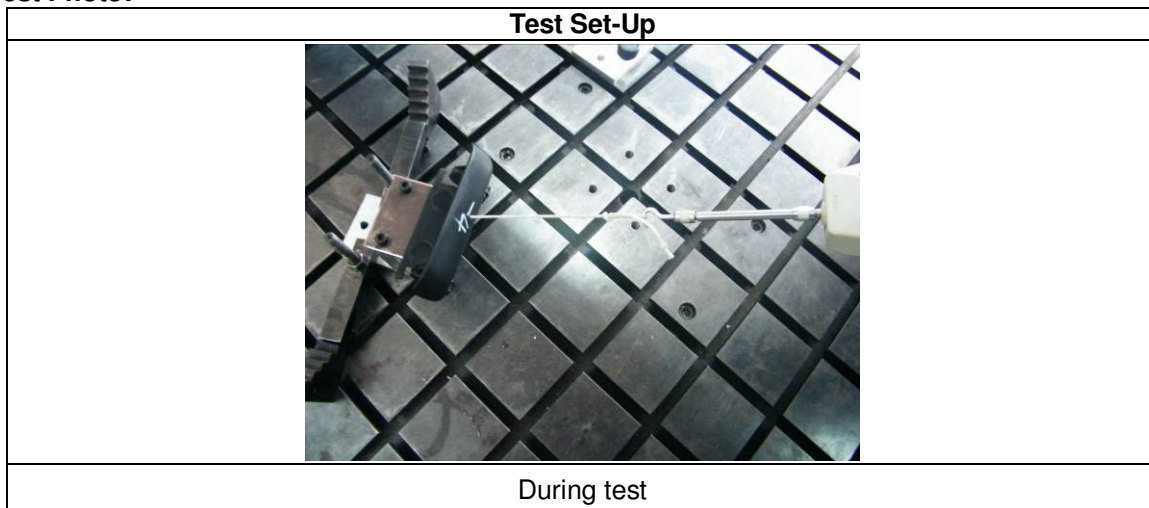
Test Equipment:

Equipment Name	Equipment Serial No	Calibration Valid Date
Drawing force machine	SHAPL-406	2011-01-09~2012-01-08

Test result:

Test Sample No	Test Result	Conclusion
SHAPL-110900829-4	Function is OK	PASS

Test Photo:



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6. **Test Item:** Salt Spray test
Test Spec: ASTM B117-09
Test Condition:

Concentration of solution collected: (5±1) % NaCl (m/m)

Chamber temperature: (35±2) °C

Volume of salt solution collected: (1.0~2.0) ml/ (80cm²·h)

pH of collected solution at 25°C: 6.5~7.2

Exposure period: 24h

Test Result:

Rust Grade: 10^{Note 1}

Appearance: No visible rust appeared.

Client requirement: No red rust

Conclusion: Pass

Note:

1. Rust grade refers to ASTM D610-08, as follows:

Percent of surface rusted, A (%)	Rust Grade
A≤0.01	10
0.01 < A ≤ 0.03	9
0.03 < A ≤ 0.1	8
0.1 < A ≤ 0.3	7
0.3 < A ≤ 1.0	6
1.0 < A ≤ 3.0	5
3.0 < A ≤ 10.0	4
10.0 < A ≤ 16.0	3
16.0 < A ≤ 33.0	2
33.0 < A ≤ 50.0	1
50 < A	0

2. The screw fastener of sample wasn't evaluated.

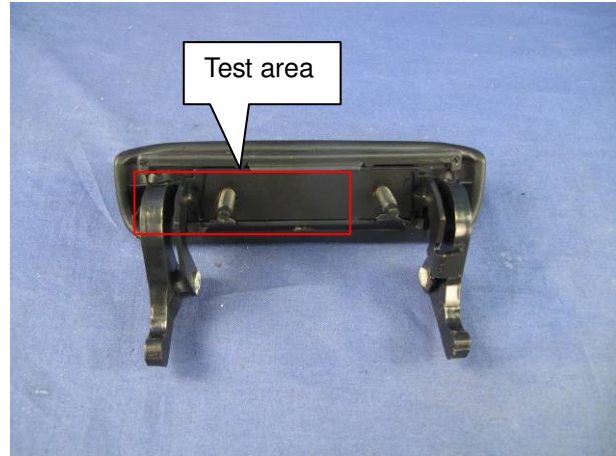
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Original sample

After Salt Spray test

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Q-Fog Cyclic Corrosion Tester	CCT1100	P-54	2010-3-9	2012-3-8

7. Test Item: ELV directive 2000/53/EC

Test Spec: ASTM B117-09

Test Condition:

With reference to IEC 62321:2008

(1) Determination of Cadmium by ICP-OES.

(2) Determination of Lead by ICP-OES.

(3) Determination of Mercury by ICP-OES.

(4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

Test Result:

Test Item(s)	Limit.	Unit	MDL	001.	002	003
Cadmium (Cd)	100	mg/kg	2	ND	ND	
Lead (Pb)	1,000	mg/kg	2	ND	ND	6
Mercury (Hg)	1,000	mg/kg	2	ND	ND	
Hexavalent Chromium (Cr(VI))	1,000	mg/kg	2	ND	ND	

Conclusion: Pass

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Photo:



***** End of report *****