



## TEST REPORT

No. : SHIN2203012681MR-01

Date : Sep 08, 2022

Page: 1 of 15

**CUSTOMER NAME: BEIJING PU-RIVER BROTHERS. TECHNOLOGY CO., LTD. CHINA**

**ADDRESS: NO.18, KEYUAN ROAD, DAXING DISTRICT, BEIJING, CHINA 102600**

Following information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client:

**Sample Name** : PARMOR@SHIELD PAINT PROTECTION FILM  
**Part No.** : ADF series  
**Product Specification** : paint protection film  
**Material and Mark** : PARMOR®  
**Manufacturer** : Beijing Pu-river Brothers. Technology Co., Ltd. China  
**Manufacturer Address** : No.18, Keyuan Road, Daxing District, Beijing, China 102600  
**Other Information** : Sample Model:PPF  
**SGS Ref No.** : TJAT2203003639NM  
**Date of Receipt** : Mar 10, 2022  
**Testing Start Date** : Mar 10, 2022  
**Testing End Date** : Mar 23, 2022  
**Test Result(s)** : For further details, please refer to the following page(s)

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

Jane Deng

Technical Supervisor



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**Report Declaration:**

The test samples were provided and confirmed by the customer in this report, the results contained in this test report are only responsible for the test samples, and do not relate to other samples of the same product. The manufacturer should ensure that all products manufactured are in conformity with the product sample in this report.

In the territory of the People's Republic of China, the test report without CMA logo expresses the test report shall only be used for client scientific research, teaching, internal quality control, product research and development, etc., and just for client internal reference.

**Manufacture Declaration or Comment:**

None

**Summary of Result(s):**

No.	Test Item	Test Method	Conclusion
1.	180° Peel Strength	ASTM D1000-17 Section 46~53	Pass
2.	Light Ageing Test-Xenon-arc Exposure	ISO 4892-2:2013 Cycle1	Pass
3.	Low Temperature Resistance Test	Provided by Client	Pass
4.	Elongation at Break	GB/T 1040.1-2018 & GB/T 1040.3-2006	Pass
5.	Stone Chip Test	SAE J400-2002(R2012) Method C	Pass

Note: Pass : Meet the requirements;  
 Fail : Does not meet the requirements;  
 N/A: Not apply to the judgment or Not applicable



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1. Test Item: 180° Peel Strength

Sample Description: Transparent plastic film

Test Method: ASTM D1000-17Section 46~53

Test Condition:

Specimen width: 25 mm

Condition 1: Affix the specimen to the test panel → (23±2)°C, (50±5)%RH, 30min

Condition 2: Affix the specimen to the test panel → (23±2)°C, (50±5)%RH, 24h

Testing speed: 300 mm/min

Lab Environmental Condition: (23±2)°C, (50±5)%RH

Test Result:

Test Item	Test Result		Requirement	Conclusion
180° Peel Strength	Condition 1	2.3 N/10mm See Table 1	≥ 1.9 N/10mm	Pass
	Condition 2	4.8 N/10mm See Table 1		Pass

Note: Test specimens were cut from the sample.

Table 1

Specimen No.	1	2	3
Condition 1, N/10mm	2.78	1.98	2.02
Condition 2, N/10mm	5.34	4.89	4.13

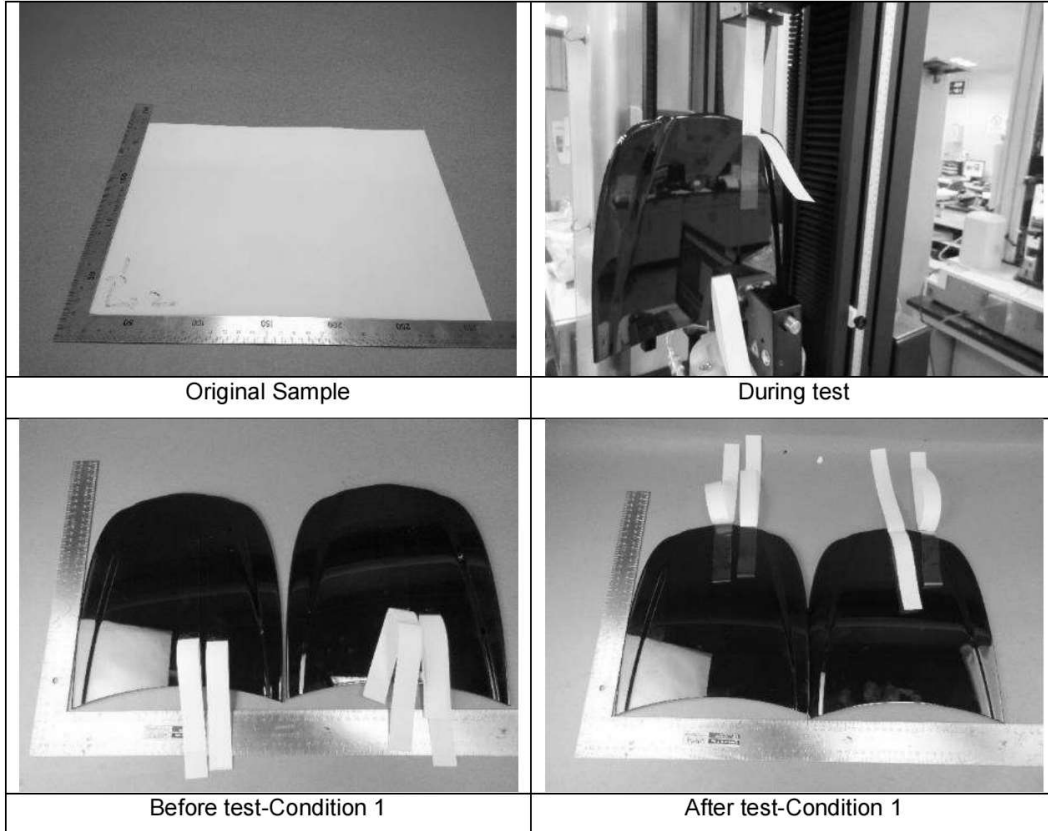


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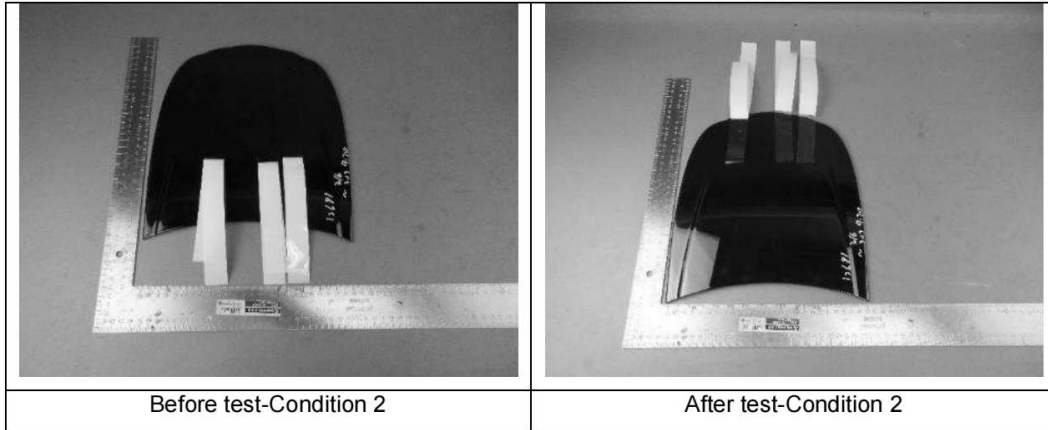
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Equipment Information:

Equipment	Brand	Model	Equipment No.	Calibration date	Next Calibration date
Single arm pull machine	INSTRON	68SC-5+AVE2	P-852	2021-11-4	2022-11-3



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2. Test Item: Light Ageing Test-Xenon-arc Exposure

Sample Description: Transparent plastic film

Test Method: ISO 4892-2:2013 Cycle 1

Test Condition:

Exposure cycle:

ISO 4892-2:2013 cycle 1

Irradiance: (0.51±0.02)W/(m<sup>2</sup>·nm)@340nm

102 min light at (65±3)°C BST, (38±3)°C CT, (50±10)%RH

18 min light and water spray

Filter: Boro/Boro

Exposure period: 168h

Test Result:

Sample	Appearance	Requirement	Conclusion
1	No visible edge warping, harden, yellowing, cracking.	No edge warping, no harden, no yellowing, no cracking.	Pass
2	No visible edge warping, harden, yellowing, cracking.		Pass
3	No visible edge warping, harden, yellowing, cracking.		Pass

Note:

1. The results were carried out within 1 hour after above specified durations for the intermediate inspection as well as at the end of the exposure.
2. Test specimens were cut from the sample.

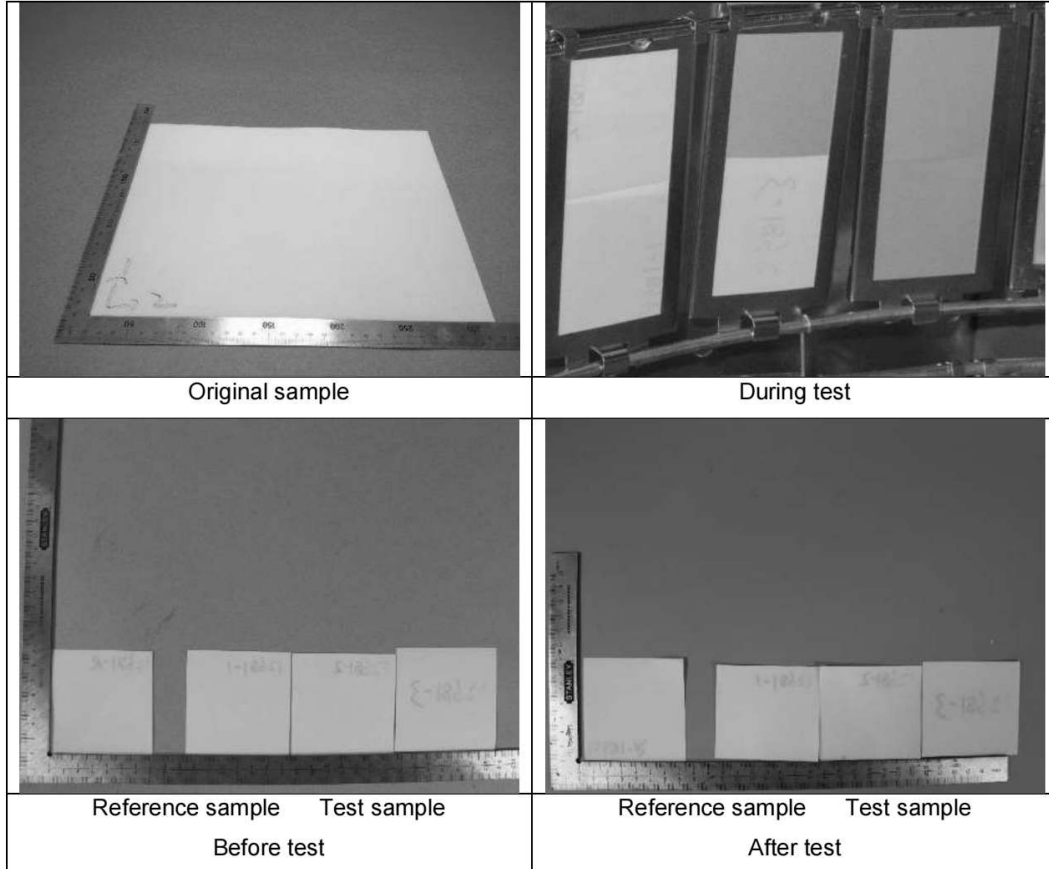


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Test Photo:



Equipment Information:

Equipment	Brand	Model	Equipment No.	Calibration date	Next Calibration date
XENON Arc Weather-Ometer	Atlas	Ci5000	P-361	2021-4-26	2022-4-25



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3. Test Item: Low Temperature Resistance Test

Sample Description: Transparent plastic film

Test Method: Provided by Client

Test Condition:

Test temperature: -20 °C

Test duration: 2 h

Lab Environment Condition: (23±2) °C, (50±5)%RH

Test Result:

Test Item	Test Result		Requirement	Conclusion
Low temperature resistance test	1	No blistering, fracture, hardening, edge warping and yellowing; No change in appearance by visual inspection	No blistering, fracture, hardening, edge warping and yellowing; No change in appearance by visual inspection	Pass
	2	No blistering, fracture, hardening, edge warping and yellowing; No change in appearance by visual inspection		Pass
	3	No blistering, fracture, hardening, edge warping and yellowing; No change in appearance by visual inspection		Pass

Note: Test specimens were cut from the sample.



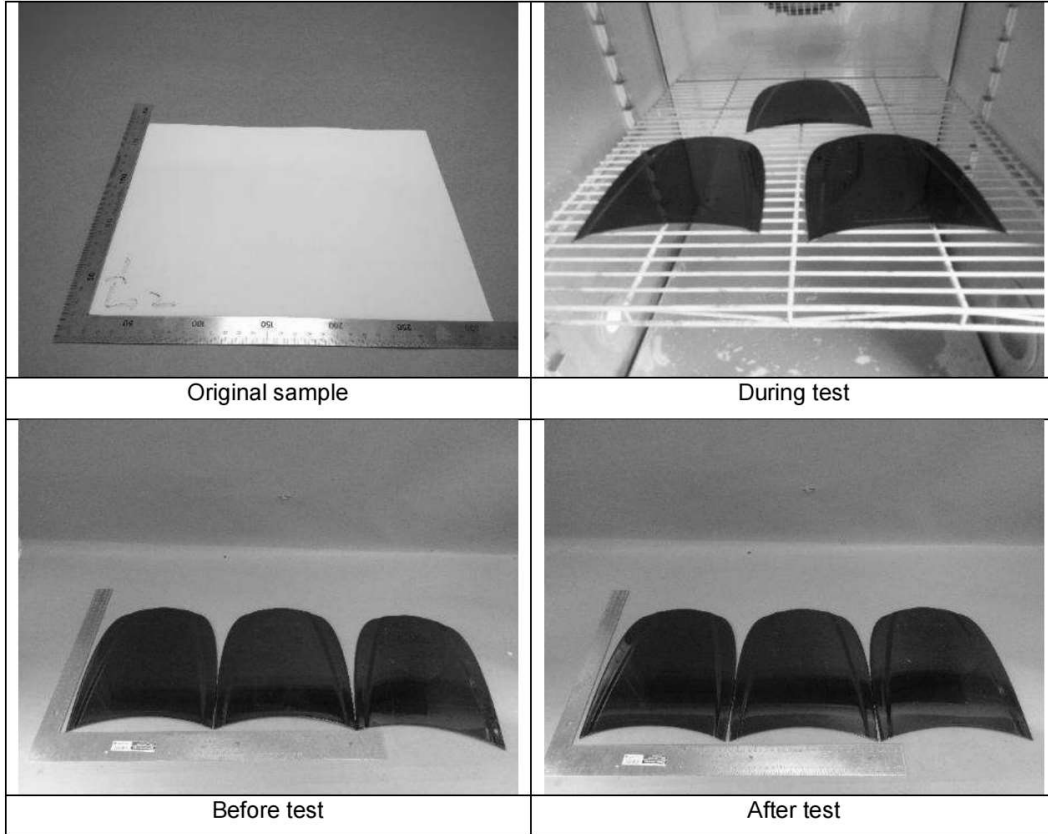
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Test Photo:



Equipment Information:

Equipment	Brand	Model	Equipment No.	Calibration date	Next Calibration date
Climate Test Chamber	WEISS-VOETSCH	C7-340 E series	P-878	2022-3-8	2023-3-7



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4. Test Item: Elongation at Break

Sample Description: Transparent plastic film

Test Method: GB/T 1040.1-2018 & GB/T 1040.3-2006

Test Condition:

Specimen: Type 2

Specimen width: 25 mm

Specimen thickness: Direction 1: 0.211 mm; Direction 2: 0.193 mm

Testing speed: 100 mm/min

Initial distance between grips: 100 mm

Lab Environmental Condition: (23 ± 2) °C, (50 ± 5) % RH

Test Result:

Test Item	Test Result		Requirement	Conclusion
Elongation at Break	Direction 1	230 % See Table 1	≥170 %	Pass
	Direction 2	230 % See Table 1		Pass

Note: Test specimens were cut from the sample.

Table 1

Specimen No.	1	2	3	4	5
Direction 1, %	222.2	238.9	234.8	220.5	234.9
Direction 2, %	222.1	231.0	226.0	233.4	214.1

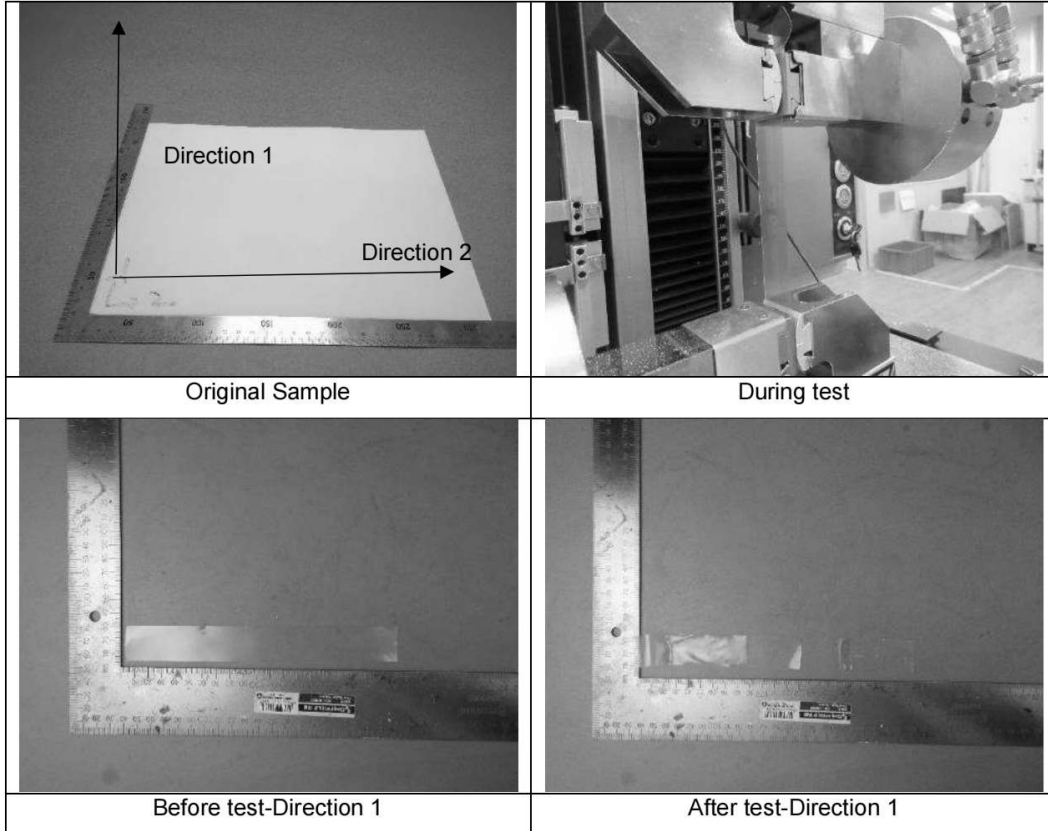


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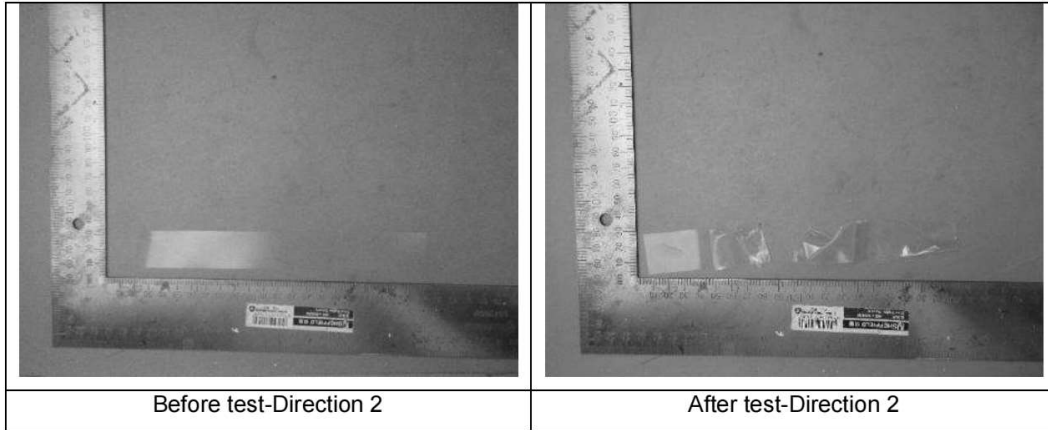
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Equipment Information:

Equipment	Brand	Model	Equipment No.	Calibration date	Next Calibration date
Single arm pull machine	Zwick/Roell	BT2-FZ2.5TH.D16.001	P-635	2021-4-13	2022-4-12



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## 5. Test Item: Stone Chip Test

Sample Description: Transparent plastic film

Test Method: SAE J400-2002(R2012) Method C

### Test Condition:

Test temperature: (25±5) °C

Gravel type: 9.5mm~15.9mm water-worn road gravel

Gravel quantity: 0.473L

Sample placement Angle: 90°

Air pressure: 70psi

Gravel feed: (7~10)s

### Test Result:

Sample	Appearance	Requirement	Conclusion
1	Visible metal paint surface is damaged, no visible fracture.	The metal surface is allowed to be damaged, but there is no fracture.	Pass
2	Visible metal paint surface is damaged, no visible fracture.		Pass
3	Visible metal paint surface is damaged, no visible fracture.		Pass

Note: The plastic film shall be pasted on the surface of the metal plate for test, and the metal paint shall be evaluated after the protective film is removed after the test.



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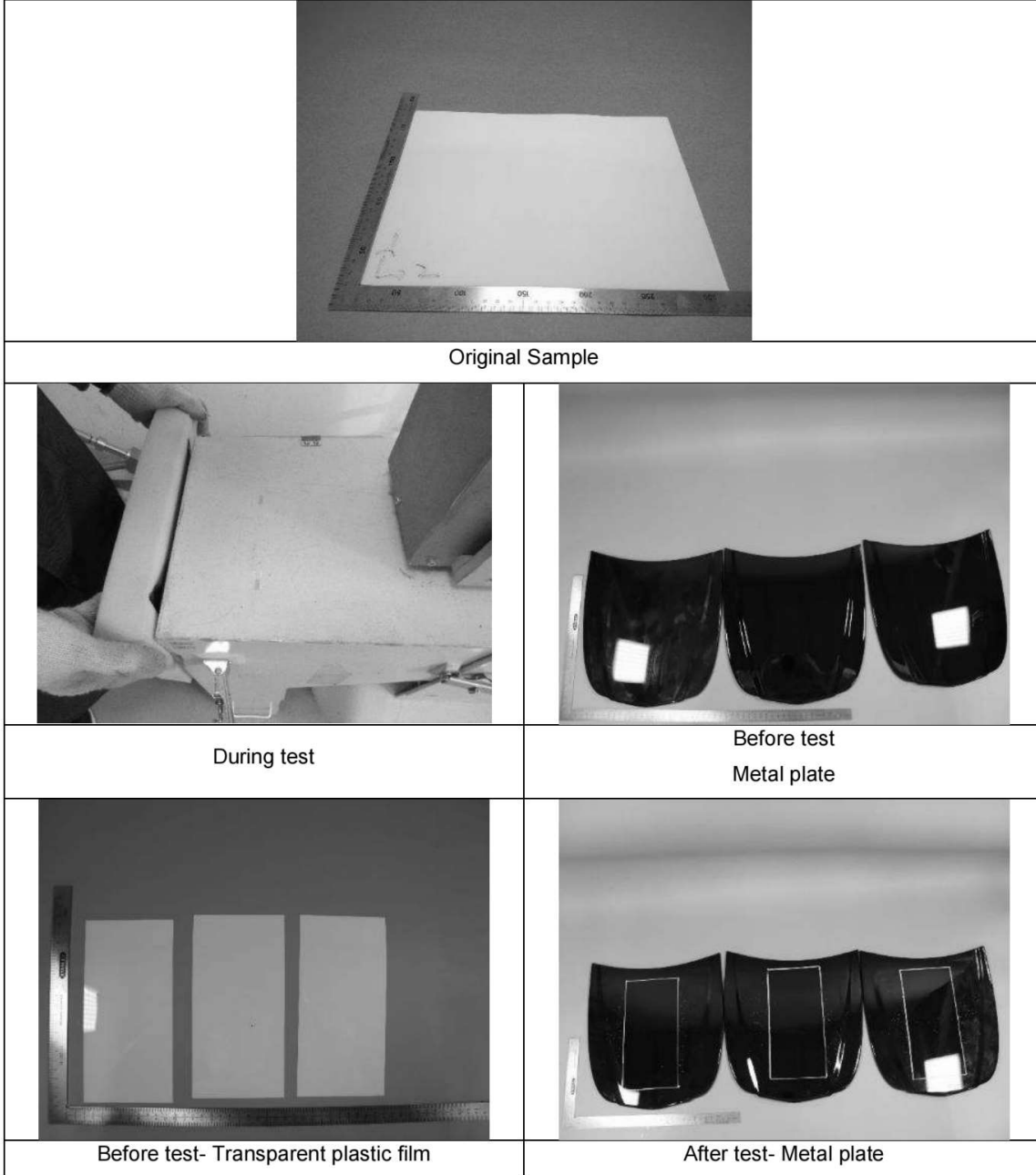
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Test Photo:



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The close-up after test

Equipment Information:

Equipment	Brand	Model	Equipment No.	Calibration date	Next Calibration date
Multi-Test Gravelometer Impact Tester	H. J. Unkel	/	P-292	2021-11-18	2022-11-17

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



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