

No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 1 of 15



CUSTOMER NAME: AKBARI ENGINEERING (PRIVATE) LIMITED

ADDRESS: Plot No. 188 SUNDER INDUSTRIAL ESTATE LAHORE PAKISTAN

Sample Name : Aluminium sheets

Other Information : Brand name: EUROBOND

TELL: +92-42-35297161-3

Above 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.

SGS Ref. No. : IND-QMS-AN-40

Date of Receipt : Apr 03, 2019
Testing Start Date : Apr 03, 2019
Testing End Date : May 28, 2019

Test result(s) : For further details, please refer to the following page(s)

(Unless otherwise stated the results shown in this test report refer only to

the sample(s) tested)

Signed for SGS-CSTC Standards Technical Services Co., Ltd. GZ Branch Testing Center

Tobby Yang

Authorized signatory





No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 2 of 15

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Adhesion Test of Coatings	ASTM D3359-17 Method B	5B	/
2	Bend Test (Conical Mandrel)	ASTM D522/D522M-17 Method A	No cracking	/
3	Coating Thickness	ASTM D7091-13	28.4µm	/
4	Impact Resistance	ASTM D2794-93(2010)	Impact failure end point: 160kg·cm	/
5	Solvent Resistance (by Rubbing)	ASTM D5402-15 Method A	No visual change	/
6	Boiling Water Adhesion	AAMA 2605-17a Section 8.4.1.1 & 8.4.1.2 & ASTM D3359-17 Method B	5B	/
7	Flexural Strength	ASTM D790-17 Procedure A	75.1MPa	/
8	90°Peel Strength	With reference to ASTM D903-98(2017) and client's requirement	0.501kgf/mm	/

Note: Pass : Meet the requirements;

Fail: Does not meet the requirements;

/ : Not Apply to the judgment.

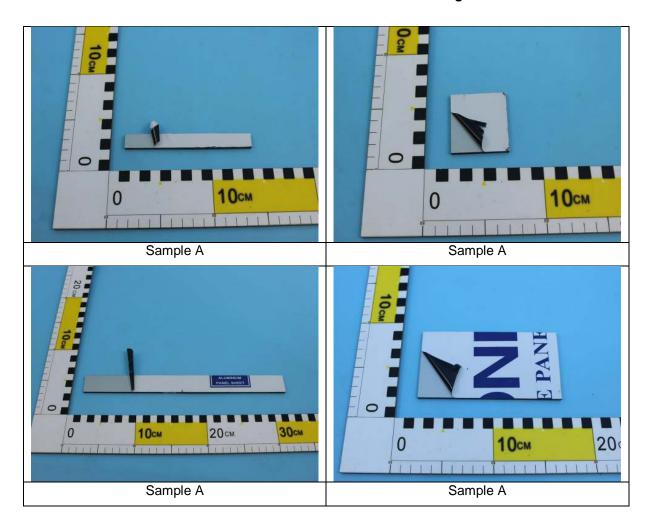




No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 3 of 15





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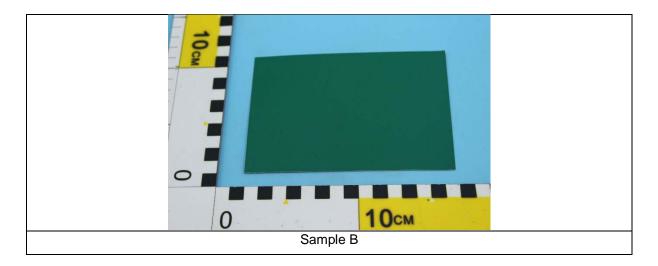
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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 4 of 15





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 5 of 15

1.Test Item: Adhesion Test of Coating

Sample Description: See photo

Test Method: ASTM D3359-17 Method B

Test Condition: Space: 1mm

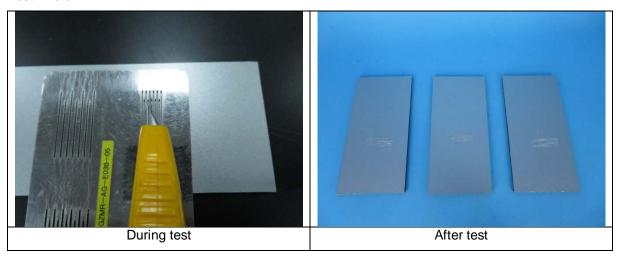
Tape: Elcometer 99

Test Result:

Sample	Adhesion classification
А	5B

Note: According to ASTM D3359-17 Method B, in the adhesion classification-- 5B is the best, 0B is the worst.

Test Photo:





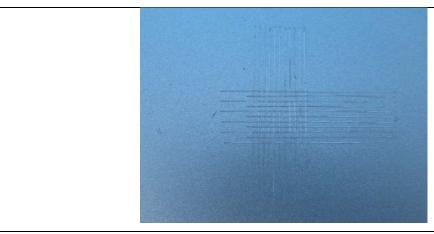
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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 6 of 15



After test-local part



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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 7 of 15

2.Test Item: Bend Test (Conical Mandrel)

Sample Description: See photo

Test Method: ASTM D522/D522M-17 Method A

Test Condition:

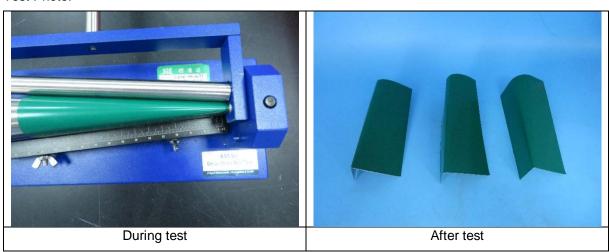
Length of cone: 200mm

Min: Ф3.0mm Max: Ф38mm

Test Result:

Sample	Appearance
В	No cracking

Test Photo:





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 8 of 15

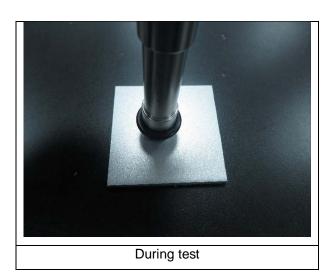
3.Test Item: Coating Thickness Sample Description: See photo Test Method: ASTM D7091-13

Test Condition: Eddy-Current Gauge

Test Result:

Sample	Coating Thickness
A	28.4µm

Test Photo:







No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 9 of 15

4.Test Item: Impact Resistance Sample Description: See photo

Test Method: ASTM D2794-93(2010)

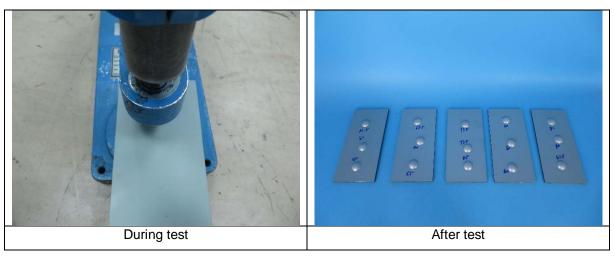
Test Condition:

Coating thickness: 28.4µm Sample thickness: 4.0mm Impact model: Extrusion Hammer weight: 2kg

Test Result:

Sample	Impact failure end point
A	160kg-cm

Test Photo:





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 10 of 15







No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 11 of 15

5.Test Item: Solvent Resistance (by Rubbing)

Sample Description: See photo

Test Method: ASTM D5402-15 Method A

Test Condition:

Solvent: MEK

Cloth: ISO 105 F09

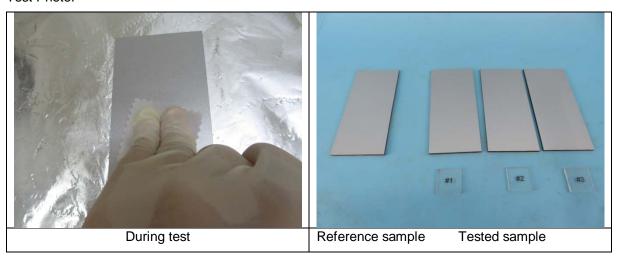
Rubbing Rate: 1 double rub/s

Number of double rubs: 25double rubs

Test Result:

Sample	Appearance
А	No visual change

Test Photo:





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 12 of 15

6.Test Item: Boiling Water AdhesionSample Description: See photo

Test Method: AAMA 2605-17a Section 8.4.1.1 & 8.4.1.2 & ASTM D3359-17 Method B

Test Condition:

Cut space: 1mm

Immersed in boiling water for 20min

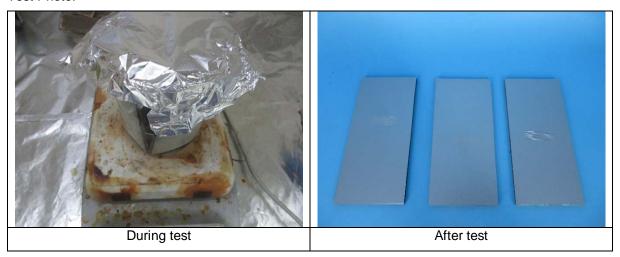
Tape: Elcometer 99

Test Result:

Sample	Adhesion classification
A	5B

Note: According to ASTM D3359-17 Method B, in the adhesion classification-- 5B is the best, 0B is the worst.

Test Photo:





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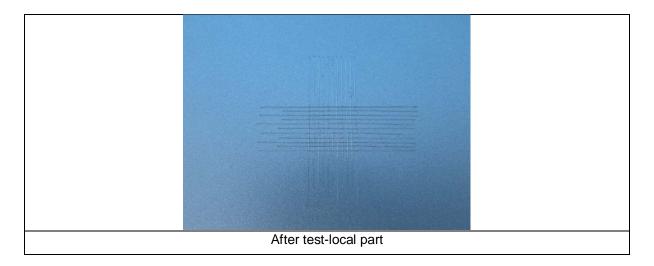
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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 13 of 15





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 14 of 15

7. Test Item: Flexural StrengthSample Description: See photo

Test Method: ASTM D790-17 Procedure A

Test Condition:

Specimen: 127mm×13.32mm×3.95 mm

Testing speed: 1.7mm/min

Span: 64mm

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

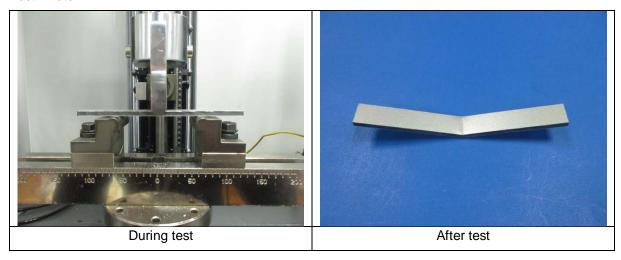
Test Result:

Sample	Test Item	Test Result
А	Flexural Strength	75.1MPa

Note:

- 1. The surface with the protected film was faced to the loading.
- 2. The protected film of test specimens was ripped off before test.

Test Photo:





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No.: GZIN1904015216CM-01

Date: Sep 04, 2019

Page: 15 of 15

Test Item: 90°Peel StrengthSample Description: See photo

Test Method: With reference to ASTM D903-98(2017) and client's requirement

Test Condition:

Specimen width: 25.1mm

Separation speed: 152.4mm/min Number of specimens tested: 10

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

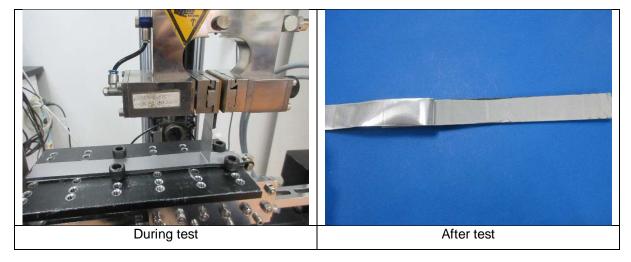
Test Result:

Sample	Test Item	Test Result
А	90°Peel Strength	0.501kgf/mm

Note:

- 1. The surface with the protected film was tested.
- 2. The protected film of test specimens was ripped off before test.
- 3. Failure mode: adhesion failure.

Test Photo:



Note: This test report supersedes the test report GZIN1904015216CM date: 2019-07-10, the original test reports (paper and electronic) are void.

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



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