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COMPUESTOS TECNOLÓGICOS de MEXICO SA de CV

TEST REPORT

SCOPE OF WORK
DEGREE OF CHALKING AND COLOR EVALUATION PER ASTM D4214 AND D2244

REPORT NUMBER
I3534.01-106-31 R0

TEST DATE(S)
04/23/18 - 04/24/18

ISSUE DATE
05/09/18

RECORD RETENTION END DATE
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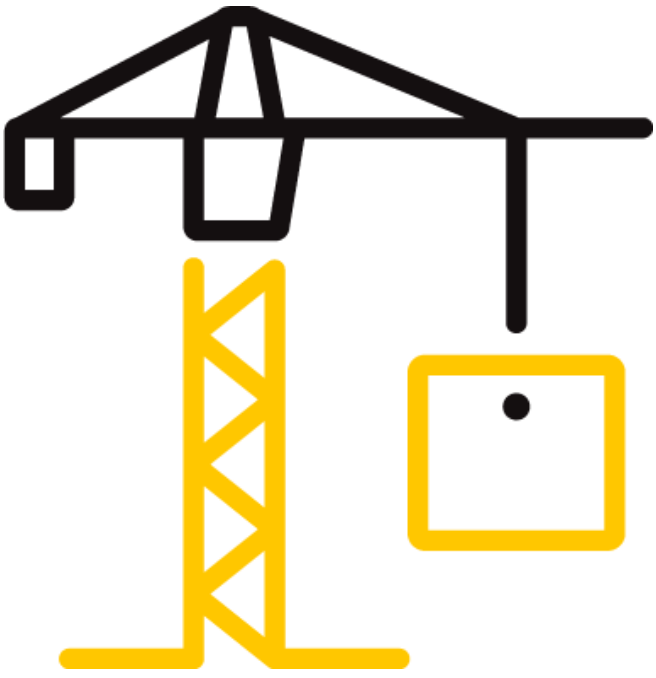

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TEST REPORT FOR COMPUESTOS TECNOLÓGICOS DE MEXICO SA DE CV
Report No.: I3534.01-106-31 R0
Date: 05/09/18

REPORT ISSUED TO

COMPUESTOS TECNOLOGICOS DE MEXICO SA DE CV
Carretera Libramiento Norte Leon Quereatro km 4.6 Malvas Parque Industrial Apolo
Irapuato, 36547 (Mexico)

SECTION 1

SCOPE

Products: Alucomex - Aluminium Composite Panel

Intertek Building & Construction (B&C) was contracted by Compuestos Tecnologicos de Mexico SA de CV to evaluate their Alucomex - Aluminum Composite Panels in accordance with ASTM D4214*, Evaluating the Degree of Chalking of Exterior Paint Films* and ASTM D2244, *Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates*. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

For INTERTEK B&C:

COMPLETED BY:	Daryn S. Fassnacht	**REVIEWED BY:**	Joseph M. Brickner
TITLE:	Technician III Materials Laboratory	**TITLE:**	Laboratory Supervisor Materials Laboratory
SIGNATURE:	Daryn S. Fassnacht Digitally Signed by: Daryn Fassnacht	**SIGNATURE:**	Joseph M. Brickner Digitally Signed by: Joseph M. Brickner
DATE:	05/09/18	**DATE:**	05/09/18

DSF:jmb/kf

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SECTION 2
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM D4214-07, *Evaluating the Degree of Chalking of Exterior Paint Films*

ASTM D2244-16, *Calculations of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates*

SECTION 3
MATERIAL SOURCE

The materials were provided by Compuestos Tecnologicos de Mexico SA de CV. The following was received: Two (2) 1-3/4" x 1-5/8" aluminum composite panels.

Refer to the product description photos in Section 10. Representative materials/test specimen(s) will be retained by Intertek B&C for a minimum of four years from the test completion date.

SECTION 4
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Daryn S. Fassnacht	Intertek B&C
Joseph M. Brickner	Intertek B&C

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SECTION 5
TEST PROCEDURES

All conditioning of test specimens and test conditions were at standard laboratory conditions unless otherwise reported. Refer to the test related photos in Section 10.

ASTM D4214 Degree of Chalking of Exterior Paint
Chalking was performed on one colored specimen. Five specimens were tested. Ten areas were evaluated, two different locations per specimen. Per the method, data was measured with a Gretag Macbeth Color i5 Spectrophotometer (ICN: 004725) with a diffuse spherical geometry and a xenon lamp, CIELAB color space, illuminant D65, and 10° observer. The specular component was included in the measurements. The Y value was used for calculating the chalk rating per ASTM D4214 Section 7.3, Test Method C, Transparent Tape Method. The degree of chalking was determined from Table 1 per ASTM D4214. The ratings range from none (10) to severe (0). No visible degree of chalking was observed during this evaluation. SMX specimens achieved a rating of 10 by the calculation practice for degree of chalking. The ratings have been converted to the Photographic Reference scales. A legend of the scales and the individual results are listed below.

ASTM D2244 Color Readings
Color readings were taken for each type of material using a Gretag Macbeth Color i5 Spectrophotometer (ICN: 004725) with a diffuse spherical geometry and a xenon lamp, CIELAB color space, illuminant D65, and 10° observer. The specular component was included in the measurements. Color readings were all taken prior to the chalking evaluation.

SECTION 6
TEST SPECIMEN DESCRIPTION

TEST PROCEDURE	NUMBER OF SPECIMENS	NOMINAL SPECIMEN DIMENSIONS	VISUAL CHARACTERISTICS
ASTM D4214/D2244	2	1-3/4" x 1-5/8"	Silver Square Aluminium Tiles

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SECTION 7
TEST RESULTS

ASTM D4214 LEGEND - CHALT RATING SCALE

RATING	PHOTOGRAPHIC REFERENCE SCALES		CALCULATED VALUE SCALE - TAPE METHOD
	ASTM	TNO	
No Chalk	8	2	10
Slight Chalk	6	4	7.5
Medium Chalk	4	6	5
Significant Chalk	2	8	2.5
Complete Chalk	0	10	0

ASTM D4214 RESULTS - DEGREE OF CHALKING OF EXTERIOR PAINT

EVALUATED AREA	PHOTOGRAPHIC REFERENCE SCALE RATINGS	
	SMX	
	ASTM	TNO
1	8.0	2.0
2	8.0	2.0
3	8.0	2.0
4	8.0	2.0
5	8.0	2.0
6	8.0	2.0
7	8.0	2.0
8	8.0	2.0
9	8.0	2.0
10	8.0	2.0
Average	**8.0**	**2.0**

ASTM D2244 - SMX COLOR READINGS

SPECIMEN ID	L*	a*	b*
1	75.09	-0.33	-1.72
2	74.98	-0.33	-1.72
3	75.00	-0.34	-1.70
4	74.97	-0.34	-1.74
5	74.98	-0.36	-1.70
Average	**75.00**	**-0.34**	**-1.72**

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SECTION 8
CONCLUSION

No visible degree of chalking was observed. The SMX specimens achieved a rating of 8 (ASTM) and 2 (TNO) for degree of chalking by photographic reference scale.

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SECTION 9
PHOTOGRAPHS

Photo No. 1
Received Specimens

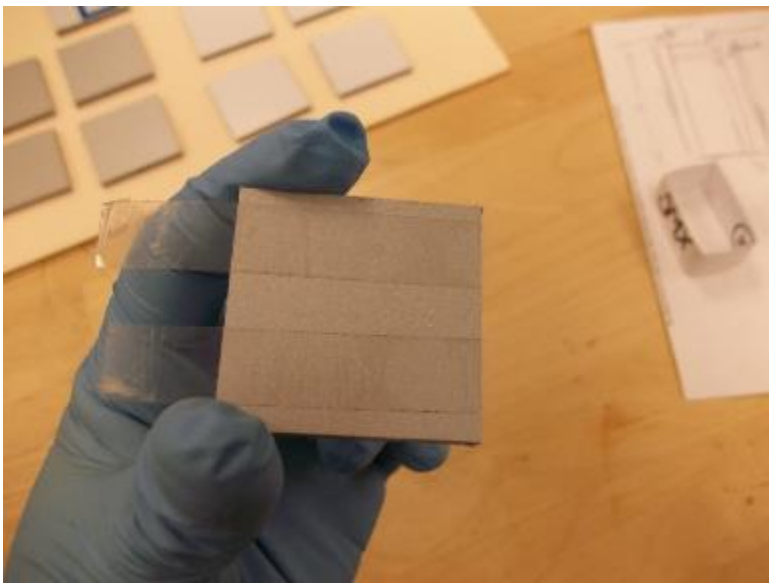

Photo No. 2
Specimens with Tape

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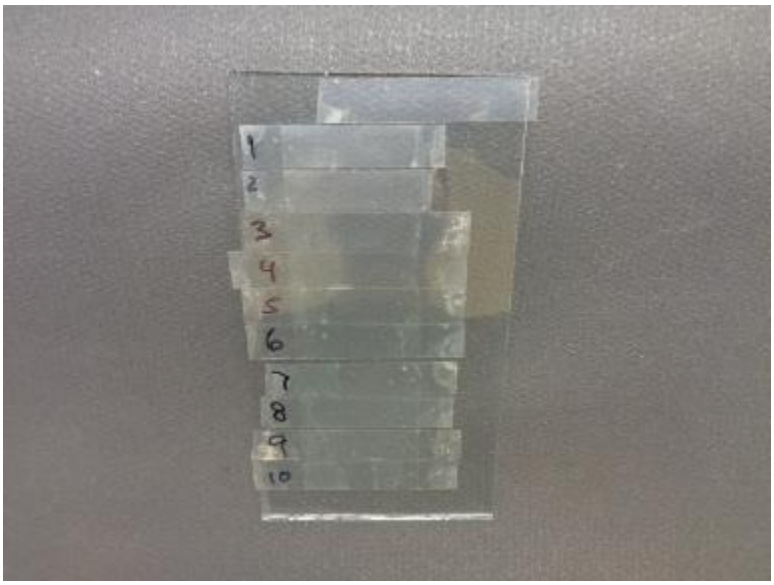

Photo No. 3
Test Method C- Transparent Tape Method

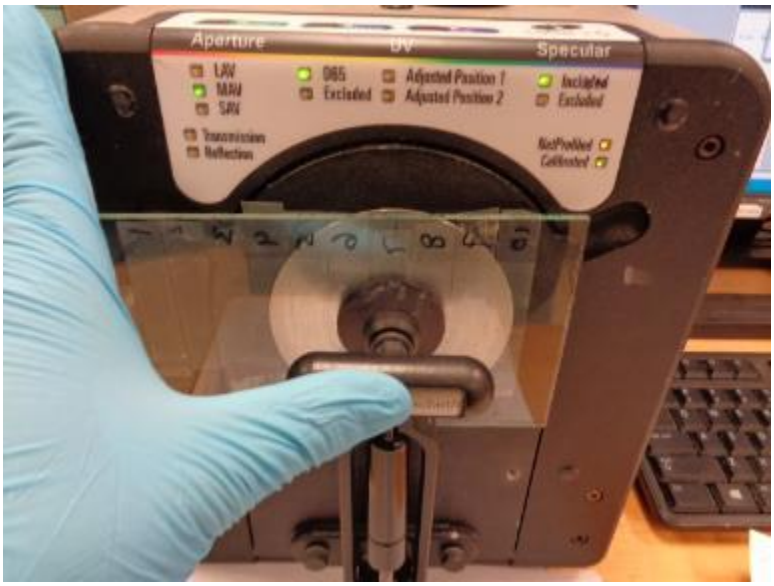

Photo No. 4
Chalk Readings on Gretag Macbeth Color i5 Spectrophotometer

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SECTION 10
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	05/09/18	N/A	Original Report Issue