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TEST REPORT

Accelerated Weather Testing on Brick Tinting Compounds for use on hardened mortar joint profiles.

Client: Mr. D. Dempsey
Job No: 10565
Sample Received: 19/05/1985

Purpose

The purpose of this report is to document the estimated weatherability of Brick Tinting Compounds by correlating test data from the QUV Accelerated Weathering Tester and our experience with actual outdoor exposure of masonry treated with these products.

Procedure

The weathering resistance of these tints is tested using 40 watt UVE-313 fluorescent lamps in a model QUV Accelerated Weathering Tester (manufactured by the Q Panel Co.). In this test procedure, test samples are alternately exposed to four hours of ultra violet light in a test chamber maintained at 60 degrees C followed by four hours of moisture condensation in darkness while the test chamber is maintained at 50 degrees C. By comparing the results of accelerated weathering tests with actual weathering performance of these tints over the past 10 years, a reasonable correlation between the two has been developed. A conservative estimate of this correlation is that each 4000 hours of QUV exposure is equivalent to approximately 7 years of outdoor exposure (UK).

Two samples were submitted for test on 19/05/1985: Terracotta 020 and Black 073. These samples were sprayed directly onto flat IFC panels (75mm x 150mm) and allowed to dry for 24 hours at 25 degrees C before being placed in the accelerated weathering tester. The test samples were periodically removed and measurements were taken using a Colour analyser (Minolta CP-210), and their appearance was visually evaluated and the results recorded. Gloss levels were measured on the terracotta 020 samples using the a triple angle gloss meter and results recorded.

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Results

Aesthetically and functionally the coatings have been found to hold up extremely well for the first 5000 hours in the QUV tester. From 5000 hours to 10000 hours exposure, the only change observed was a slight matting effect with hardly any loss in colour.

Conclusion

Total colour differences that have been recorded (2.00 Delta E(ab)) show an excellent performance of the tints. We believe a Guarantee of 30 years to be a reasonable and conservative claim.

The results show low sheen/gloss properties and exhibit a gradual reduction consistent over the surface of the panels. Gloss unit reduction values of this order would be difficult to ascertain with the human eye.

A good performance for a masonry surface treatment product.

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Test Method for Gloss and Sheen, Operating Standard

Client: Mr. D. Dempsey
Job No. 10565

Procedure

60 degree geometry is used for intercomparing most specimens and for determining when either an 85 degree or 20 degree geometry may be more applicable. 85 degree geometry figures are most frequently applied when specimens have a 60 degree gloss value lower than 10 as in this case.

Results

Angle of Incidence	60 Degrees	85 Degrees
0 hours	3.8/3.7	19.5/18.8
5000 hours	3.3/3.2	17.8/17.1
7000 hours	2.1/2.2	13.8/14.1
10000 hours	1.7/1.7	9.6/12.2

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Conclusion

A good performance for a masonry surface treatment product.

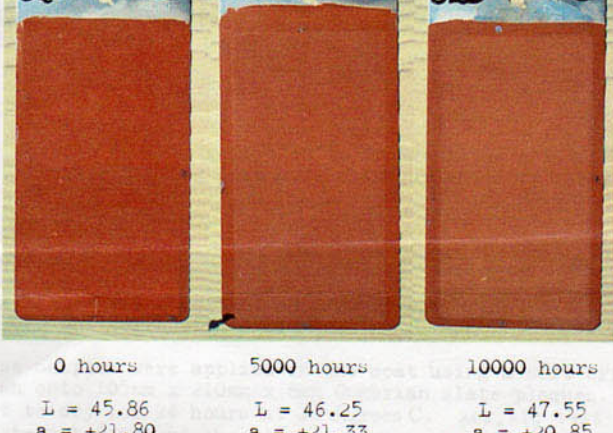
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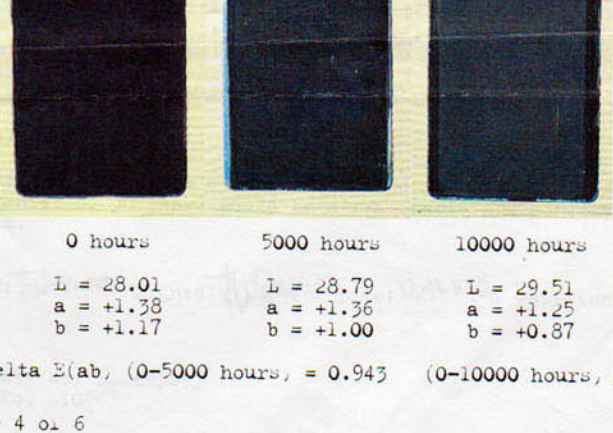
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0 hours	5000 hours	10000 hours
L = 45.86	L = 46.25	L = 47.55
a = +21.80	a = +21.33	a = +20.85
b = +21.69	b = +22.31	b = +21.29

2 Delta E(ab), (0-5000 hours, = 0.870) (0-10000 hours, = 1.964)



0 hours	5000 hours	10000 hours
L = 28.01	L = 28.79	L = 29.51
a = +1.38	a = +1.36	a = +1.25
b = +1.17	b = +1.00	b = +0.87

2 Delta E(ab), (0-5000 hours, = 0.943) (0-10000 hours, = 1.584)

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TEST REPORT

Freeze/Thaw Testing on Brick Tints

Client: Mr. D. Dempsey
Job No. 10566

Purpose

The purpose of this report is to document the estimated resistance of Colourite Tinting Compounds when subjected to freeze/thaw conditions.

Procedure

Four tints were submitted by Mr Dempsey: Black 073, Yellow 052, Red 025 and Terracotta 021. These samples were submitted in one coat using a soft bristle paint brush onto 105mm x 210mm x 8mm cla, brick slip plaques. These were left to dry for 24 hours at 25 degrees C. Acrylic test baths were constructed around the plaques. These were then covered with 10mm (min.) of 3% salt solution (sodium chloride), to increase aggression. Baths were placed in a freeze/thaw chamber. The samples were subjected to 300 cycles of 18 hours:- 6 hours at 25 degrees C and 6 hours at minus 25 degrees C with a ramp time of 3 hours.

Visual and photographic records were taken at 50 cycle intervals for colour loss and physical degradation.

Results

There was no delamination of the tint coating and no apparent loss in colour. There was isolated particle attack of the substrate at approximately 270 cycles - a reaction which would also be expected on untreated materials.

Conclusion

We believe, with the evidence obtained from these tests, that a Guarantee of 30 years would be a reasonable and conservative claim.

Name: T. McKay Signed: [Signature] Date: 12.11.1986 Position: [Signature]

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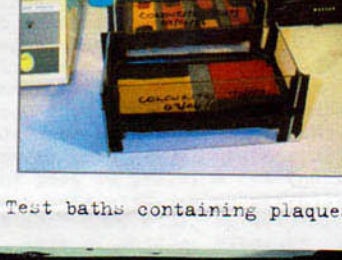
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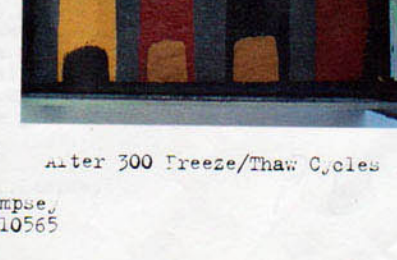
FREEZE/THAW TESTS



Tints applied to brick plaques



Test baths containing plaques



After 300 Freeze/Thaw Cycles

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