

Test Report



Intertek Testing Services
ETL SEMKO



REPORT OF: Comparative testing of Stuccos

AT: Coquitlam Laboratory

DATE: June 19, 2002

PROJECT #: 3010414

REPORTED TO: Plastic Components Inc.
9051 North West 97th Terrace
Miami FL 33178

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Attention: Mr. John Larson

INTRODUCTION

Intertek Testing Services NA Ltd./Warnock Hersey has conducted 'Compression' and 'Flexural Strength' testing on five different mortar/stucco materials. Test samples were produced and tested as per ASTM C 109 and as described herein for comparative purposes. Testing was completed on June 10, 2002. The purpose for the testing was to determine the weakest of the specified products so that it could be used in future tests.

PRODUCT DESCRIPTIONS

The five stucco mixes consisted of four premixed and one scratch mixed formula. Designation letters were assigned to each as follows.

- A) Ultrakote 1 fiber reinforced stucco
- B) Highland One Coat
- C) Sto Primer/Adhesive – B 101
- D) Western 1 kote
- E) NBC mix (as per NBC Section 9.28.5.1.)

TEST PROCEDURE

Three 2" x 2" cubes and three 1" x 2" x 12" bars of each mix were produced as per manufacturers' instructions. All samples were submerged in a saturated lime bath for at least 28 days for conditioning.

Compression testing was carried out on each cube as per ASTM C 109. The maximum loads attained were recorded. The average maximum load for each product was calculated and reported.

Flexural Strength testing was carried out on each bar by supporting the bars on two 1-5/16" O.D. rollers spaced 10" apart. A third 1-5/16" O.D. cylinder on top of the sample at mid-span was used to load the sample until it broke. A cross-head speed of 2640 +/- 110 N (600 +/- 25 lbf/min.) was used. The maximum loads attained were recorded. The average maximum load for each product was calculated and reported.

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TEST RESULTS

COMPRESSION (2" x 2" cubes)

| | Average Maximum Load (lb) |
|---|---------------------------|
| A) Ultrakote 1 fiber reinforced stucco | 10,034 |
| B) Highland One Coat | 8,646 |
| C) Sto Primer/Adhesive -- B 101 | 9,273 |
| D) Western 1 kote | 15,921 |
| E) NBC mix (as per NBC Section 9.28.5.1.) | 2,672 |

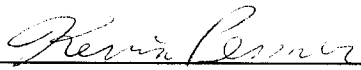
FLEXTURAL STRENGTH (1" x 2" X 12" bars)

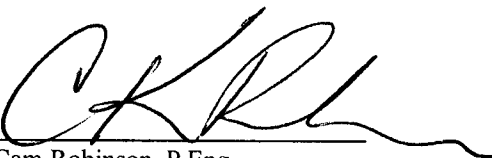
| | Average Maximum Load (lb) |
|---|---------------------------|
| A) Ultrakote 1 fiber reinforced stucco | 78.03 |
| B) Highland One Coat | 79.54 |
| C) Sto Primer/Adhesive -- B 101 | 102.89 |
| D) Western 1 kote | 121.03 |
| E) NBC mix (as per NBC Section 9.28.5.1.) | 33.53 |

CONCLUSION

The test data of both tests indicates that the weakest material tested was the NBC mix, mixed as per NBC Section 9.28.5.1.

**INTERTEK TESTING SERVICES NA LTD.
Warnock Hersey**

Reported by: 
Kevin Penner,
Technician, Construction Products

Reviewed by: 
Cam Robinson, P.Eng.
Manager, Construction Products

KP/Irh

APPENDIX A
(TEST DATA – 2 Pages)

TEST DATA

Date: June 21, 2002
Client: Plastic Components Inc.
Project #: 3010414
Product: Five Stucco Mixes
Test Standard: ASTM C 109
Apparatus: Tinius Olsen Tester, ID # 9-0432
 500-lb Load Cell, ID # P-52646
 Digital Caliper, ID # P-52639

COMPRESSION (2" x 2" cubes)

Ultrakote 1 fiber reinforced stucco

| Sample # | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-------------|------------|-------------|----------------|---|
| A1 | 2.0 | 2.0 | 2.0 | 10,888 | Test stopped due to m/c limitation of 10k range |
| A2 | 2.0 | 2.0 | 2.0 | 9,835 | |
| A3 | 2.0 | 2.0 | 2.0 | 9,379 | |
| Average | | | | 10,034 | |

Highland One Coat

| Sample # | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-------------|------------|-------------|----------------|---|
| B1 | 2.0 | 2.0 | 2.0 | 8,066 | |
| B2 | 2.0 | 2.0 | 2.0 | 8,205 | |
| B3 | 2.0 | 2.0 | 2.0 | 9,666 | Loaded too quickly. Hit peak load W/I a few seconds |
| Average | | | | 8,646 | |

Sto Primer/Adhesive – B 101

| Sample # | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-------------|------------|-------------|----------------|-----------------------|
| C1 | 2.0 | 2.0 | 2.0 | 9,178 | |
| C2 | 2.0 | 2.0 | 2.0 | 9,648 | |
| C3 | 2.0 | 2.0 | 2.0 | 8,992 | |
| Average | | | | 9,273 | |

Western 1 kote

| Sample # | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-------------|------------|-------------|----------------|---|
| D1 | 2.0 | 2.0 | 2.0 | 13,936 | |
| D2 | 2.0 | 2.0 | 2.0 | 17,892 | Loaded too quickly. Hit peak load W/I a few seconds |
| D3 | 2.0 | 2.0 | 2.0 | 15,934 | |
| Average | | | | 15,921 | |

NBC mix (as per NBC 9.28.5.1)

| Sample # | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-------------|------------|-------------|----------------|-----------------------|
| E1 | 2.0 | 2.0 | 2.0 | 2,668 | |
| E2 | 2.0 | 2.0 | 2.0 | 2,652 | |
| E3 | 2.0 | 2.0 | 2.0 | 2,697 | |
| Average | | | | 2,672 | |

Test Performed by: Kevin Penner
 Kevin Penner

TEST DATA

Date: June 21, 2002
Client: Plastic Components Inc.
Project #: 3010414
Product: Five Stucco Mixes
Test Standard: ASTM C 109
Apparatus: Tinius Olsen Tester, ID # 9-0432
 500-lb Load Cell, ID # P-52646
 Digital Caliper, ID # P-52639

FLEXTURAL STRENGTH (1" x 2" X 12" bars)

Ultrakote 1 fiber reinforced stucco

| Sample # | Span (in) | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-----------|-------------|------------|-------------|----------------|-----------------------|
| A1 | 10 | 11.98 | 2.00 | 1.01 | 79.23 | |
| A2 | 10 | 11.99 | 2.00 | 1.01 | 79.91 | |
| A3 | 10 | 11.99 | 2.00 | 1.01 | 74.95 | |
| Average | | | | | 78.03 | |

Highland One Coat

| Sample # | Span (in) | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-----------|-------------|------------|-------------|----------------|------------------------------|
| B1 | 10 | 11.98 | 2.00 | 1.01 | 76.64 | Top surface extremely pitted |
| B2 | 10 | 11.98 | 2.00 | 1.03 | 78.94 | Top surface very pitted |
| B3 | 10 | 11.99 | 2.00 | 1.01 | 83.04 | Top surface very pitted |
| Average | | | | | 79.54 | |

Sto Primer/Adhesive – B 101

| Sample # | Span (in) | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-----------|-------------|------------|-------------|----------------|-----------------------|
| C1 | 10 | 11.99 | 2.00 | 1.03 | 105.23 | |
| C2 | 10 | 12.00 | 2.01 | 1.05 | 92.93 | |
| C3 | 10 | 12.00 | 2.00 | 1.03 | 110.50 | |
| Average | | | | | 102.89 | |

Western 1 kote

| Sample # | Span (in) | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-----------|-------------|------------|-------------|----------------|-----------------------|
| D1 | 10 | 11.99 | 2.00 | 1.05 | 127.11 | |
| D2 | 10 | 11.99 | 2.01 | 1.03 | 118.78 | |
| D3 | 10 | 11.99 | 2.00 | 1.04 | 117.20 | |
| Average | | | | | 121.03 | |

NBC mix (as per NBC 9.28.5.1)

| Sample # | Span (in) | Length (in) | Width (in) | Height (in) | Max. Load (lb) | Observations/Comments |
|----------|-----------|-------------|------------|-------------|----------------|-----------------------|
| E1 | 10 | 12.00 | 2.00 | 1.00 | 34.72 | |
| E2 | 10 | 11.98 | 2.00 | 1.05 | 33.39 | |
| E3 | 10 | 11.99 | 2.00 | 1.01 | 32.48 | |
| Average | | | | | 33.53 | |

Test Performed by: Kevin Penner
 Kevin Penner