



CLIENT: PLUMBEREX SPECIALTY PRODUCTS, INC.

P.O. Box 1684
Palm Springs, CA 92263
Attn: Gabe Lechuga Sr.

Test Report No: 914:015436

Date: September 17, 2008

SAMPLE ID: The Client submitted and identified five pieces of Plumberex insulation material, white, measuring approximately 12 inches square by 1/8-inch thick. In addition, the Client submitted eight 1-inch by 3-inch water absorption specimens with sealed edges.

DATE OF RECEIPT: Tensile Strength and Elongation samples were received at SGS U.S. Testing Company on August 21, 2008 as sample tracking number 43401.
Water Absorption samples were received at SGS U.S. Testing Company on September 10, 2008 as sample tracking number 43434.

TESTING PERIOD: September 10 through 12, 2008.

AUTHORIZATION: Signed Order Confirmation dated September 11, 2008.

TESTS REQUESTED:

- 1) UV exposure per ASTM G 153-00a^{e1}, "Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials".
- 2) Tensile Strength and Elongation per ASTM D 412-98a (2002) ^{e1}, "Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers- Tension" on as received, 200 hour UV exposure and 24 hour water immersion specimens.
- 3) Water Absorption per ASTM D 570-98 (Reapproved 2005), "Standard Test Method for Water Absorption of Plastics", 24 hour immersion.

TEST RESULTS: See pages 2 through 4 of this report for detailed results.

ACCREDITATIONS: International Accreditation Service (IAS) No. TL 220. City of Los Angeles RR No. 22277.

Prepared By:

Larry Burmer
Project Specialist

**Signed for and on behalf of
SGS U.S. Testing Company Inc.**

Greg Wrona
Manager, Building Materials

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UV EXPOSURE

Test Procedure: Testing was conducted in accordance with ASTM G 153-00a^{e1}. Five 3-inch by 9-inch specimens were cut from the sample material and subjected to 200 hours of accelerated weathering in an Atlas Twin Carbon-Arc Weathering Machine, Model DH, Cycle 1, as set forth in Table X1.1 of ASTM G 153. The black panel temperature was maintained at 148°F during the light-only portion of the cycle. The temperature of the water was maintained at 65°F and the pH maintained between 6.0 and 8.0. At the end of the 200 hour period, the specimens were visually examined for cracking, checking, crazing, erosion, and chalking.

Results: No cracking, checking, crazing, erosion or chalking was observed on any of the five specimens.

TENSILE STRENGTH AND ELONGATION ON AS RECEIVED, UV AND WATER IMMERSION SAMPLES

Test Procedure: Testing was conducted in accordance with Method A of ASTM D 412-98a (2002)^{e1}. Five Die C dumbbell specimens were cut from the as received and UV exposed samples and conditioned at 73.4°F and 50% Relative Humidity for 24 hours. Five additional dumbbell specimens were cut from the as received samples and immersed in water maintained at 70°F for 24 hours as specified by the Client. After conditioning, the specimens were individually placed in a United Tensile/Compression machine and pulled in tension at a constant rate of 20 inches per minute until failure.

Results:

As Received (Control) Samples

Specimen #	Tensile Strength (psi)	Elongation (%)
1	109	124
2	127	123
3	123	115
4	119	124
5	121	123
Average	120	122

UV Samples

Specimen #	Tensile Strength (psi)	Elongation (%)
1	161	134
2	148	124
3	144	116
4	149	121
5	146	123
Average	149	123



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TENSILE STRENGTH AND ELONGATION ON AS RECEIVED, UV AND WATER IMMERSION SAMPLES (CONT.)

Results (Cont.):

Water Immersion Samples

Specimen #	Tensile Strength (psi)	Elongation (%)
1	146	122
2	157	129
3	147	121
4	169	119
5	143	124
Average	152	123

Observations

No evidence of erosion or change in physical appearance was observed on the specimens subjected to 24 hour water immersion.

The percent change in tensile strength and elongation of the UV and water immersion specimens with respect to the control specimens are as follows:

Specimens	Tensile Strength	Elongation
UV	+19.5 %	+1%
Water Immersion	+21.1%	+1%



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WATER-ABSORPTION TEST PER ASTM D 570-98 (Reapproved 2005)

Procedure: Testing was conducted in accordance with ASTM D 570-98 (Reapproved 2005). Five water absorption specimens were conditioned in an oven maintained at 122°F for 24 hours. The specimens were removed from the oven, cooled in a desiccator and weighed. The specimens were then placed on edge in 73°F distilled water for a period of 24 hours. After 24 hours of submersion, the specimens were individually removed, dried to remove surface water and reweighed. The percentage of water absorbed for the 24-hour period was calculated as outlined in the referenced ASTM D 570 Standard as the final weight less the conditioned weight divided by the conditioned weight multiplied by 100.

Results:

<u>Specimen #</u>	<u>Water Absorption (%)</u>
1	12.0
2	12.7
3	11.6
4	16.5
5	<u>13.9</u>
Average	13.3

Observations

No evidence of erosion or change in physical appearance was observed on the specimens after being submerged in water.

End of Report