



U.S. ANALYTICAL LABORATORIES

Chemical and Mechanical Testing Services

600 S. STATE COLLEGE BLVD.

FULLERTON, CALIF. 92831

TEL. (714) 773-9151 • FAX. (714) 773-0521 • E-mail: usallab@aol.com

TEST REPORT

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Report No. : 16403

Date In : 11/24/06

Date Issued : 1/15/07

Listee : Name : Noble Company
 Address : 7001 Scenic Hwy, Baton Rouge, LA 70807
 Attn. :

Manufacturer : Name : Noble Manufacturing Co.
 (If Other Address : 7001 Scenic Hwy, Baton Rouge, LA 70807
 Than Listee Attn. : Mr. Bill Carr, Plant Contact

Description of Product (Sample) : Shower Panel CP Chloraloy 240

Background : (x) The sample was plcked up during an on-site inspection.
 () It appeared to have been tampered with before arriving at the laboratory.
 (x) It was received by U.S.A.L. with all security and evidence seals on the sample intact and unbroken.
 Plant City & State : Baton Rouge, LA 70807
 Collection Date : 9-19-2006
 Inspector's Name : Donato R. Lozano
 File Number : 3046
 The sample was received by U.S.A.L. on 11-24-2006
 (x) The sample was submitted (mailed) to U.S.A.L. by the Client.
 - Sample Condition When Received (e.g. normal, abnormal, departure from standard condition) : Normal.

Scope or Purpose of the Testing : This report describes the results of tests performed on Continuous Compliance Inspection Sample of Shower Panel CP Chloraloy 240.

Continuous Compliance Inspection Sample of Shower Panel CP Chloraloy 240 was evaluated for compliance with the requirements of : ASTM D4068-01

Concluding Summary Statement : Continuous Compliance Inspection Sample of Shower Panel CP Chloraloy 240, submitted by NOBLE COMPANY **COMPLIED WITH** the requirements of tested sections of ASTM D4068-01, entitled "Standard Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane" as evaluated by this laboratory.

We certify that all portions of each test performed were under continuous, direct supervision of U. S. Analytical Laboratories and that this report is a true report of results from our tests of this material.

A. C. Beck, Dipl.-Ing.M.Sc.

Alfred C. Beck, Chemical Engineer
 Lab. Director



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TEST PROCEDURES : The testing procedures used were those outlined in the tested sections of ASTM D4068-01, entitled "Standard Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane".

Tested Sections

5. - Physical Requirements
6. - Mechanical Properties
7. - Performance Requirements
8. - Other Requirements
9. - Dimensions and Permissible Variations
10. - Workmanship, Finish, and Appearance
17. - Product Marking

TEST RESULTS AND EVALUATIONS:

ASTM D4068-01

5. PHYSICAL REQUIREMENTS

5.1 Hardness : Complied.

The sheeting tested had an average Shore-A hardness of 82.

6. MECHANICAL PROPERTIES

6.1 Mechanical Property Requirements : Complied.

The sheeting tested conformed to the mechanical property requirements in Table 1 as follows :

Table 1: Mechanical Properties

Property	Results	Requirements	ASTM Test Method
Thickness	0.041"	Min. 0.040"
Tensile strength, Psi, transverse direction	1200	Min. 1200	D 412
Tensile stress at 100% Elongation (modulus), transverse direction, Psi	680	400-1200	D 412
Elongation at break, transverse direction, %	431	Min. 350	D 412
Tear resistance, transverse direction, lbf/in. of width	232	Min. 175	D1004

The liability of U.S.A.L. with respect to the work and report covered herein shall in no event exceed the amount of the invoice. We recommend consideration that comparative data be generated by other laboratories in matters of litigation. U.S.A.L. will retain tested samples for only 30 days after testing is completed unless other arrangements are agreed upon at time order is entered. This report shall not be reproduced, except in full, without the written approval of U.S. Analytical Laboratories. This report, whether in whole or in part, any logo etc., in advertising or publicity must have U.S.A.L.'s written permission prior to use. This test data is for the exclusive use of the client to whom it is addressed and results apply only to the sample(s) tested and does not apply to similar or identical products.



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7. PERFORMANCE REQUIREMENTS

7.1 Performance Requirements : Complied.

The sheeting tested conformed to the performance requirements in Table 2 as follows :

Table 2 : Performance Requirements

Property	Results	Requirements	ASTM Test Method
Volatile Loss at 158 Deg.F (70 Deg.C) : - Weight change, % loss	- 0.8	Max. +/- 1.5	D1203, Method A
Microorganism Resistance : - Weight change, %	- 2.7	Max. +/- 5	D4068, Annex A1
Chemical Resistance : - Sodium Hydroxide, Weight change, % (After Immersion for 72 h at 120 Deg.F)	- 3.1	Max. +/- 5	D543
- Soapy Water, 1 % Solution, Weight change, % (After Immersion for 24 h at 120 Deg.F)	- 0.5	Max. +/- 3	D543
- Distilled Water, Weight change, % (After Immersion for 24 h at 120 Deg.F)	- 0.5	Max. +/- 2	D543

8. OTHER REQUIREMENTS

8.1 Bond Capability : Complied.

The sheeting tested was capable of being bonded to itself in a manner suitable for making seams and repairs in the field.

8.2 Bonded Seam Requirements : Complied.

Bonds between sheets of material used in fabrication of a water-containment membrane conformed to the performance requirements in Table 3 and did not reduce the overall resistance of the membrane to permeation or leakage as follows :

Table 3 : Bonded Seam Requirements

Property	Results	Requirements	ASTM Test Method
Bonded seam shear strength, transverse direction, % of tensile	81	Min. 75	D412, Method A
Bonded seam peel strength (T-peel), transverse direction, lbf/in. (kN/m) of seam width	10	Min. 10	D1876, Method E

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9. DIMENSIONS AND PERMISSIBLE VARIATIONS**9.2 Grade : Graded As Grade 1**

The sheeting tested measured 1.04 mm in thickness, and was graded as Grade 1.

10. WORKMANSHIP, FINISH, AND APPEARANCE**10.1 Manufacturing Defects : Complied.**

The sheeting tested was free of pin holes, particles of foreign matter, undispersed raw materials, or other manufacturing defects that might affect serviceability.

10.2 Free of Blisters, Craters, Pimples, Pits, Crazing, and Thin Spots : Complied.

The sheeting tested was free of blisters, craters, pimples, pits, crazing and thin spots. Sheet edges were straight, parallel, and free of trim material.

10.3 Printing and Markings : Complied.

Printing and markings on the sheet were legible and not easily removed from the sheet during normal handling, transportation, and installation.

17. PRODUCT MARKING : COMPLIED.

The test material of Shower Panel CP Chloraloy 240 was continuously marked, and included all the markings of manufacturer's name, material designation "CPE", sheeting thickness, and standard designation of "ASTM D4068" spaced out at intervals of not more than 2 ft (0.61 m).