



Drainage Testing of Water-Resistive Barriers

CTLGroup Project N° 400133



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**Drainage Testing of Water-Resistive Barriers
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Dear Mr. Ehrman:

As authorized, CTLGroup has completed testing of (10) ten single ply Water-Resistive Barrier (WRB) systems. The test samples and testing procedures were provided by you. The WRBs were evaluated using a water reservoir which is affixed to the surface. The specimens were monitored for the time to first water to reach the bottom of the test setup, time to empty the entire reservoir, and percentage of the water recovered. A description of the testing chamber and results is below.

TEST CHAMBER AND TESTING DESCRIPTION

A drainage test chamber and mock wall section was constructed. The mock wall section was 18 x 52 inches. The chamber was elevated approximately 16 inches above grade to allow for a scale and a catch trough to be placed beneath the chamber. Typical construction grade lumber was used to build the test setup.

The drainage testing chamber was constructed of ¼ inch Lexan panels. The chamber was 18 x 36 inch with a 4 x 4 x 14 inch trough. For each test, the test chamber was clamped to the mock wall section with the experimental materials sandwiched between with twelve (12) clamps.

Each WRB was tested in triplicate (except for Raindrop 3D where only enough product was provided to run the test in duplicate). During the testing, we measured:

- Time to first water (water to get from top of chamber to bottom) in seconds,
- Time to empty the top containers (24 oz.) in seconds or minutes, and
- Percent of water recovered.

RESULTS

The individual test results for each product are attached to this letter. A summary of the test results are shown in Table 1 and a comparison of the mass of water recorded versus duration of testing is shown in Figure 1.

Compressive forces applied by the twelve clamps had the least impact on the efficacy of the Benjamin Obdyke-HydroGap, Tamlyn Wrap, and TYPAR Weather Protection System. These products had significantly faster times for first water to reach the end of the test panel and time to empty the water from the top trough compared to all other products.

The Tyvek-Homewrap and Kimberly-Clark Block-It ability to efficiently function as a WRB were significantly impacted by clamping pressures. Both of these products had little to no drainage occurring during the 10 minute test.

We sincerely appreciate the opportunity to be of service, and look forward to working with you, again. If you have any questions or require additional information, please call or email.

Sincerely,



Anthony F. Bentivegna, PhD, PE (FL, GA, IL, TX)
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Attachments:
Drainage Test Reports (10 Pages)

TABLE 1: WRB DRAINAGE TEST SUMMARY OF RESULTS

	Time To First Water (sec.)	Time To Empty (sec.)	Mass of Water Recovered at 1 min. (%)
Tyvek - Drainwrap	6.96	162.22	49.70%
Tyvek - Homewrap	39.85	N/A	0.54%
Raindrop 3D	4.25	90.97	82.98%
Valeron	8.36	188.47	37.01%
Rexwrap Alpha Drainage	4.59	138.75	61.32%
Benjamin Obdyke - HydroGap	2.41	58.14	93.32%
Fortifiber - WeatherSmart Drainable	9.34	410.86	7.78%
TamlynWrap	2.24	53.20	91.81%
TYPAR Housewrap DW	3.02	85.44	93.70%
Kimberly-Clark Block-It	11.97	N/A	4.78%

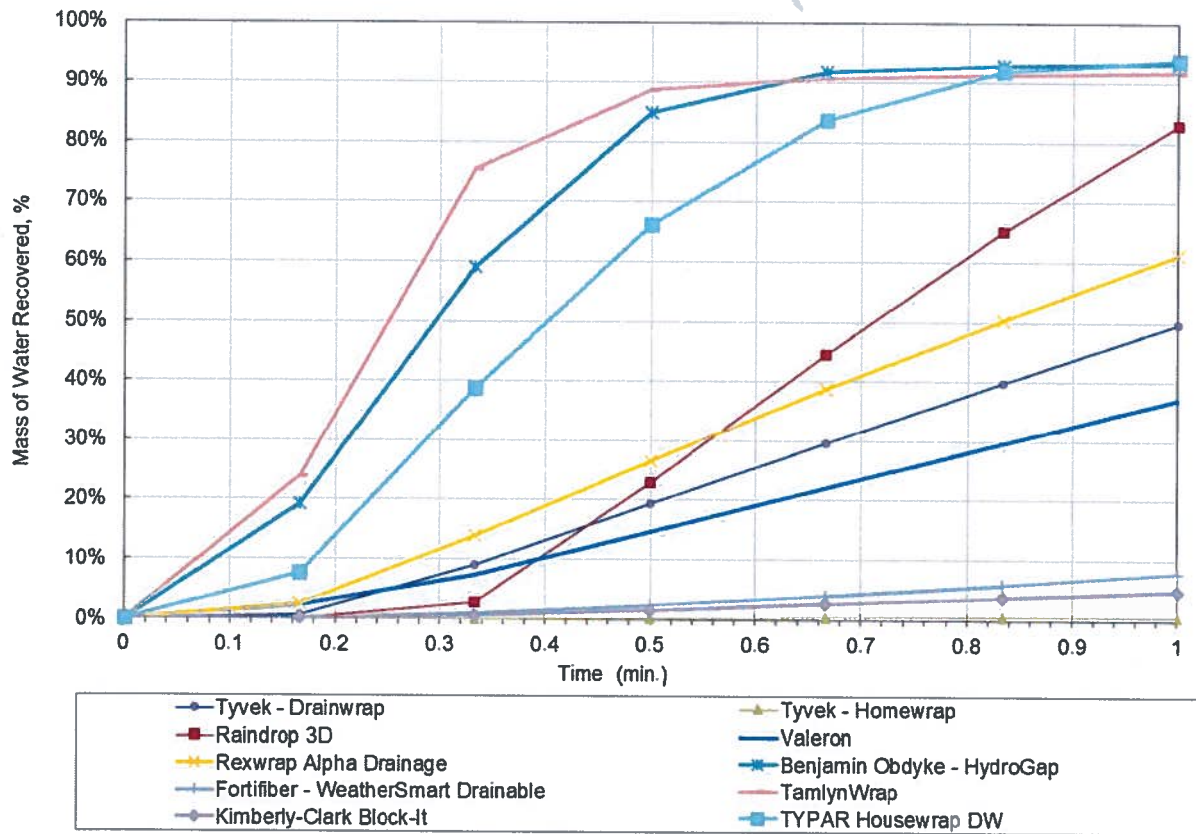


FIGURE 1: MASS OF WATER RECOVERED SUMMARY GRAPH

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