

July 6, 2005

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Polymer Reinforcement Products Ltd.
580 Hardwick Street
Burnaby, B.C.,
Canada, V5G 1R4

Attention: Mr. Ralph Ulm

Dear Ralph:

RE: Chemical Resistance Testing of Polecrete Polyurethane Foam

Introduction

Polecrete Stabilizer is a polyurethane foam backfill product manufactured by BMK Corporation, intended for use in setting wood distribution and transmission poles. Powertech Labs Inc. was requested to perform testing to identify the chemical resistance of the polyurethane foam with respect to buried service in contact with wood pole preservatives.

This report describes Powertech's evaluation and testing, and presents the results in brief. A complete report providing all test results in detail will be issued in a subsequent report.

Test Program

Samples of the polyurethane foam were prepared in the laboratory by Powertech from kits supplied by BMK Corporation. The foam samples were allowed to cure for 15 days at 25°C and 50% relative humidity before testing was commenced.

The characteristics of the foam samples were evaluated before and after being subjected to different exposure conditions according to the following Standards:

- ASTM D3574 "Standard Test Methods for Flexible Cellular Materials – Slab, Bonded, and Molded Urethane Foams"
 - Test A: Density
 - Test C: Compressive Force Deflection
- ASTM E1131 "Standard Test Method for Compositional Analysis by Thermogravimetry"
- ASTM E1252 "Standard Practice for General Techniques for Qualitative Infrared Analysis"

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Foam samples were separately exposed to one of the following exposure conditions.

- ASTM D3574 Test L: Wet Heat Aging (50°C and 100% Relative Humidity for 22 hours).
- Immersion in Creosote preservative solution at 25°C for 200 hours.

The wet heat aging simulates a worst expected environment scenario to the foam for moisture resistance properties. Immersion in creosote also presents a worst case exposure for the urethane foam in contact with wood treated with preservatives.

Interpretation of Results

The test results for the foam in the new, cured condition were compared against the results for the foam after the environmental exposures.

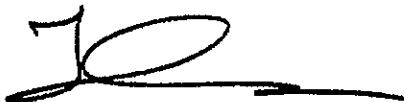
Emphasis in the evaluation was placed on identifying mechanical or chemical changes in the urethane properties. For example, the appearance of additional peaks in the FTIR spectra after the creosote were discounted, whereas the disappearance or alteration of peaks that existed in the unexposed spectra were considered. A similar process was used for interpretation of the Thermogravimetric results.

Similarly, to normalize the density evaluation, once the sample had completed the exposure process, it was allowed to normalize for a one week period at 25°C and 50% relative humidity before the density was remeasured. As such this process focused on irreversible chemical changes rather than short-term reversible effects.

Summary of Results

There are no indications in the testing results achieved to date that the Polcrete urethane foam product undergoes any mechanical or chemical property changes as a result of exposure to moisture or wood preservative products.

Regards,



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Reviewed by:



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