



June 5, 2012

Via Email: [hemant@polycoatusa.com](mailto:hemant@polycoatusa.com)

Mr. Hemant Prajapati  
Polycoat Products  
14722 Springs Avenue  
Santa Fe Springs, CA 90670-5108

**SUBJECT: Results of Root Resistance Testing; KTA-Tator, Inc. Project No. 320176**

Dear Mr. Prajapati:

In accordance with KTA-Tator, Inc. (KTA) Proposal Number PN120173R1 and subsequent signed Authorization to Proceed dated March 16, 2012, KTA has tested one (1) coating material, Aquaseal 5000, for root resistance. This report describes the testing procedure employed and contains the results.

### **SUMMARY**

One coating material, Aquaseal 5000, was tested for root resistance according to DIN 4062. The samples exhibited no roots growing into or through any of the coating membrane.

### **SAMPLES**

Two (2) sheets of free-film black coating material, designated as Aquaseal 5000, measuring 25 x 35 cm and approximately 2 mm thick, and one (1) sheet of free-film black coating material measuring 25 x 35 cm and approximately 1 mm thick were received from Polycoat Products on March 21, 2012. It should be noted that at no time did KTA personnel witness the preparation of the samples.

### **LABORATORY INVESTIGATION**

The laboratory investigation consisted of testing for root resistance testing according to DIN 4062, "Cold-processable plastic jointing materials for sewer drains, Jointing materials for prefabricated concrete parts; Requirements, testing, and processing," Section 5.7, "Root Resistance." A description of the test method and the result are contained below.

Three (3) non-glazed clay pots approximately 200 mm height were measured for diameter at half the height of the pots. No pre-coating substance was required by the manufacturer. Two (2) circles of sample material were cut from the 2 mm thick sheets and one

from the 1 mm sheet to match the pot diameters. Each pot was filled halfway with low –lime soil (Miracle-Gro African Violet Potting Soil, per recommendation from The Scotts Miracle-Gro Company) mixed with a little peat. The pH of the unmixed soil was measured according to ASTM G 51, “Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing,” and was determined to be 5.08. The pots were then fitted with the cut samples and were sealed on the underside and the top side around the perimeter of the membrane with acrylic sealant. The sealant was allowed to cure, and the pots were then filled with a layer of mixed soil approximately 90 mm deep. Approximately 35 Gallery White Lupine (*lupinus albus*) seeds purchased from Swallowtail Gardens in Santa Rosa, California (packed for 2012, no lot number) were sown into each pot and were covered with a layer of mixed soil approximately 10 mm deep. A glass tube and funnel were inserted into each for watering. The plants were reared outside in open-air sunlight in Pittsburgh, Pennsylvania from April 13 until May 29, 2012. Approximately five (5) evenings over the course of the six weeks, the plants were brought indoors due to the outdoor temperature approaching freezing. The pots and funnels were watered approximately three (3) times per week, and the pots were placed into a tray overnight containing 3 cm deep rainwater approximately once per week.

After six (6) weeks, the pots were cut just below the bottom of each coating membrane and the undersides were examined for root penetration. Neither the thick membrane samples nor the thin membrane displayed evidence of root penetration. A knife was used to cut through the sealant material around the perimeter of the membrane. The membrane was removed while top side of each was examined for evidence of roots growing into the material. No evidence of roots growing into the samples was observed on either of the thick membranes or the thin membrane. Digital photographs were obtained throughout the course of the testing and were transmitted via email on May 31, 2012.

If you have any questions or comments regarding this report, please contact me by telephone at 412.788.1300, extension 181, or by e-mail at [cmcgee@kta.com](mailto:cmcgee@kta.com).

Very truly yours,

**KTA TATOR, INC.**



Carly McGee

*Physical Laboratory Supervisor*

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