FIBERGLASS TREE STAKE ACCELERATED UV TESTING COMPARISON

24-26 MONTH EQUIV. @ 2000 HOURS

TRUST THE SMART STAKE™ by GEOTEK

1

- All fiberglass tree stakes claim to have full UV protection, but UV resin inhibitors or polyester veils do not stop resin UV degradation.

2

- Resin coating breakdown can occur quickly after only one year in the field, dramatically reducing the "useful life" of the stake.

3

- The **Smart Stake™ by Geotek** is the only tree stake which has 100% UV protection provided through the exclusive patented SunGUARD® II UV coating process, as well as resin-based UV inhibitors, and comes with a full 20 year warranty.

No generic "useful life" claims here, the Smart Stake is the Only Tree Stake With Our Patented SunGUARD® II UV Protection Coating with a 20 Year Warranty against glass slivers coming to the surface of the stake.

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Fiberglass Tree Stakes UV Degradation Study Test Results

Purpose: To compare the level of UV degradation protection and useful life of six known fiberglass tree stakes currently marketed in the U.S. to that of the Smart Stake™ by Geotek.

Method: Seven tree stakes were tested for resistance to ultraviolet light degradation according to ASTM G154 "Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials" at the Composite Material Technology Center, Winona State University; Winona Minnesota. The test is a highly accelerated test, involving exposure of stakes to intense UV exposure and moisture condensation for a designated number of continuous hours (2000), using a bank of high UV emitting lamps alternating with a water spray cycle to further accelerate the exposure (UV lamps are on for 4 hours at 60°C followed by a condensation for 4 hours at 50°C and the cycle is repeated: UV-A light, 340 nm peak emission). The test instrument is the QUV Accelerated Weathering Tester manufactured by Q-Panel Lab Products of Cleveland Ohio, the most common test system used for accelerated weathering testing. The procedure is intended to reproduce the weathering effects that occur when stakes are exposed to sunlight and water over various time periods (test equiv. of about two years), depending on exact geographic location, and works very well as a comparative test of relative resistance to UV degradation.

Results: With the exception of Lot #1, all competitive rods were white in color similar to the Smart Stake™ while Lot #1 was a medium grey color when the tests began. After 2000 hours in the QUV tester, all competitive samples are showing significant discoloration, and most were demonstrating early signs of "slivering" where glass fibers are beginning to be exposed at the surface of the stake. The Smart Stake™ sample showed no sign of discoloration or glass fiber slivering.

GEOTEK Inc.

A Whole New World of Composites

Smart Stake™ by GEOTEK, Inc.
Toll Free: 800-533-1680
Web: www.geotekinc.com

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