

UV-Resistance Comparison Testing of Spunbond and Meltblown

Introduction

The purpose of this test was to compare several UV-rated materials' ability to resist degradation caused by exposure to UV radiation. The experiment was designed to simulate several months' worth of outdoor exposure time in several hours. Based on a mathematical comparison with a nontreated control material, New Pig Corporation conservatively estimated 18 hours of exposure in our test apparatus to represent one full year of intense UV exposure.

Method

The experiment was performed using a simulated UV-exposure test apparatus featuring a 400W UVA metal halide-type lamp. The lamp emits up to 500 mW/cm² of UVA light (315-400nm). Test samples were positioned inside the apparatus at a focus depth of 15" from the UV lamp. Failure was indicated by brittle texture, flaking, discoloration, appearance of material thinning or any deformation of the samples.

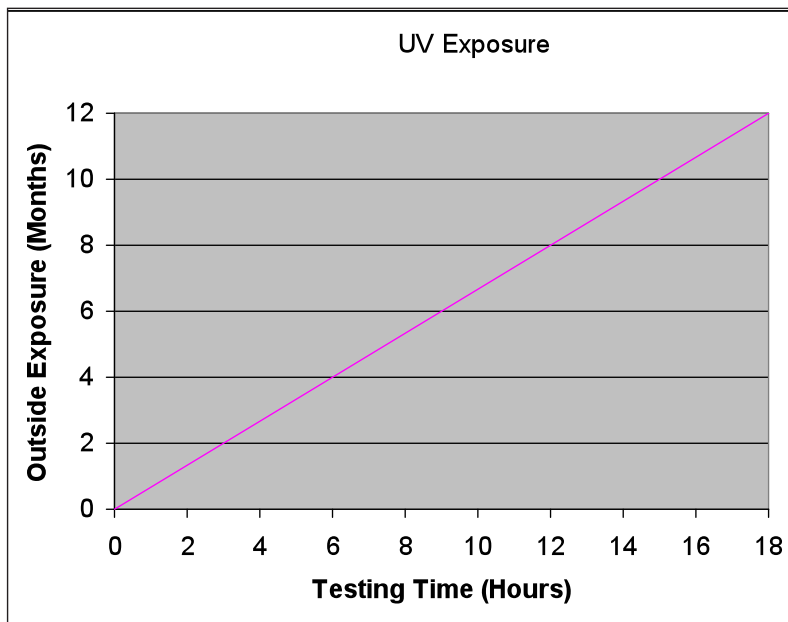
Result

The results show that New Pig's UV-treated absorbent mats, at minimum, meet the claim that they will last 12 months in direct sunlight. Most of the competitive mats tested would last only two months in direct sunlight, with some lasting a maximum of four months.

Conclusion

In order for meltblown and spunbond polypropylene materials to withstand extended exposure to UV radiation, they must be treated. The treatment applied to New Pig's materials provides enough UV resistance to allow them to be exposed to direct sunlight for over a year.

Testing Time Equivalency to Actual Exposure



UV Comparison Test Results

Sample	Description	Duration (Hours)	Equivalent (Months)
1	Company A	3	2
2	Company A	3	2
3	Company B	3	2
4	Company B	3	2
5	Company B	3	2
6	Company B	3	2
7	Company B	3	2
8	Company B	5	3.3
9	Company B	3	2
10	Company C	3	2
11	Company C	6	4
12	New Pig (UV Mat)*	18	12
13	New Pig (UV Boom Scrim Only)	18	12

*This represent New Pig Corporation's new Oil Only UV resistant mat



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