Australian Standard®

Geotextiles—Methods of test

Method 11: Determination of durability—Resistance to degradation by light and heat

FOREWORD

This test method is based on AS 2001.4.21, a test for the colourfastness of textiles, which provides suitable apparatus to simulate exposure to intense ultraviolet light and heat. The method is an index test only; results may vary with different types and thickness of fabric, and should not be taken as a predictor of actual in-field result.

METHOD

1 SCOPE. The Standard sets out a method for determining the durability of geotextiles when subjected to degradation by artificial light and heat.

NOTES:

1. As the artificial light source produces heat, it is expedient to combine the tests for these two agencies of degradation.
2. Two testing periods are given, referred to as the standard period and the extended period, so that the effects of additional exposure can be assessed if required.
3. Materials with poor stability to light will usually show considerable loss of strength after the standard period of exposure.

2 APPLICATION. The method is applicable to all geotextiles.

NOTES:

1. The test does not give an absolute measure of the potential degradation of any particular geotextile. The correlation between this test and actual exposure is variable with different materials and conditions.
2. Further information on the correlation of testing and actual exposure may be found in 'Correlation of Laboratory to Natural Weathering' by George W. Glossman, *Journal of Coarings Technology*, Oct.1977 (Vol.49), No 633, pp 44-45.

3 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS	
2001	Methods of test for textiles
2001.4.21	Part 4.21: Determination of colourfastness to light using an artificial light source (mercury vapour-tungsten filament-internally phosphor-coated lamp)
2193	Method for calibration and grading of force-measuring systems of testing machines
3704	Geotextiles—Glossary of terms
3706	Geotextiles—Methods of test
3706.1	Method 1: General requirements, sampling, conditioning, basic physical properties, and statistical analysis

4 PRINCIPLE. Specimens are exposed under specified conditions to the light from an artificial light source that is rich in ultraviolet light. The durability is assessed by comparing the ultimate force and the elongation at ultimate force of exposed specimens with that of unexposed specimens.

5 DEFINITIONS. For the purpose of this Standard, the definitions given in AS 3704 apply.