Australian Standard™

AS 3706.5

Geotextiles—Methods of test

Method 5: Determination of puncture resistance—Drop cone method

FOREWORD

The determination of the puncture resistance with the drop cone makes use of the modified CBR mould. Evaluating the resistance to tear initiation, this test is particularly relevant in situations where coarse aggregates or riprap is dropped or pushed against the fabric. It is a simple test and requires a minimum of equipment.

METHOD

1 SCOPE

This Standard sets out the method for determining the puncture resistance of geotextiles by the drop cone method for both atmospheric and wet-conditioned specimens.

2 APPLICATION

This method is applicable to both woven and non-woven geotextiles, and may also be used for geomembranes and composites. It is a useful index test for quality acceptance under field conditions.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1289	Methods of testing soils for engineering purposes
1289.6.1.1	Method 6.1.1: Soil strength and consolidation tests—Determination of the California bearing ratio of a soil—Standard laboratory method for a remoulded specimen
3704	Geotextiles—Glossary of terms
3706	Geotextiles—Method of test
3706.1	Method 1: General requirements, sampling, conditioning, basic physical properties, and statistical analysis

4 PRINCIPLE

A circular specimen is gripped around its entire circumference by clamps. A cone of specified mass is dropped onto the surface of the specimen. The diameter of the punctured hole, in combination with the drop height, gives a measure of the puncture resistance.

The puncture resistance can be expressed as either—