Australian Standard™

AS 3706.7

Geotextiles—Methods of Test

Method 7: Determination of pore-size distribution—Dry-sieving method

FOREWORD

Due to the importance of pore-size distribution in the design of geotextiles for use as filters and separators, this test method is available for measuring the size of openings in geotextiles. The method is an index test only. For critical projects, the designer may also consider geotextile soil interaction tests.

In this method, calibrated quartz sand is used to obtain an apparent opening size distribution curve similar to a grain size distribution curve for soils. For large pore sizes, the sand grains may be replaced by glass beads; however, for the measurement of fine pores, the sieving of glass beads could be affected by electrostatic forces and it is not recommended. Difficulties are encountered in the dry sieving of sand through thick non-wovens due to the particles being trapped in the material, but no practical alternative dry methods of determining pore sizes for these types of fabrics are available at the present time.

METHOD

1 SCOPE

This Standard sets out the method for determining the pore-size distribution and apparent opening size (AOS) of a geotextile using the dry sieving method, and, in consequence, the equivalent opening size (EOS).*

2 APPLICATION

This method is applicable to woven or thin non-woven geotextiles, having an EOS not less than 50 μm.

NOTES:

1 Thicker fabrics or those with finer openings may need to be tested by other pore-size distribution tests.

2 For fabrics with larger pore sizes, optical methods may be preferable (e.g., over 2 mm, or over 0.6 mm if suitable sand is hard to obtain).

* This method is based on RILEM SM-G-8.1, Dry porometry (woven geotextiles).