

Methods of test for Geotextiles —

Part 3: Determination of water flow normal to the plane of the geotextile under a constant head

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Committees responsible for this British Standard

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- Association of Consulting Engineers
- British Polyolefin Textiles Association
- British Railways Board
- Chemical Industries Association
- Department of Transport
- Department of Transport (Transport and Road Research Laboratory)
- ERA Technology Ltd.
- Federation of Civil Engineering Contractors
- Institution of Civil Engineers
- Man-made Fibres Producers' Committee
- Ministry of Agriculture, Fisheries and Food
- Ministry of Defence
- Textile Research Council

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Foreword

This Part of BS 6906 has been prepared under the direction of the Textiles and Clothing Standards Policy Committee.

The water flow through a geotextile is dependent upon its thickness, number and size of pores and the water flow path. The method described in this standard is a procedure for determining water flow normal to the plane of the geotextile.

Determination of water flow through the plane of the geotextile will be covered in a subsequent Part of BS 6906.

The test described in this standard is basically an index test which gives values which are primarily of use when comparing one geotextile with another.

Inevitably where a geotextile is to be used in structures where the system permeability is of importance then some derivation of effective hydraulic conductivity will be made from the flow rate through the geotextile. It is of paramount importance that designers are aware that the flow rate quoted is likely to be significantly greater than the system permeability incorporating the geotextile, for which reasons factor of safety of the order of 10 have been suggested when interpreting flow rates/permeability of geotextiles.

It is further evident that the hydraulic conditions in which a geotextile is placed have a profound effect upon the permeability of that material. The necessary ideal laboratory test conditions are unlikely to be repeated in the field. Care should therefore be taken when attempting to apply the results of this test to the field performance of a geotextile, particularly as the test is performed on geotextiles in isolation.

Some geotextiles wet up readily when exposed to water whereas others wet up only slowly and can support an appreciable head of water before “breakthrough” occurs. The procedure described in this method has been written with these characteristics in mind.

Other Parts of BS 6906 are as follows.

- *Part 1: Determination of the tensile properties using a wide width strip;*
- *Part 2: Determination of the apparent pore size distribution by dry sieving;*
- *Part 4: Determination of puncture resistance (CBR puncture test).*

At the time of publication of this Part of BS 6906 no corresponding international standards exist.

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Summary of pages

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This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.