

Methods of test for

Flexible cellular materials —

**Part 6: Method 14. Preparation of water
extract — Method 15. Determination of
tear strength — Method 16.
Determination of air flow value**

Committees responsible for this British Standard

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- British Plastics Federation
- British Railways Board
- British Rigid Urethane Foam Manufacturers' Association
- British Rubber Manufacturers' Association
- Department of the Environment (Building Research Establishment)
- Furniture Industry Research Association
- Furniture, Timber and Allied Trades Union
- Ministry of Defence
- National Bed Federation Limited
- Phenolic Foam Manufacturers' Association
- RAPRA Technology Ltd.
- Society of British Aerospace Companies Limited
- Society of Motor Manufacturers and Traders Limited

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Foreword

This Part of BS 4443 has been prepared under the direction of the Plastics and Rubber Standards Policy Committee.

It is a revision of BS 4443-6:1980 which is withdrawn.

It comprises methods for the preparation of water extract, and the determination of tear strength and air flow value of flexible cellular materials of polymeric origin.

Attention is drawn to BS 4443-1, BS 4443-2, BS 4443-3, BS 4443-4, BS 4443-5 and BS 4443-7. Part 1 comprises methods for the measurement of dimensions, apparent density, tensile strength and elongation at break, compression stress-strain characteristics and compression set. Part 2 comprises a method for the determination of indentation hardness. Part 3 comprises methods for the determination of creep and dynamic cushioning performance. Part 4 comprises methods for the determination of solvent swelling, humidity ageing and heat ageing. Part 5 comprises a constant load pounding test, whilst Part 7 describes a tear test for materials with an integral skin.

Two methods for the preparation of water extract are described:

- a) extraction with boiling water, derived from BS 903-F9 (now withdrawn);
- b) extraction with hot water, derived from method 406 (now withdrawn) of BS 2782:1970.

Tests on the water extracts are of importance for materials that are liable to be in contact with explosives, or to be used in the packaging industry where corrosivity may be of importance. Tests on water extract may also be necessary where the material is liable to be in contact with foodstuffs and other cases where there is a risk of toxic hazards.

Air flow values may be used to determine the effect on the cellular structure of formulation and production variables.

In this edition the conditioning clause has been updated in line with the recently revised Parts 1, 2, 3, 4, 5 and 7.

Method 15 for the determination of tear strength is related to ISO 8067:1989 and method 16 for the determination of air flow value is related to ISO 7231:1984.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

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.

Section 1. General

1.1 Scope

This Part of BS 4443 describes three methods of test that apply to flexible cellular products of polymeric origin: preparation of water extract, determination of tear strength and determination of air flow value. The method for determining tear strength is not applicable to products with an integral skin.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

1.2 Definition

air flow value

the volume of air, in litres per second, under standard conditions, required to maintain a constant pressure differential of 125 Pa across a flexible foam test specimen of standardized dimensions when tested in accordance with method 16