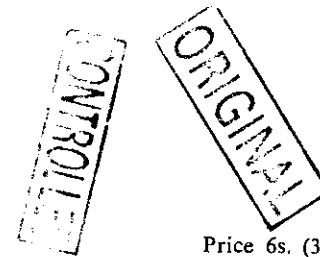


SPECIFICATION FOR
~~PERFORMANCE REQUIREMENTS~~
Methods of test
FOR HARDNESS OF, AND
FOR AIR FLOW
THROUGH, INFANTS' PILLOWS

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THIS BRITISH STANDARD, having been approved by the Bedding Industry Standards Committee, was published under the authority of the Executive Board on 30 March, 1970.

SBN : 580 05678 3

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

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British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee reference BDM/8 BDM/8/2 Draft for comment 68/22298

CO-OPERATING ORGANIZATIONS

The Bedding Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and industrial organizations:

- *Department of Health and Social Security
- *Furnishing Spring Makers' Federation
- Institute of Iron and Steel Wire Manufacturers
- Ministry of Defence, Army Department
- Ministry of Public Building and Works
- *National Association of Retail Furnishers
- *National Bedding Federation
- *National Union of Furniture Trade Operatives
- *Ticking Group
- *Women's Advisory Committee of the BSI
- Representatives of filling materials manufacturers

The Government department and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committees entrusted with the preparation of this British Standard.

- British Furniture Manufacturers' Federated Associations
- British Man-made Fibres Federation
- British Nursery Goods Association
- British Plastics Federation
- British Rubber Manufacturers' Association
- National Association of Pram Retailers
- National Curled Woollen Flock Manufacturers Association
- National Feather Purifiers Association
- National Fillings Trades Association

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BRITISH STANDARD SPECIFICATION FOR
~~PERFORMANCE REQUIREMENTS FOR~~
 METHODS OF TEST
 HARDNESS OF, AND FOR
 AIR FLOW THROUGH, INFANTS' PILLOWS

FOREWORD

The BSI Committee for Nursery Bedding has been concerned for many years about the problem of a safe pillow for infants, particularly because there are occasional reports that accidental suffocation of a young child in bed has occurred, sometimes linked with a suggestion that the unexplained death of an infant may have been caused by the use of an unsatisfactory pillow. Also, with the introduction of various new types of filling materials since a British Standard for domestic pillows was first issued in 1952, a number of types of pillow have become available on the market which claim to be safe for children of all ages. The committee has therefore tried to consult anyone who may be able to contribute to the solution of the problem of a British Standard for a safe pillow, and the inquiries have included consultation with physiologists about the breathing of young children (quantity and rate of flow of air, psychological and other effects if air flow becomes restricted, etc.). The aim has been to produce if possible a British Standard specification for a pillow which could confidently be used in cots, perambulators, etc.

'The result is this British Standard giving methods of test for two important characteristics, which should be read in conjunction with BS 1877, 'Domestic bedding, excluding cellular rubber bedding', Part 8, 'Pillows and bolsters'.

Any pillow which is to be used as a pram-support pillow, or in a cot, should have on its label the warning, as recommended by the Department of Health and Social Security, that a child under one year old should not lie on a pillow. If the pillow is one which complies with the performance requirements of BS 1877: Part 8, which invokes the methods of test of this British Standard, it should also carry a warning that any additional pillow cover which is used should be of open construction in order not to interfere with the one property of the pillow to which designers have given special attention.

There are several aspects of a pillow which may cause a certain amount of risk to the child using it, particularly the fact that if the surface becomes wet because of the child upsetting something or being sick, and the porosity of the pillow and cover does not allow the fluid to drain away quickly, any advantage which the pillow has when it is dry will be forfeited. There is also the possibility of the development of infection, for which reason it is reasonable to expect that a small child's pillow should be easily washed and dried and that such cleansing does not impair the performance of the pillow. This British Standard therefore includes, as an integral part of the methods of test for airflow and for hardness, a washing procedure whereby the pillow is twice washed, rinsed and dried.'

~~should be of open construction, in order not to interfere with the one property of the pillow to which the designers have given special attention.~~

There are several aspects of a pillow which may cause a certain amount of risk to the child using it, particularly the fact that if the surface becomes wet because of the child upsetting something or being sick, and the porosity of the pillow and cover does not allow the fluid to drain away quickly, any advantage which the pillow has when it is dry will be forfeited. There is also the possibility of the development of infection, for which reason it is reasonable to expect that a small child's pillow should be easily washed and dried. This British Standard therefore requires that a pillow capable of passing the test for air flow when dry shall also pass it when the pillow has been twice washed and dried.

The test for the hardness of the pillow is regarded as an integral part of this standard, because the indentation caused by the application of a load which is roughly half the weight of a child's head should not be excessive.

A separate publication specifying detailed requirements for children's pillows to supersede the requirements specified in BS 1877 : Part 8, is in ~~course of preparation.~~

NOTE. Attention is drawn to certification facilities offered by BSI; see the back cover of this standard.

SPECIFICATION

1. SCOPE

'This British Standard specifies methods of test for hardness, and for permeability to air, and includes a washing procedure, for infants' pillows.'

~~procedure, for infants' pillows, and includes a washing procedure, for infants' pillows, before and after washing.~~

~~2. PERFORMANCE REQUIREMENTS~~

~~When tested as specified in Clause 3, the following requirements shall be complied with: Both before and after washing, the indentation shall not exceed 25% in the hardness test (see Clause 4) and pressure differential shall not exceed 20 mm H₂O* in the air permeability test (see Clause 5).~~

2. TEST PROCEDURE

Each pillow to be tested shall first be subjected to the hardness test, and then to the air permeability test. The pillow shall then be twice washed and dried in accordance with Clause 5, and again subjected to the hardness and air permeability tests.

* 20mm H₂O equals 200 N/m² approximately.

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3 HARDNESS TEST

The overall thickness, and the indentation of the pillow caused by a force of 10 N† applied through an indenter of 100 mm diameter applied to the centre of the pillow for 1 min shall be measured with the loaded indenter in place, and recorded.

4 AIR PERMEABILITY TEST

4.1 Apparatus. The apparatus used consists of a plane rigid unperforated support for the pillow, over which is mounted a metal tube 150 mm in length, with an internal diameter of 36 mm. On the bottom of the tube is a metal flange with an outside diameter of 100 mm.

Means are provided to allow either the pillow support or the tube to move in a vertical direction, and to submit the pillow under test to a thrust of 10 N†.

The top of the tube is connected to the inlet of a flowmeter, the outlet of which is connected to the suction side of a blower. Provision is made to control the voltage input to the blower motor, and thereby to control the air flow rate. A diaphragm-type valve is fitted to the inlet end of the flowmeter and is used, when necessary, to give fine adjustment of the airflow.

From the side of the tube a connection is taken to an inclined manometer.

The pressure differential indicated by the manometer shall be noted when the flow rate has been adjusted to 200 ml/s.

The layout of the apparatus is shown in Fig. 1.

4.2 Procedure. The test is applied to any part, or parts, of the pillow, at the discretion of the testing authority.

The flow rate is adjusted to 200 ml/s, and the pressure differential indicated by the manometer is measured and recorded.

5. WASHING PROCEDURE

The pillow shall be washed at a temperature of 60 °C and then rinsed and dried, in accordance with the instructions of the pillow manufacturer.

† A force of 10 newtons (10 N) is approximately equivalent to the application of 1 Kilogram weight.

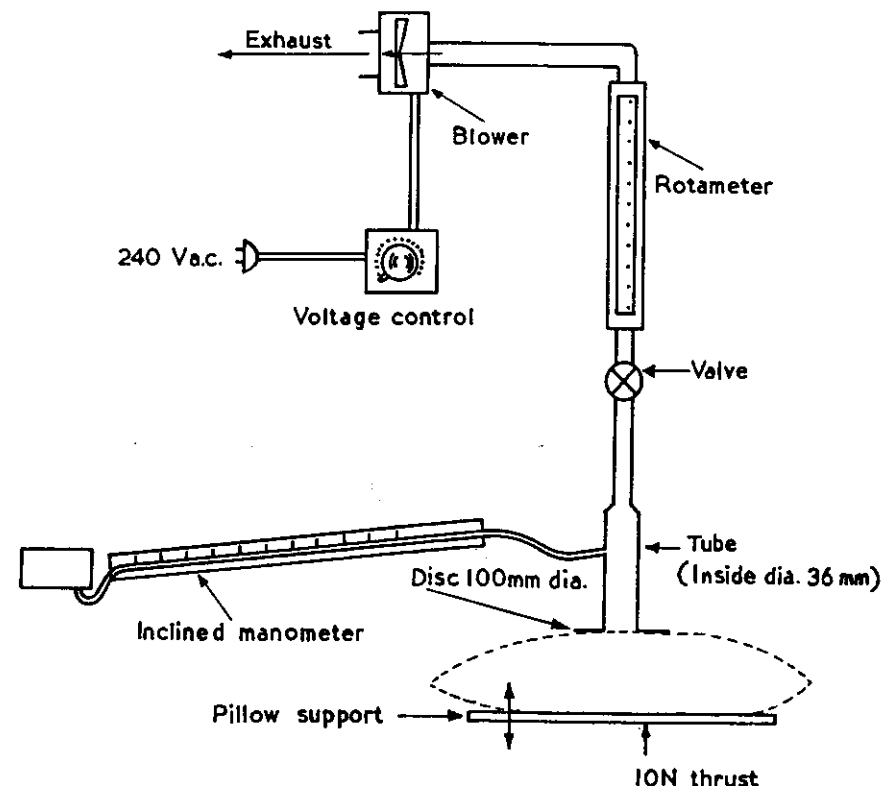


Fig. 1. Layout for air permeability test on pillows

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