

Respiratory therapy equipment —

Part 1: Specification for tubing and connectors

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Committees responsible for this British Standard

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- Association of Anaesthetists of Great Britain and Ireland
- Association of British Health Care Industries
- Association of Veterinary Anaesthetists of Great Britain and Ireland
- British Anaesthetic and Respiratory Equipment Manufacturers' Association
- Department of Health
- Medical Sterile Products Association

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Foreword

This Part of BS 7711 has been prepared under the direction of the Health Care Standards Policy Committee.

This Part of BS 7711 is intended to ensure interchangeability of respiratory therapy equipment in domiciliary, ambulance and hospital practice, and thereby ensure that patients can receive treatment without discontinuity in all these environments.

A survey carried out by the Department of Health and Social Security during 1986 revealed that there were then 57 differing types of connector and tubing in use on this type of equipment. This standard reduces the range to two types of tubing used with a single design of connector nipple, and one type of weight-bearing connector.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, 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.

1 Scope

This Part of BS 7711 specifies a design of nipple to be used on equipment for the therapeutic administration of respirable gases in domiciliary, ambulance and hospital practice, for example, as the outlets of flowmeters and the inlets to masks or nebulizers.

A weight-bearing screw-threaded union design is also specified for use at the outlet of flowmeters to which devices such as humidifiers or nebulizers may be attached. It is intended that an adaptor will be provided so that tubing can be attached directly to the flowmeter when required.

Two types of tubing, light and heavy duty, are specified (see 5.2 and 5.3).

The tubing and connections specified in this standard may be used with oxygen, air, or mixtures of these gases, including the output from oxygen concentrators.

NOTE This standard is not applicable to anaesthetic apparatus.

2 References

2.1 Normative references

This Part of BS 7711 incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this Part of BS 7711 only when incorporated in it by updating or revision.

2.2 Informative references

This Part of BS 7711 refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Nipples

3.1 Dimensions

The dimensions of nipples for the attachment of tubing to respiratory therapy equipment shall conform to the dimensions given in Figure 1.

3.2 Performance

When tested as described in A.2 nipples shall neither fracture nor distort by more than 2 mm.

4 Weight-bearing screw-threaded union fittings

NOTE This union design is intended for use at the outlet of flowmeter units and at the inlet of devices which are to be attached directly to the flowmeter.

4.1 Weight-bearing screw-threaded union fittings shall comprise a male 9/16 in – 18 UNF-2A thread conforming to BS 1580-1:1962 and BS 1580-2:1962, with internal conical form shown in Figure 2a.

4.2 The inlet of a respiratory therapy device intended to be directly attached to a weight-bearing screw-threaded union fitting shall comprise the mating nut and nipple shown in Figure 2b.

NOTE Adaptors having at one end the nut and nipple shown in Figure 2b and at the other end the nipple shown in Figure 1 may be provided with respiratory therapy flowmeters.

5 Tubing

5.1 General

NOTE Material used for tubing should be:

- a) compatible with oxygen;
- b) non-toxic;
- c) not subject to leaching of plasticizers.

5.1.1 Resistance to gas flow of tubing

When tested as described in A.3, the resistance to flow shall not exceed 0.9 kPa/m.

5.1.2 End sockets

Tubing for respiratory therapy equipment shall terminate at each end with a socket able to produce a secure connection conforming to 5.2.1 or 5.3.1 to the nipple specified in clause 3.

NOTE Sockets may either be formed in the material of the tubing or may be joined to the tubing by e.g. welding or adhesives.

5.1.3 Security of joint between end socket and tubing

When tested as described in A.4 if the end socket is joined to the tubing, the end socket shall not become detached from the tubing.

5.2 Light duty tubing

NOTE Light duty tubing is designed to be used with internal pressures not exceeding 10 kPa and to be attached to devices which operate at or near ambient temperature.

5.2.1 Security of connection of terminations to nipple

When tested as described in A.5, light duty tubing shall not become detached from the test nipple.

NOTE See Annex B for information on the method of testing the security of connection between a termination and a nipple.

5.2.2 Resistance to kinking

When tested as described in A.6, the flow through the kinked tubing shall be not less than 75 % of the initial flow.