



Designation: F 1590 – 95

An American National Standard

Standard Specification for Tracheostomy Tube Connectors¹

This standard is issued under the fixed designation F 1590; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

There are many advantages in harmonizing the requirements for connectors for tracheostomy tubes with those already widely used for tracheal tubes.

The patient connection port of the breathing system of an anaesthetic machine or ventilator is a coaxial 22-mm male/15-mm female conical connector, an important purpose of the smaller connector being to mate with the 15-mm male tracheal tube connector. It is, therefore, advantageous to use the same size of fitting for tracheostomy tubes used for patients during surgical operations and for those for whom artificial ventilation or other respiratory support may be required.

Inadvertent disconnection of the breathing system from the tracheostomy tube is a well-recognized hazard and it is therefore specified for the larger sizes of tube that the male 15-mm conical fitting shall be permanently attached to either the tracheostomy tube or inner cannula.

It is also recommended that the design should permit the fitting of a device to make a more secure attachment between the conical fittings if so desired. Such a device may, however, introduce other hazards such as that of accidental extubation. It should, therefore, be as light and compact as possible. Any protuberances should be designed so as to minimize the likelihood of their catching on attendants' hands, surgical dressings, or other equipment.

1. Scope

1.1 This specification covers basic requirements for connectors for tracheostomy tubes for use on patients undergoing surgical operations or those for whom artificial ventilation or other respiratory support may be required, or both. This specification does not apply to those tracheostomy tubes used when ventilatory support is not required.

2. Referenced Documents

2.1 ASTM Standards:

F 1054 Specification for Conical Fittings of 15 mm and 22 mm Sizes²

3. Terminology

3.1 *Definitions*—For the purpose of this specification, the following definitions apply:

3.1.1 *machine end*:

3.1.1.1 end of the tracheostomy tube that is intended to

project from the neck of the patient; or

3.1.1.2 end of connector or the adaptor intended to mate with the breathing system of an anaesthetic machine or ventilator.

3.1.2 *tracheostomy (tracheotomy) tube*—tube designed for insertion into the trachea through a tracheostomy (tracheotomy).

4. Apparatus

4.1 *Connectors*:

4.1.1 Tracheostomy tubes shall have at the machine end an attached male 15-mm conical connector in accordance with Specification F 1054. This connector shall be permanently attached to either the outer tube or the inner cannula. If the connector is attached to the inner cannula, a mechanism must be provided to fasten the inner cannula to the outer tube. The inside diameter of the conical element shall be not less than the designated inside diameter of the outer tube or inner cannula with which it is intended to be used.

4.1.2 Any transition in inside diameter shall be tapered to give an adequate lead-in for passage of a suction catheter.

5. Keywords

5.1 connector; tracheostomy; tube

¹ This specification is under the jurisdiction of ASTM Committee F29 on Anesthetic and Respiratory Equipment and is under the direct responsibility of Subcommittee F29.12 on Airways.

Current edition approved March 15, 1995. Published May 1995.

² *Annual Book of ASTM Standards*, Vol 13.01.



ANNEX

(Mandatory Information)

A1. GUIDANCE ON DESIGN

A1.1 Retaining Devices:

A1.1.1 A retaining or locking device may be incorporated in the design to provide added security of attachment of the conical fittings.

A1.1.2 Any projections (for example hooks, lugs, or studs) should be designed so as to minimize the risk of their catching on surgical dressings or other equipment.

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).