

ENTERAALSED TOITMISSÜSTEEMID. KAVANDAMINE JA
KATSETAMINE

Enteral feeding systems - Design and testing (ISO
20695:2020)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 20695:2020 sisaldab Euroopa standardi EN ISO 20695:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 20695:2020 consists of the English text of the European standard EN ISO 20695:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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EUROPEAN STANDARD

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This European Standard was approved by CEN on 29 November 2019.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN ISO 20695:2020) has been prepared by Technical Committee ISO/TC 84 "Devices for administration of medicinal products and catheters" in collaboration with Technical Committee CEN/TC 205 "Non-active medical devices" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by April 2023.

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Endorsement notice

The text of ISO 20695:2020 has been approved by CEN as EN ISO 20695:2020 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 205, *Non-active medical devices*, in collaboration with ISO Technical Committee TC 84, *Devices for administration of medicinal products and catheters*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Enteral feeding systems are intended to facilitate the delivery of enteral nutrition, medications and hydration to, or aspiration of gastric content from, humans. They are designed to pass enteral fluids or substances through the nose or mouth, or by gastrostomy, jejunostomy or oesophagostomy. Enteral feeding catheters are terminally placed in the stomach, duodenum, or jejunum.

The requirements and test methods of this document are specified so that, when used in current clinical practice, these medical devices do not compromise the clinical condition or the safety of patients.

Incidents have been reported of enteral fluids or substances being administered via incorrect routes, including intravenously and into the airway. An international effort has been made to reduce these incidents and two series of International Standards have been developed to provide application specific connectors:

- ISO 80369-3 specifies connectors intended for use between an enteral giving set, enteral extension sets, enteral syringes, enteral catheters, and enteral accessories;
- ISO 18250-3 specifies connectors intended for use between an enteral giving set, an enteral accessory and an enteral reservoir.

The use of these enteral-specific connectors has been specified in this document as well as small-bore connectors as specified in ISO 80369-1:2018, Clause 6.

ISO 80369-3 and ISO 18250-3 ensure that connectors for enteral giving sets, enteral extension sets, enteral syringes, enteral feeding catheters and enteral accessories are unique and are not able to be connected to other small-bore connectors specified in the ISO 80369 series for the following applications: intravascular and hypodermic, breathing systems and driving gases, urethral and urinary, limb cuff inflation and neuraxial systems.

The small-bore connectors and reservoir connectors, as defined in ISO 80369-3 and ISO 18250-3, respectively, for use in enteral applications should not, but may connect with the following connectors/ports in common use within the same environment:

- the cones and sockets of ISO 5356-1 and ISO 5356-2;
- the temperature sensor ports made in conformity with ISO 80601-2-74:2017, Annex EE;
- the nipples of EN 13544-2 and EN 13544-2+A1.

In this document, the conjunctive “or” is used as an “inclusive or” so a statement is true, if any combination of the conditions is true.

The verbal forms used in this document are as follows:

- “shall” means conformity with a requirement or a test is mandatory for conformity with this document,
- “should” means conformity with a requirement or a test is recommended but is not mandatory for conformity with this document, and
- “may” is used to describe a permissible way to achieve conformity with a requirement or test.

Enteral feeding systems — Design and testing

1 Scope

This document specifies requirements for enteral feeding systems comprising enteral giving sets, enteral extension sets, enteral syringes, enteral feeding catheters, and enteral accessories.

This document is not applicable to oral syringes.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

ISO 7886-1:2017, *Sterile hypodermic syringes for single use — Part 1: Syringes for manual use*

ISO 7886-2:1996, *Sterile hypodermic syringes for single use — Part 2: Syringes for use with power-driven syringe pumps*

ISO 10993-1, *Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process*

ISO 11135, *Sterilization of health-care products — Ethylene oxide — Requirements for the development, validation and routine control of a sterilization process for medical devices*

ISO 11137-1, *Sterilization of health care products — Radiation — Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices*

ISO 11607-1, *Packaging for terminally sterilized medical devices — Part 1: Requirements for materials, sterile barrier systems and packaging systems*

ISO 11607-2, *Packaging for terminally sterilized medical devices — Part 2: Validation requirements for forming, sealing and assembly process*

ISO 14937, *Sterilization of health care products — General requirements for characterization of a sterilizing agent and the development, validation and routine control of a sterilization process for medical devices*

ISO 15223-1, *Medical devices — Symbols to be used with medical device labels, labelling and information to be supplied — Part 1: General requirements*

ISO 17665-1, *Sterilization of health care products — Moist heat — Part 1: Requirements for the development, validation and routine control of a sterilization process for medical devices*

ISO 18250-3:2018, *Medical devices — Connectors for reservoir delivery systems for healthcare applications — Part 3: Enteral applications*

ISO 25424, *Sterilization of health care products — Low temperature steam and formaldehyde — Requirements for development, validation and routine control of a sterilization process for medical devices*

ISO 80369-1, *Small-bore connectors for liquids and gases in healthcare applications — Part 1: General requirements*

ISO 80369-3, *Small-bore connectors for liquids and gases in healthcare applications — Part 3: Connectors for enteral applications*

ASTM F640, *Standard Test Methods for Determining Radiopacity for Medical Use*

DIN 13273-7, *Catheter for medical use — Part 7: Determination of the x-ray attenuation of catheters; requirements and testing*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 distal end

end of the medical device furthest from the source of the nutrient or diet intended to be administered via an *enteral feeding catheter* (3.5)

Note 1 to entry: See [Figure 1](#).

3.2 proximal end

end of the medical device closest to the source of nutrient or diet intended to be administered via an *enteral feeding catheter* (3.5)

Note 1 to entry: See [Figure 1](#).

3.3 enteral feeding system

system comprising the following enteral feeding devices: *enteral giving sets* (3.6), *enteral syringes* (3.8), *enteral feeding catheters* (3.5), and *enteral accessories* (3.4)

3.4 enteral accessory

medical device that is used within the enteral system for the purposes of device placement or access of an enteral device; or for the purposes of filling, directing, stopping, or controlling flow of nutrients, medication, or aspirates

EXAMPLE Sheaths, guidewires, introducers.

3.5 enteral feeding catheter

indwelling tubular medical device to facilitate delivery or removal of fluids or substances into or from the gastrointestinal tract

3.6 enteral giving set

medical device for transferring enteral fluids or substances from an enteral reservoir to an *enteral feeding catheter* (3.5)

Note 1 to entry: Also known as enteral feeding sets.

Note 2 to entry: See [Figure 1](#) for an example.

3.7 enteral extension set

medical device for transferring enteral fluids or substances from an *enteral giving set* (3.6) to an *enteral feeding catheter* (3.5)

Note 1 to entry: Also known as extension tubing.