STN

Dielce z elastomérov na parenterálne použitie a pre farmaceutické prístroje Časť 2: Identifikácia a charakterizácia (ISO 8871-2: 2020)

STN EN ISO 8871-2

85 5225

Elastomeric parts for parenterals and for devices for pharmaceutical use - Part 2: Identification and characterization (ISO 8871-2:2020)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/20

Obsahuje: EN ISO 8871-2:2020, ISO 8871-2:2020

Oznámením tejto normy sa ruší STN EN ISO 8871-2 (85 5225) z februára 2005

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 8871-2

June 2020

ICS 11.040.20

Supersedes EN ISO 8871-2:2004

English Version

Elastomeric parts for parenterals and for devices for pharmaceutical use - Part 2: Identification and characterization (ISO 8871-2:2020)

Éléments en élastomère pour administration parentérale et dispositifs à usage pharmaceutique -Partie 2: dentification et caractérisation (ISO 8871-2:2020) Elastomere Teile für Parenteralia und für Geräte zur pharmazeutischen Verwendung - Teil 2: Identifizierung und Charakterisierung (ISO 8871-2:2020)

This European Standard was approved by CEN on 21 April 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 8871-2:2020 (E)

Contents	Page
European foreword	3

European foreword

This document (EN ISO 8871-2:2020) has been prepared by Technical Committee ISO/TC 76 "Transfusion, infusion and injection, and blood processing equipment for medical and pharmaceutical use" 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 December 2020, and conflicting national standards shall be withdrawn at the latest by December 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 8871-2:2004.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 8871-2:2020 has been approved by CEN as EN ISO 8871-2:2020 without any modification.

INTERNATIONAL STANDARD

ISO 8871-2

Second edition 2020-05

Elastomeric parts for parenterals and for devices for pharmaceutical use —

Part 2: **Identification and characterization**

Éléments en élastomère pour administration parentérale et dispositifs à usage pharmaceutique —

Partie 2: Identification et caractérisation



ISO 8871-2:2020(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Fax: +41 22 749 09 47 Email: copyright@iso.org

Website: www.iso.org Published in Switzerland

Foreword	iv
Introduction	v
1 Scope	
2 Normative references	
3 Terms and definitions	
4 Tests 4.1 General	
4.2 Hardness	
4.3 Density	
4.4 Ash	
4.5 Infrared spectrum	3
4.5.1 Material	3
4.5.2 Coating	
4.6 Compression set	
4.7 Swelling	
4.8 Development of a fingerprint by gas chromatography	
4.9 Detection of volatile substances by gas chromatography	4
4.10 Determination of residual moisture	
4.11 Determination of fingerprint by thermogravimetric analysis (TGA)	4
4.12 Determination of extractables in aqueous autoclavates	
5 Preparation of samples for testing	4
5.1 Treatment before testing	4
5.2 Number of samples needed for the tests	4
6 Reagents and materials	5
Annex A (informative) Identification of elastomeric material by pyrolysis IR	6
Annex B (informative) Determination of compression set	8
Annex C (informative) Swelling behaviour in oils	
Annex D (informative) Development of a fingerprint by gas chromatography	
Annex E (informative) Analysis of volatile components by headspace gas chromatography.	
Annex F (informative) Determination of residual moisture	
Annex G (informative) Determination of a fingerprint by thermal gravimetry (TG)	17
Annex H (informative) Determination of the elastomer identity and verification of the presence of a coating by surface infrared spectroscopy [attenuated total reflection	
(ATR)	
Bibliography	

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 76, *Transfusion, infusion and injection, and blood processing equipment for medical and pharmaceutical use,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 205, *Non-active medical devices,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 8871-2:2003), which has been technically revised. It also incorporates the Amendment ISO 8871-2:2003/Amd.1:2005. The main changes compared to the previous edition are as follows:

- expansion of the scope to include coated stoppers;
- addition of terms and definitions;
- addition of <u>H.6</u> on the interpretation of results for ATR.

A list of all parts in the ISO 8871 series can be found on the ISO website.

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.

ISO 8871-2:2020(E)

Introduction

The elastomeric parts specified in the ISO 8871 series are produced from rubber. However, rubber is not a unique entity, since the composition of rubber materials can vary considerably. The base elastomer and the type of vulcanization have a major influence on the principle characteristics of an individual rubber material, as do additives such as fillers, softeners and pigments. These might have a significant effect on the overall properties. Polymer coatings or films are often applied to either entire or partial surface(s) of a rubber component to impart certain physical or chemical properties. The effectiveness, purity, stability and safe handling of a drug preparation can be affected adversely during manufacture, storage and administration if the rubber part used has not been properly selected and validated (approved).

INTERNATIONAL STANDARD

Elastomeric parts for parenterals and for devices for pharmaceutical use —

Part 2:

Identification and characterization

1 Scope

This document specifies identification and characterization procedures applicable to elastomeric parts including coated stoppers used for drug containers and medical devices.

The physical and chemical test procedures specified in this document permit the determination of the typical characteristics of elastomeric parts including coatings and surface treatments and can serve as a basis for agreements between manufacturer and user regarding the product consistency in subsequent supplies. Depending upon the type of elastomer and its application, an appropriate set of tests is selected.

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 48-4, Rubber, vulcanized or thermoplastic — Determination of hardness — Part 4: Indentation hardness by durometer method (Shore hardness)

ISO 247-1:2018, Rubber — Determination of ash — Part 1: Combustion method

ISO 2781:2018, Rubber, vulcanized or thermoplastic — Determination of density

ISO 8871-1, Elastomeric parts for parenterals and for devices for pharmaceutical use — Part 1: Extractables in aqueous autoclavates

koniec náhľadu – text ďalej pokračuje v platenej verzii STN