

© Copyright SEK Svensk Elstandard. Reproduction in any form without permission is prohibited.

## Allmän metod för bedömning av möjligheten till återtillverkning av energirelaterade produkter

*General method for the assessment of the ability to re-manufacture energy related products*

Som svensk standard gäller europastandarden EN 45553:2020. Den svenska standarden innehåller den officiella engelska språkversionen av EN 45553:2020.

---

ICS 13.030.50

---

Denna standard är fastställd av SEK Svensk Elstandard,  
som också kan lämna upplysningar om **sakinnehållet** i standarden.  
Postadress: Box 1284, 164 29 KISTA  
Telefon: 08 - 444 14 00.  
E-post: [sek@elstandard.se](mailto:sek@elstandard.se). Internet: [www.elstandard.se](http://www.elstandard.se)

---

### *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

### *SEK är Sveriges röst i standardiseringsarbetet inom elområdet*

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

### *Stora delar av arbetet sker internationellt*

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

### *Var med och påverka!*

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

### **SEK Svensk Elstandard**

Box 1284  
164 29 Kista  
Tel 08-444 14 00  
[www.elstandard.se](http://www.elstandard.se)

English Version

## General method for the assessment of the ability to remanufacture energy-related products

Méthode générale pour l'évaluation de la capacité d'un produit lié à l'énergie à être refabriqué

Allgemeines Verfahren zur Bewertung der Wiederherstellungsfähigkeit energieverbrauchsrelevanter Produkte

This European Standard was approved by CENELEC on 25 May 2020. CEN and CENELEC 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 and CENELEC 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 and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees 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 Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

| <b>Contents</b>   | <b>Page</b> |
|---|-------------|
| European foreword .....   | 3           |
| Introduction .....  | 4           |
| 1 Scope .....   | 5           |
| 2 Normative references .....  | 5           |
| 3 Terms, definitions and abbreviations .....  | 5           |
| 3.1 Definitions .....   | 5           |
| 3.2 Abbreviations .....   | 6           |
| 4 How to use this document .....  | 6           |
| 5 General method to assess the ability of an energy-related product to be remanufactured .....                        | 6           |
| 5.1 Remanufacturing process steps and product attributes .....  | 6           |
| 5.2 Criteria for assessing the product attributes .....   | 7           |
| 5.2.1 Evaluation of the product attribute “Ability to be identified” .....  | 7           |
| 5.2.2 Evaluation of the product attribute “Ability to locate access points and fasteners” .....                       | 8           |
| 5.2.3 Evaluation of the product attribute “Accessibility of parts” .....  | 8           |
| 5.2.4 Evaluation of the product attribute “Ability to be disassembled/assembled” .....                                | 9           |
| 5.2.5 Evaluation of the product attribute “Wear and damage resistance during the remanufacturing process steps” ..... | 9           |
| 5.3 Establishing a method to assess the ability of an energy-related product to be remanufactured .....               | 10          |
| 6 Documenting the ability of an energy-related product to be remanufactured .....                                     | 10          |
| 6.1 General .....   | 10          |
| 6.2 Elements of the assessment .....  | 10          |
| Annex A (Informative) Examples of quantitative methods to assess different product attributes .....                   | 12          |
| A.1 Example of a quantitative assessment of the ability to be accessible .....  | 12          |
| A.2 Example of a quantitative assessment of the disassembly sequence and disassembly depth .....                      | 12          |
| Bibliography .....  | 14          |

## European foreword

This document [EN 45553:2020] has been prepared by CEN/CLC/JTC 10 “**Energy-related products - Material Efficiency Aspects for Ecodesign**”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-05-25
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2023-05-25

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

This document has been prepared under a standardization request given to CEN and CENELEC by the European Commission and the European Free Trade Association.

The dual logo CEN-CENELEC standardization deliverables, in the numerical range of 45550 – 45559, have been developed under standardization request M/543 of the European Commission and are intended to potentially apply to any product within the scope of the Directive 2009/125/EC concerning energy-related products (ErP).

Topics covered in the above standardization request are linked to the following material efficiency aspects:

- a) Extending product lifetime;
- b) Ability to reuse components or recycle materials from products at end-of-life;
- c) Use of reused components and/or recycled materials in products.

These standards are general in nature and describe or define fundamental principles, concepts, terminology or technical characteristics. They can be cited together with other product publications, e.g. developed by product technical committees.

This document is intended to be used by technical committees when producing horizontal, generic, and product-specific, or product-group, publications.

## Introduction

This document provides a general method for assessing the ability of an energy-related product to be remanufactured, to be used by technical committees when producing horizontal, generic, and product-specific, or product-group, publications. It identifies seven general process steps which are crucial to the remanufacturing process. Each of the seven steps (see 5.1) is linked to several product attributes of the energy-related product (see table 1). These product attributes are evaluated by their criteria described in 5.2.1 to 5.2.5.

As the terms remanufacturing and refurbishment are sometimes used interchangeably in different industry sectors it is necessary to clarify what is meant by remanufacturing in this document. Remanufacturing is identified as an industrial process where at least one change, which influences the safety, original performance, purpose or type of the product, is applied to the energy-related product.

NOTE This document does not cover general methods for assessing the ability of an energy-related product to be refurbished.

## 1 Scope

This document contains a general method to assess the ability of energy-related products to be remanufactured. It is intended to be used by technical committees when producing horizontal, generic, and product, or product-group, standards.

NOTE 1 Throughout this document, reference to 'user of this document' refers to those members of technical committees that are producing horizontal, generic, and product, or product-group, standards as well as any person using the standard directly.

Assessing the ability of a part that is not considered to be an energy-related product to be remanufactured is not considered in this document.

NOTE 2 To assess the ability of an energy-related product to be remanufactured (i.e. in 5.2.1 to 5.2.5), the described criteria are applied to the parts of the energy-related product.

A scoring system to quantify the ability of an energy-related product to be remanufactured is not covered in this document. Only the criteria for the ability of an energy-related product to be remanufactured are presented in this document.

## 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.

EN 45559:2019, *Methods for providing information relating to material efficiency aspects of energy-related products*