

**ISO/FDIS 8887-2:20222023(E)**

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ISO TC 10/~~WG 20~~

Secretariat: SIS

**Technical product documentation (TPD) — Design for manufacturing, assembling, disassembling and end-of-life processing — Part 2: Vocabulary**

*Conception et documentation pour la fabrication, le montage, le démontage et le traitement en fin de vie (MADE) — Partie 2: Vocabulaire*

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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](mailto:copyright@iso.org)

Website: [www.iso.org](http://www.iso.org)

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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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 10, *Technical product documentation*.

A list of all parts in the ISO 8887 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](http://www.iso.org/members.html).

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## Introduction

In recent years, policymakers throughout the world have focused their attention on ways to reduce environmental impact. In many countries this has led to, or will soon lead to, new incentives with the result that end-of-life processes now need to be considered at the design stage. Consequently, there is an increasing focus on not only the production of a product but also what is to be done when the user has finished with it. Thus, the ISO 8887 series includes consideration of disassembling the product and the treatment of the components through processes such as remanufacturing, recycling, reusing through multiple life cycles or disposing.

The ISO 8887 series aims to specify the documentation requirements for integrating these environmental aspects into the design and development of products. It relates to the following four stages:

with regard to production:

- the manufacturing of the components;
- the assembling of the components to produce a product;

with regard to end of use:

- the disassembling into components;
- the end-of-life processing of these components.

The ISO 8887 series addresses the design task, irrespective of whether the designer works for a manufacturer or a design company or is freelance. It is applicable to all types of manufactured products.

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## Technical product documentation (TPD) — Design for manufacturing, assembling, disassembling and end-of-life processing — Part 2: Vocabulary

### 1 Scope

This document defines terms for design for manufacturing, assembling, disassembling and end-of-life processing.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

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

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

#### 3.1 assembling assemble

bringing together of *components* (3.6) in a functional relationship

#### 3.2 assembly

<design for MADE> number of components fitted together to perform a specific function

[SOURCE: ISO 10209:2022, 3.1.8, modified — ~~the~~ The definition has been adjusted for design for MADE.]

#### 3.3 commercially off-the-shelf COTS

bought-out standard components available to buy from a catalogue or other generally available source

#### 3.4 brief design brief

working document which specifies at any point in time the relevant needs and aims, the resources of the client and user, the context of the project and any appropriate design requirements within which all subsequent briefing (when needed) and designing can take place

Note 1 to entry: The term “design brief” is used interchangeably with “brief” in the ISO 8887 series.

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**3.5 carbon footprint of a product**

**CFP**  
sum of greenhouse gas emissions and greenhouse gas removals in a product system, expressed as carbon dioxide equivalents and based on a life-cycle assessment using the single impact category of climate change

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[SOURCE: ISO 14050:2020, 3.11.1]

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**3.6 component**

part  
constituent part of equipment that cannot be physically divided into smaller parts without losing its character

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[SOURCE: ISO 10209:2022, 3.1.15, modified ~~to~~ To include "part" as an admitted term.]

**3.7 custom component**

*component* (3.6) made specifically for a *product* (3.5047) or related series of products

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**3.8 hazardous substance**  
**hazardous preparation**

substance or preparation that is, under certain conditions, likely to be injurious to health, safety or the environment

Note 1 to entry: The use of such substances is often restricted by law.

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**3.9 ecodesign**

systematic approach that considers environmental aspects in design and development with the aim to reduce adverse environmental impacts throughout the *life cycle* (3.17) of a *product* (3.5047)

[SOURCE: ISO 14050:2020, 3.5.22]

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**Commented [eXtyle16]:** The term "end-of-life" has not been used anywhere in this document

**Commented [eXtyle17]:** The term "energy recovery" is used only in terms and definitions section

**3.10 disassembling**  
**disassembly**

taking apart of an assembled *product* (3.5047) into constituent materials and/or *components* (3.6)

**3.11 disposal**

any operation which is not recovery even where the operation has, as a secondary consequence, the reclamation of substances or energy

Note 1 to entry: Waste Framework Directive<sup>[1]</sup>.

**3.12 end-of-life**

point at which a *product* (3.5047) or *component* (3.6) is taken out of the current use stage

**3.13 energy recovery**





rotational position in space (relative or absolute) a *component* (3.6) has to have in order for some operation or *assembly* (3.2) process to be carried out

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**3.2523**  
**handling**

transporting, moving or manipulating *components* (3.6) and/or *assemblies* (3.2) during the production process

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**3.2624**

**process**, verb

transform a material, *component* (3.6) or *assembly* (3.2) from one configuration or state to another

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**3.2725**

**process**, noun

<industrial systems> set of interacting operations by which material, energy or information is transformed, transported or stored

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**3.2826**

**refurbishing**

**refurbish**

**refurbishment**

reconditioning

recondition

industrial process which returns a used *product* (3.5047), or *component* (3.6) to a satisfactory performance level when made available on the market as a used product

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Commented [eXtyle29]: The term "reconditioning" has not been used anywhere in this document

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Note 1 to entry: The refurbisher by whom the product has been refurbished shall be indicated by a "refurbished by" or by the type plate of the refurbisher.

Note 2 to entry: With respect to refurbishing:

- manufacturing effort involves the replacement of worn or broken components but is generally more extensive than for repair;
- performance after refurbishing is expected to perform its intended role but the overall performance is likely to be inferior to that of the original model;
- any subsequent warranty is generally less than that for a new or remanufactured product but is likely to cover the whole product (unlike repair); refurbished products do not require a warranty equivalent to that of a newly manufactured equivalent.

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**3.2927**

**recovery**

process in which waste material is either treated to release materials in a form where they can be used again or used as fuel in energy recovery

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**3.3028**

**recycling**

**recycle**

reprocessing a material or *component* (3.6) which has previously been processed for inclusion in a *product* (3.5047)

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**3.3229**

**remanufacturing**