Irish Standard Recommendation
S.R. CWA 17807:2021

Dismantling methods and protocols in a Circular Economy Framework - Composite recovery in the automotive industry

S.R. CWA 17807:2021

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National Foreword

S.R. CWA 17807:2021 is the adopted Irish version of the European Document CWA 17807:2021, Dismantling methods and protocols in a Circular Economy Framework - Composite recovery in the automotive industry

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CEN WORKSHOP AGREEMENT

CWA 17807

October 2021

ICS 43.020; 13.030.50

English version

Dismantling methods and protocols in a Circular Economy Framework - Composite recovery in the automotive industry

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

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European foreword

This CEN Workshop Agreement (CWA 17807:2021) has been developed in accordance with the CEN-CENELEC Guide 29 "CEN/CENELEC Workshop Agreements – A rapid prototyping to standardization" and with the relevant provisions of CEN/CENELEC Internal Regulations – Part 2. It was approved by a Workshop of representatives of interested parties on 2021-01-12, the constitution of which was supported by CEN following the public call for participation made on 2020-11-24. However, this CEN Workshop Agreement does not necessarily include all relevant stakeholders.

The final text of this CEN Workshop Agreement was provided to CEN for publication on 2021-04-23.

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The following organizations and individuals developed and approved this CEN Workshop Agreement:

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Introduction

During the last decades, waste generation has become a serious problem for our highly industrialised societies. "Ensuring the sustainable management of natural resources and wastes" is one of the four priority areas (climate change, biodiversity, health, and resource use and waste), which includes the development of a 'Thematic Strategy on Waste Recycling' and initiatives in the field of waste prevention, notably proposals on European Community waste prevention targets.

These protocols propose a strategy on waste management, which includes a hierarchy of options in which primary emphasis is laid on waste prevention, followed by promotion of preparing for re-use, recycling and other material recovery.

This goal requires a complete value chain revision. The following steps must be reviewed: design, production, distribution and collection, business models, users, and stakeholder's platform, and, finally, management of waste streams.

At the end of life of circular designed products, new more homogeneous waste streams will allow for more uniform recovered materials to be fed back into the production line. After having studied the circular economy model, waste sorting and characterization technologies as well as material conditioning technologies, as well as minimization, substitution and phase out of chemicals that hamper recycling, its integration as raw materials in production lines, it is time to standardize waste streams managements to close the loop of this circular economy model.

Advanced solutions for collection, sorting and pre-treatments innovations have allowed an increase of more than 5 % the recyclable materials that could be used in current ELVs bulky wastes.

These protocols aim to guarantee an appropriate identification and characterization of incoming wastes and selection of recovered materials after sorting treatment and strengthen this link within chain value working on at least on 95 % of raw materials.

1 Scope

This document overviews, optimizes and validates the strategies and technologies for collection and material recovery (plastics, foam, glass, fibres from vehicle parts) for (re-) manufacturing, in addition to parts that are already being recycled.

Current recycling systems for ELV's are designed to valorize the metallic content. But nowadays, there is an ongoing surge to use non-metallic parts, low value, and complex materials in the vehicle (and future ELV) to reduce their carbon footprint.

2 Normative references

The following documents are referred to in the text in such a way that some or all 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 ISO 1043, *(serie),* Plastics — Symbols and abbreviated terms

DIN 6120:2019, *Marking of packaging and packaging materials — Plastics packaging and packaging materials*

VDA 260:2007, *Components of motor vehicles — Marking of material*

SAE J1344:2017, *Marking of Plastic Parts*

3 Terms, definitions, and abbreviations

3.1 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 https://www.electropedia.org/

3.1.1
circular economy
economy that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at the times, distinguishing between technical and biological cycles

Note 1 to entry: A circular economy follows the European waste hierarchy and builds upon four principles: 1. Sobriety, 2. Durability at the heart of all the products, processes, and services, 3. High value retention and high 'loopability' of materials, 4. Out designing of substances of concern and hazardous substances.

3.1.2
reuse
process by which a product or its parts, which are not waste, are used again for the same purpose for which they were conceived

[SOURCE: Adapted from EU Waste Framework Directive 2008/98/EC article 3.13]

3.1.3
repair
process of returning a faulty product to a condition where it can fulfil its intended use