



Safe-, sUstainable- and R recyclable-by design P olymeric systems
A guidance towardS next generation of plastics

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Duration 42 months

Deliverable D6.3.

**Report on the standardization landscape and
applicable standards**

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DMP	Data Management Plan	<input type="checkbox"/>

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Executive summary

The deliverable D6.3 is produced in the context of SURPASS-WP6, Task 6.3 – Standardisation activities, in particular with regard to the subtask 6.3.1 for the analysis of the applicable standardization landscape. This deliverable includes as main contribution the identification and analysis of the standardisation technical committees (TCs) at European and International standardisation level related with the SURPASS project as well as the published standards (existing and under development) that can be relevant and useful for all the project activities. Using standards as a knowledge source in the earliest possible stages of research and innovation avoids duplication of work and provides the basis for future marketable products.

The Spanish Association for Standardisation (UNE), as a National Standardisation Body, is partner in the SURPASS project to provide support regarding all the standardisation tasks included in the project. In order to fulfil this commitment, this deliverable has been prepared to guide the partners about the published standards and standards under development that can be applicable and are related to the SURPASS/WP tasks.

This deliverable will also serve as source to identify, in the near future, the strategy for collaboration and communication with the relevant technical committees and the contribution to standardization in Task 6.3.2, and also to recognize the standardisation gaps that can be covered by the results of the project.

List of acronyms

ASTM	American Society for Testing and Materials
CEN	European Committee for Standardization
CENELEC (CLC)	European Committee for Standardization in the Electrical field
CWA	CEN or CENELEC Workshop Agreement
EN	European Standard
ISO	International Organization for Standardization; International Standard
NSB	National Standardization Body
prEN	European Standard under development for public enquiry
SC	Subcommittee
TC	Technical Committee
TR	Technical Report
TS	Technical Specification
WG	Working Group
WI	Work Item
WP	Work Package
UNE	Spanish Association for Standardization

Table of contents

1	Introduction.....	7
2	The context: SURPASS project.....	7
3	Methodology of the document	8
3.1	Short introduction about standardization	8
3.2	Methodology of the identification of relevant standardization areas.....	10
4	Standardization related to SURPASS project.....	12
4.1	Standardization committees' overview.....	12
4.2	Standardization on Plastics	12
4.3	Standardization on Environmental aspects.....	17
4.4	Standardization on CS#1 – Building (Windows)	19
4.5	Standardization on CS#2 – Railway	22
4.6	Standardization on CS#3 – Packaging	23
5	Deviations from the workplan.....	28
6	Conclusions and perspectives	28
7	References.....	31

List of Figures

Figure 1. SURPASS project concept.....	7
Figure 2. Possible tracks of standards adoption.....	10
Figure 3. Example of identification of elements in the code of a standard	10

List of Tables

Table 1 – Characteristics of different standardization documents.....	9
Table 2 – List of key concepts acting as a starting point for the identification of standardization areas	11
Table 3. Relevant standardization committees for SURPASS.....	12
Table 4. Standards to be considered: Plastics.....	14
Table 5. Standards under development to be considered: Plastics.....	16
Table 6. Standards to be considered: Environmental aspects	18
Table 7. Standards under development to be considered: Environmental aspects	19
Table 8. Standards to be considered: CS#1 – Building (Windows).....	21
Table 9. Standards under development to be considered: CS#1 – Building (Windows).....	22
Table 10. Standards to be considered: CS#2 – Railway.....	23
Table 11. Standards to be considered: CS#3 – Packaging	24
Table 12. Standards under development to be considered: CS#3 – Packaging	28

1 Introduction

The Deliverable D6.3 *Report on the Standardization landscape and applicable standards* contains a detailed study on the relevant Standardization Technical Committees on international and European level in the scope of the SURPASS project activities as well as relevant standards developed in these committees.

The objective of including the standardization in the project is to facilitate the acceptance and utilisation by the market of the developed solutions. Other objectives are to provide starting information for other WPs, ensure compatibility and interoperability with what already exists in the market through standards, as well as to use the standardization system as a tool for the dissemination of the project results and the interaction with the market stakeholders.

This document contains:

- an overview on the relevant international and European standardization system;
- a detailed list of the standards and normative documents as well as standards and normative documents under development relevant for SURPASS.

2 The context: SURPASS project

The SURPASS project's general objective is to equip European SMEs with a digital guiding tool that will impart knowledge and provide SSRbD Assessment & guidance to support them in their development of new polymers. The tool will be fed by results from three case studies related to strategic sectors representing 70% of European plastic demand and having a large environmental impact. The concept, case studies and expected project outcomes are shown in Figure 1

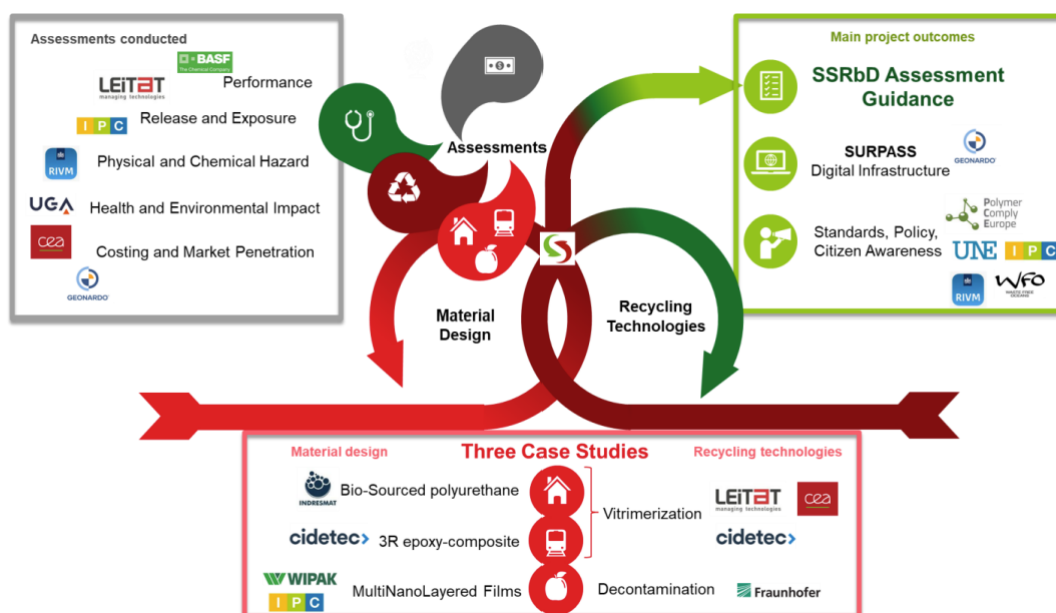


Figure 1. SURPASS project concept

In the SURPASS project, standardization activities are employed to maximize the impact of the developed solution, to facilitate the acceptance and utilization by the market of the developed solutions. In order to provide starting information for other WPs, ensure compatibility and interoperability with what already exists in the market through standards, this document contains a list of standardization technical committees and standards relevant for the SURPASS project. This document has been developed as result of task T6.3.1 for the analysis of the applicable standardization landscape, corresponding to the WP6 Dissemination, Exploitation, Standardization and Training.

No official updates of this document are foreseen in the project plan, i.e. there will not be a deliverable corresponding to an update of this document. Nevertheless, a continuous follow-up of the activities of relevant Standardization Technical Committees and their standardization developments will be provided throughout the project lifetime.

Document D6.3 forms the basis for the activities of task T6.3.2 "Contribution to the ongoing and future standardization developments", which extends to the end of the project in M42. The activities within the scope of T.6.3.2 are documented by means of an initial report (D6.4), an interim report (D6.5) and a final report (D6.6). The aim is to make the greatest possible contribution to standardization based on the results of the SURPASS project.

3 Methodology of the document

3.1 Short introduction about standardization

Standards are voluntary technical documents that set out requirements for a specific item, material, component, system or service, or describes in detail a particular method, procedure or best practice. Standards are developed and defined through a process of sharing knowledge and building consensus among technical experts nominated by interested parties and other stakeholders - including businesses, consumers and environmental groups, among others. These experts are organized in Technical Committees (TCs), which are subdivided in Subcommittees (SCs) or Working Groups (WGs). These TCs are included in the structure of the Standardization Organizations (National, European and International, with the respective mirror committees) and work following their internal regulations.

The standardization bodies operate at National (UNE, AFNOR, BSI, DIN, etc.), Regional (CEN, CENELEC, ETSI) or International (ISO, IEC, ITU) level. Sometimes there are different standardization bodies at the same level, but covering different fields. This is the case of ISO (general), IEC (electrical) and ITU (telecommunications) at International level, or CEN, CENELEC and ETSI at European level in the same way.

There are also different kinds of standardization documents. The most widespread is the standard, which has a different code depending on the organization under it was developed, e.g. EN for European Standards, ISO for International standards. Other types of documents are Technical Specifications (TS), Technical Reports (TR) and Workshop Agreements (CWA). Further Amendments to the standards are identified by adding A1, A2, etc. at the end of the standard code.

At European level, all the members of CEN shall adopt EN standards as national standards and have to withdraw any existing national standard which could conflict with them. A summary of the characteristics of the different standardization documents can be found in Table 1.

Table 1 – Characteristics of different standardization documents				
Type	International code	European code	National code	Main characteristics
Standard	ISO IEC	EN	UNE, NF, BS, DIN, UNI, etc. When adopting: UNE-EN, NF-EN, UNE-ISO, NF-ISO etc.	<ul style="list-style-type: none"> • Elaboration: 3 years • 2 steps of member approval • European: compulsory national adoption Review: every 5 years Revision: whenever needed and as result from a systematic review
Technical Specification	ISO/TS IEC/TS	CEN/TS CLC/TS	When adopting: UNE-CEN/TS, NF-CEN/TS, UNE-ISO/TS, NF-ISO/TS, etc.	<ul style="list-style-type: none"> • Elaboration: 21 months • 1 step of member approval or internal approval in TC • European: optional national adoption Review: after 3 years (upgrading to EN or deletion)
Technical Report	ISO/TR IEC/TR	CEN/TR CLC/TR	When adopting: UNE-CEN/TR, NF-CEN/TR, UNE-ISO/TR, NF-ISO/TR, etc.	<ul style="list-style-type: none"> • Elaboration: free timeframe • Internal approval in TC • European: optional national adoption No review required
Workshop Agreement	IWA	CWA	Variable	<ul style="list-style-type: none"> • Elaboration: free timeframe (usually few months) • Internal approval in the Workshop • European: optional national adoption Review: after 3 years (upgrading to EN or deletion)

There is also an agreement established between European and International Organizations (e.g. CEN and ISO, in this case is called Vienna Agreement) in order to avoid duplication of efforts and promote global relevance of standards, which allows to adopt or develop in parallel each other's standards with the same content and code.

National standards could also be proposed as a base for new European or International standards. **Erreur ! Source du renvoi introuvable.** shows possible tracks of standards adoption.

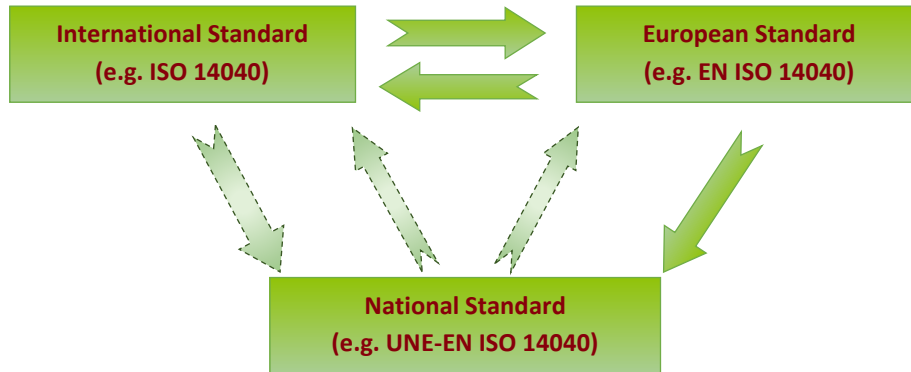


Figure 2. Possible tracks of standards adoption

Therefore, the code of any standard is the combination of the above mentioned issues, and could be explained as shown in Figure 3.

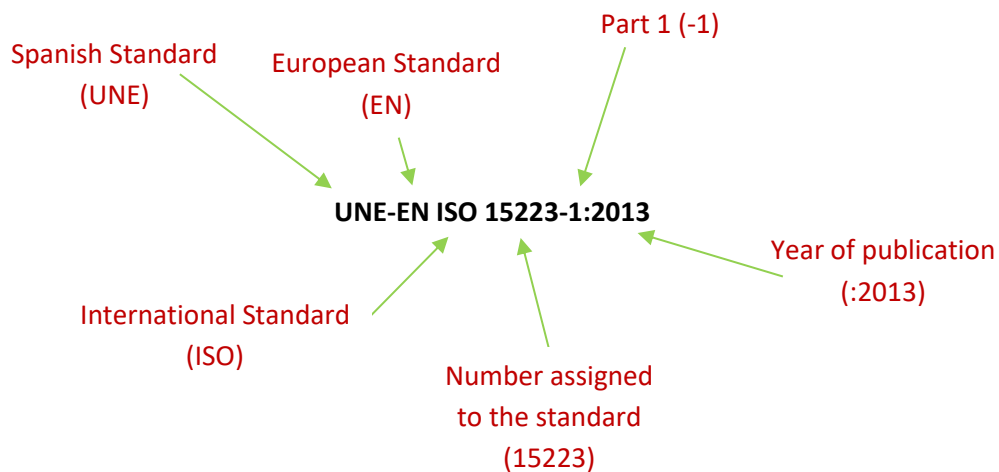


Figure 3. Example of identification of elements in the code of a standard

3.2 Methodology of the identification of relevant standardization areas

This document presents the standardization activity found relevant for the SURPASS project. In order to structure the research, a list of key concepts was elaborated by UNE, and improved according to the consortium contributions, to act as a starting point for the identification of standardization areas.

For the selection of the key concepts, the aims and goals of the project and the levels in which the project should integrate were taken into account. Also, the needs of the Case Studies were considered.

The final list agreed by UNE, coordinator and partners of key concepts used for the search is shown in Table 2:

Table 2 – List of key concepts acting as a starting point for the identification of standardization areas	
1	Plastics - Polymeric materials and composites
2	Plastics – recycling, reuse, reprocessing
3	Epoxy resins-based composites
4	(biosourced) polyurethane foams
5	Multinanolayered films/ nanofilms for food packaging - technologies and production
6	Railway vehicles – car body, structural applications, considering fire-resistance properties
7	Window frames – Insulating performance – thermal analysis, mechanical tests, morphological tests and fire-resistance properties.
8	Window frames – PVC, Polyurethane
9	LCA and sustainability frameworks (incl. OASIS CWA)
10	Ecodesign and ecoinnovation
11	Circular economy and SbD / SSbD approaches
12	Environmental impact/footprint
13	Plastics recycling and recyclability - Recyclable-by-design criteria and labeling

Standards and **standards under development** were identified for each standardization area, together with the **technical committee** responsible for the respective standards.

The standardization study covers European standardization developed by the European Committee for Standardization (CEN), the European Committee for electrotechnical Standardization (CENELEC) and the European Telecommunications Standards Institute (ETSI), and also the International standardization developed by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

ASTM (American Society for Testing and Materials) standards have also been considered at the suggestion of one of the partners.

The first result of the research carried out by UNE was shared with the consortium and the SURPASS partners were asked to select the interesting documents for their tasks and to add other interesting missing standards. Then, the submitted feedbacks from the different partners were compiled and the list of documents and technical committees was updated according to the consortium contribution. The final result of the SURPASS standardization landscape is described in the section 4 “Standardization related to SURPASS project” of this deliverable.

4 Standardization related to SURPASS project

For a better overview of this report, the study has been structured in main technical areas. The relevant standardization technical committees (TCs), the published standards and the standards under development have been clustered within each of these areas.

4.1 Standardization committees' overview

The standards search was carried out considering the agreed key concept list (see Table 2 in section 3.2), and, as a result, several standardization committees were identified as responsible of the development of these standards. These technical committees were therefore selected as the main technical committees in relation to the SURPASS Project, and they are shown in Table 3 clustered by technical area:

Table 3. Relevant standardization committees for SURPASS	
Technical area	Standardization Technical Committees
Plastics	ISO/TC 61 - Plastics CEN/TC 249 - Plastics CEN/CLC/JTC 10 - Material efficiency aspects for products in scope of Ecodesign legislation ASTM Committee D20 on Plastics
Environmental aspects	ISO/TC 207 - Environmental management ISO/TC 323 - Circular Economy CEN/CLC/JTC 10 - Material efficiency aspects for products in scope of Ecodesign legislation
CS#1 – Building (Windows)	ISO/TC 162 - Doors, windows and curtain walling ISO/TC 163 - Thermal performance and energy use in the built environment CEN/TC 33 - Doors, windows, shutters, building hardware and curtain walling CEN/TC 89 - Thermal performance of buildings and building components CEN/TC 411 - Bio-based products
CS#2 – Railway	ISO/TC 92/SC 1 - Fire initiation and growth CEN/TC 256 - Railway applications
CS#3 – Packaging	ISO/TC 61 Plastics CEN/TC 249 Plastics ISO/TC 122 Packaging CEN/TC 261 Packaging CEN/TC 194 Utensils in contact with food

4.2 Standardization on Plastics

Technical committees

ISO/TC 61 - Plastics

Standardization of nomenclature, methods of test, and specifications applicable to materials and products in the field of plastics including processing (of products) by assembly in particular, but not limited to, polymeric adhesives, sealing, joining, welding.

The substructure of ISO/TC 61 “Plastics” is:

- ISO/TC 61/SC 1 Terminology
- ISO/TC 61/SC 2 Mechanical behaviour
- ISO/TC 61/SC 4 Burning behaviour
- ISO/TC 61/SC 5 Physical-chemical properties
- ISO/TC 61/SC 6 Ageing, chemical and environmental resistance
- ISO/TC 61/SC 9 Thermoplastic materials
- ISO/TC 61/SC 10 Cellular plastics
- ISO/TC 61/SC 11 Products
- ISO/TC 61/SC 12 Thermosetting materials
- ISO/TC 61/SC 13 Composites and reinforcement fibres
- ISO/TC 61/SC 14 Environmental aspects

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 249 Plastics

Standardization of: 1) terminology, 2) test methods, 3) specifications, classifications and designation systems, 4) environmental aspects, 5) joining systems and techniques, of plastics, plastic-based materials, semi-finished products and products (thermoplastics, thermosets, degradable plastics, bio-based polymers, thermoplastic elastomers, composites, reinforcement products for plastics, recyclates).

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/CLC/JTC 10 Material efficiency aspects for products in scope of Ecodesign legislation

Material efficiency aspects for products in scope of the Ecodesign Directive 2009/125/EC and its future revisions. Producing generic and horizontal CEN-CENELEC publications covering aspects such as assessment methods, design rules, dematerialization, digitalization and transfer of information on a variety of material efficiency topics, in particular (but not limited to):

- Extending product lifetime
- Ability to reuse components or recycle materials* from products at End-of-Life
- Use of reused components and/or recycled materials* in products

* Includes coverage of the European Commission defined list of Critical Raw Materials (CRM).

ASTM Committee D20 on Plastics

The Committee has jurisdiction of over 475 standards, published in the Annual Book of ASTM Standards, Section 8 on Plastics. These standards have and continue to play a preeminent role in all aspects important to the effective utilization of plastics, including specimen preparation, material specifications and methodologies for mechanical, thermal, optical and analytical testing.

Standards to be considered

Table 4. Standards to be considered: Plastics	
Terminology	
ISO 472:2013	Plastics — Vocabulary
ISO 472:2013/AMD 1:2018	Plastics — Vocabulary — Amendment 1: Additional items
ISO 1043-1:2011	Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics
ISO 1043-1:2011/AMD 1:2016	Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics — Amendment 1: New symbol ST for syndiotactic
ISO 1043-2:2011	Plastics — Symbols and abbreviated terms — Part 2: Fillers and reinforcing materials
ISO 1043-3:2016	Plastics — Symbols and abbreviated terms — Part 3: Plasticizers
ISO 1043-4:2021	Plastics — Symbols and abbreviated terms — Part 4: Flame retardants
EN ISO 11469:2016	Plastics - Generic identification and marking of plastics products (ISO 11469:2016)
EN 17228:2019	Plastics - Bio-based polymers, plastics, and plastics products - Terminology, characteristics and communication
Burning behaviour	
ISO 871:2022	Plastics — Determination of ignition temperature using a hot-air furnace
ISO 4589-1:2017	Plastics — Determination of burning behaviour by oxygen index — Part 1: General requirements
ISO 4589-2:2017	Plastics — Determination of burning behaviour by oxygen index — Part 2: Ambient-temperature test
ISO 4589-3:2017	Plastics — Determination of burning behaviour by oxygen index — Part 3: Elevated-temperature test
ISO 4589-4:2021	Plastics — Determination of burning behaviour by oxygen index — Part 4: High gas velocity test
ISO 10093:2020	Plastics — Fire tests — Standard ignition sources
ISO 10840:2008	Plastics — Guidance for the use of standard fire tests
ISO 15791-1:2014	Plastics — Development and use of intermediate-scale fire tests for plastics products — Part 1: General guidance
ISO/TR 20118:2019	Plastics — Guidance on fire characteristics and fire performance of PVC materials used in building applications
ISO 21367:2007	Plastics — Reaction to fire — Test method for flame spread and combustion product release from vertically oriented specimens
ISO 30021:2013	Plastics — Burning behaviour — Intermediate-scale fire-resistance testing of fibre-reinforced polymer composites
ASTM D5048-20a	Standard Test Method for Measuring the Comparative Burning Characteristics and Resistance to Burn-Through of Solid Plastics Using a 125-mm Flame
Polymeric materials and composites /epoxi resins, polyurethanes	
ISO 3001:1999	Plastics — Epoxy compounds — Determination of epoxy equivalent
ISO 3673-1:1996	Plastics — Epoxy resins — Part 1: Designation

ISO 3673-2:2012	Plastics — Epoxy resins — Part 2: Preparation of test specimens and determination of properties of crosslinked epoxy resins
ISO 4895:2014	Plastics — Liquid epoxy resins — Determination of tendency to crystallize
ISO 4597-1:2005	Plastics — Hardeners and accelerators for epoxy resins — Part 1: Designation
ISO 4898:2018	Rigid cellular plastics — Thermal insulation products for buildings — Specifications
ISO 6721-5:2019	Determination of dynamic mechanical properties — Part 5: Flexural vibration — Non-resonance method
ISO 16365-1:2014	Plastics — Thermoplastic polyurethanes for moulding and extrusion — Part 1: Designation system and basis for specifications
ISO 16365-2:2014	Plastics — Thermoplastic polyurethanes for moulding and extrusion — Part 2: Preparation of test specimens and determination of properties
ISO 18280:2010	Plastics — Epoxy resins — Test methods
EN ISO 178:2019	Plastics - Determination of flexural properties (ISO 178:2019)
EN 479:2018	Plastics - Poly(vinyl chloride) (PVC) based profiles - Determination of heat reversion
EN 513:2018	Plastics - Poly(vinyl chloride) (PVC) based profiles - Determination of the resistance to artificial weathering
EN ISO 527-2:2012	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:2012)
EN ISO 527-4:2021	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites (ISO 527-4:2021, Corrected version 2022-02)
EN ISO 527-5:2021	Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites (ISO 527-5:2021)
EN ISO 1172:1998	Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods (ISO 1172:1996)
EN ISO 4892-3:2016	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (ISO 4892-3:2016)
EN ISO 7327:1997	Plastics - Hardeners and accelerators for epoxide resins - Determination of free acid in acid anhydride (ISO 7327:1994)
EN ISO 11357-2:2020	Plastics - Differential scanning calorimetry (DSC) - Part 2: Determination of glass transition temperature and step height (ISO 11357-2:2020)
EN ISO 14125:1998	Fibre-reinforced plastic composites - Determination of flexural properties (ISO 14125:1998)
EN ISO 14125:1998/AC:2002	Fibre-reinforced plastic composites - Determination of flexural properties (ISO 14125:1998/Cor 1:2001)
EN ISO 14125:1998/A1:2011	Fibre-reinforced plastic composites - Determination of flexural properties (ISO 14125:1998/Amd 1:2011)
EN ISO 20337:2020	Fibre-reinforced plastic composites - Shear test method using a shear frame for the determination of the in-plane shear stress/shear strain response and shear modulus (ISO 20337:2018)
ASTM D2734-16	Standard Test Methods for Void Content of Reinforced Plastics

Environmental aspects related to plastics	
ISO 15270:2008	Plastics — Guidelines for the recovery and recycling of plastics waste
ISO 16620-1:2015	Plastics — Biobased content — Part 1: General principles
ISO 16620-2:2019	Plastics — Biobased content — Part 2: Determination of biobased carbon content
ISO 16620-3:2015	Plastics — Biobased content — Part 3: Determination of biobased synthetic polymer content
ISO 16620-4:2016	Plastics — Biobased content — Part 4: Determination of biobased mass content
ISO 16620-5:2017	Plastics — Biobased content — Part 5: Declaration of biobased carbon content, biobased synthetic polymer content and biobased mass content
ISO/TR 23891:2020	Plastics — Recycling and recovery — Necessity of standards
EN ISO 177:2017	Plastics - Determination of migration of plasticizers (ISO 177:2016)
EN 15343:2007	Plastics - Recycled Plastics - Plastics recycling traceability and assessment of conformity and recycled content
EN 15347:2007	Plastics - Recycled Plastics - Characterisation of plastics wastes
CEN/TR 15353:2007	Plastics - Recycled plastics - Guidelines for the development of standards for recycled plastics
CEN/TS 16010:2020	Plastics - Recycled plastics - Sampling procedures for testing plastics waste and recyclates
CEN/TS 16011:2013	Plastics - Recycled plastics - Sample preparation
EN ISO 17422:2019	Plastics - Environmental aspects - General guidelines for their inclusion in standards (ISO 17422:2018)
EN 17615:2022	Plastics - Environmental Aspects - Vocabulary
CEN/TS 17627:2021	Plastics - Recycled plastics - Determination of solid contaminants content
EN ISO 22526-1:2021	Plastics - Carbon and environmental footprint of biobased plastics - Part 1: General principles (ISO 22526-1:2020)
EN ISO 22526-2:2021	Plastics - Carbon and environmental footprint of biobased plastics - Part 2: Material carbon footprint, amount (mass) of CO ₂ removed from the air and incorporated into polymer molecule (ISO 22526-2:2020)
EN ISO 22526-3:2021	Plastics - Carbon and environmental footprint of biobased plastics - Part 3: Process carbon footprint, requirements and guidelines for quantification (ISO 22526-3:2020)
CEN ISO/TR 21960:2020	Plastics - Environmental aspects - State of knowledge and methodologies (ISO/TR 21960:2020)

Standards under development to be considered:

Table 5. Standards under development to be considered: Plastics	
Burning behaviour	
ISO/WD 10840	Plastics — Guidance for the use of standard fire tests
Polymeric materials and composites /epoxi resins, polyurethanes	
prEN ISO 14126 rev	Fibre-reinforced plastic composites - Determination of compressive properties in the in-plane direction

prEN ISO 527-2 rev	Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics
prEN ISO 527-4 rev	Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites
prEN ISO 1172	Textile-glass-reinforced plastics - Prepregs, moulding compounds and laminates - Determination of the textile-glass and mineral-filler content - Calcination methods (ISO/DIS 1172:2022)
prEN ISO 4892-3 rev	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps
Environmental aspects related to plastics	
ISO/CD 16620-4	Plastics — Biobased content — Part 4: Determination of biobased mass content
ISO/CD TR 4763	Plastics — Environmental aspects — Analysis of relevant terms used in the sector and need for standardization
ISO/DIS 22526-4	Plastics — Carbon and environmental footprint of biobased plastics — Part 4: Environmental (total) footprint (Life Cycle Assessment)
prEN 15347	Plastics - Recycled plastics - Characterisation of sorted plastics wastes
prEN ISO 24187	Principles for the analysis of plastics and microplastics present in the environment (ISO/DIS 24187:2021)
prEN 45560	Method to achieve circular designs of products

4.3 Standardization on Environmental aspects

Technical committees

ISO/TC 207 - Environmental management

Standardization in the field of environmental management to address environmental and climate impacts, including related social and economic aspects, in support of sustainable development.

TC 207 is focused on environmental management systems, auditing, verification/validation and related investigations, environmental labelling, environmental performance evaluation, life cycle assessment, climate change and its mitigation and adaptation, ecodesign, material efficiency, environmental economics and environmental and climate finance.

Where appropriate, the ISO/TC 207 works in cooperation with existing committees on subjects that may support environmental management.

The substructure of ISO/ TC 207 “Environmental management” is:

- ISO/TC 207/SC 1 Environmental management systems
- ISO/TC 207/SC 2 Environmental auditing and related environmental investigations
- ISO/TC 207/SC 3 Environmental labelling
- ISO/TC 207/SC 4 Environmental performance evaluation
- ISO/TC 207/SC 5 Life cycle assessment
- ISO/TC 207/SC 7 Greenhouse gas and climate change management and related activities

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

ISO/TC 323 - Circular Economy

Standardization in the field of Circular Economy to develop frameworks, guidance, supporting tools and requirements for the implementation of activities of all involved organizations, to maximize the contribution to Sustainable Development.

In parallel, the ISO TC 323 works in cooperation with existing committees on subjects that may support Circular Economy.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/CLC/JTC 10 - Material efficiency aspects for products in scope of Ecodesign legislation

Material efficiency aspects for products in scope of the Ecodesign Directive 2009/125/EC and its future revisions.

Producing generic and horizontal CEN-CENELEC publications covering aspects such as assessment methods, design rules, dematerialization, digitalization and transfer of information on a variety of material efficiency topics, in particular (but not limited to):

- Extending product lifetime
- Ability to reuse components or recycle materials* from products at End-of-Life
- Use of reused components and/or recycled materials* in products

* Includes coverage of the European Commission defined list of Critical Raw Materials (CRM).

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

Standards to be considered

Table 6. Standards to be considered: Environmental aspects	
ISO 14006:2020	Environmental management systems - Guidelines for incorporating eco-design
EN ISO 14020:2001	Environmental labels and declarations — General principles
ISO 14026:2017	Environmental labels and declarations — Principles, requirements and guidelines for communication of footprint information
CEN ISO/TS 14027:2018	Environmental labels and declarations — Development of product category rules
EN ISO 14040:2006	Environmental management — Life cycle assessment — Principles and framework
EN ISO 14040:2006/A1:2020	Environmental management — Life cycle assessment — Principles and framework — Amendment 1
EN ISO 14044:2006	Environmental management — Life cycle assessment — Requirements and guidelines
EN ISO 14044:2006/A1:2018	Environmental management — Life cycle assessment — Requirements and guidelines — Amendment 1

EN ISO 14044:2006/A2:2020	Environmental management — Life cycle assessment — Requirements and guidelines — Amendment 2
EN ISO 14045:2012	Environmental management — Eco-efficiency assessment of product systems — Principles, requirements and guidelines
ISO 14051:2011	Environmental management — Material flow cost accounting — General framework
IEC 62430:2019	Environmentally conscious design (ECD) — Principles, requirements and guidance
EN 45557:2020	General method for assessing the proportion of recycled material content in energy-related products

Standards under development to be considered:

Table 7. Standards under development to be considered: Environmental aspects	
ISO/DTS 14074	Environmental management — Life cycle assessment — Principles, requirements and guidelines for normalization, weighting and interpretation
ISO/CD 59004	Circular Economy – Terminology, Principles and Guidance for Implementation
ISO/CD 59020	Circular Economy — Measuring and assessing circularity
ISO/CD TR 59031	Circular economy – Performance-based approach – Analysis of cases studies
ISO/WD 59040	Circular Economy — Product Circularity Data Sheet
CWA (OASIS project)	Sustainable Nanomanufacturing Framework

4.4 Standardization on CS#1 – Building (Windows)

Technical committees

ISO/TC 162 Doors, windows and curtain walling

Standardization in the field of doors, doorsets, windows, and curtain wall including hardware, manufactured from any suitable material covering the specific performance requirements, terminology, manufacturing sizes and dimensions, and methods of test.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

ISO/TC 163 Thermal performance and energy use in the built environment

Standardization in the field of building and civil engineering works

- of thermal and hygrothermal performance of materials, products, components, elements and systems, including complete buildings, both new and existing, and their interaction with technical building systems;
- of thermal insulation materials, products and systems for building and industrial application, including insulation of installed equipment in buildings;

covering and including:

- test and calculation methods for heat and moisture transfer, temperature and moisture conditions;

- test and calculation methods for energy use in buildings, including the industrial built environment;
- test and calculation methods for heating and cooling loads in buildings;
- test and calculation methods for daylighting, ventilation and air infiltration;
- *in-situ* test methods for thermal, hygrothermal and energy performance of buildings and building components, input data for calculations, including climatic data;
- specifications for thermal insulation materials, products and systems with related test methods and conformity criteria;
- terminology; and
- general review and coordination of work on thermal and hygrothermal performance within ISO.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 33 Doors, windows, shutters, building hardware and curtain walling

Definition of functions of doors, windows, shutters, building hardware, and curtain walls and performance levels and classification associated with these functions which characterize the usage including the ability to meet the essential requirements (of the Construction Products Directive), tests requirements and, if necessary, the essential dimensions, terminology, symbols, packaging, marking and labelling.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 88 Thermal insulating materials and products

Standardisation in the field of thermal insulating materials and products for application in buildings, including insulation for installed equipment and for industrial insulation, covering: terminology and definitions, list of required properties with regard to different applications, methods for the determination of these properties, sampling procedures, conformity criteria, specifications for insulating materials and products, marking and labelling of insulating materials and products.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 89 Thermal performance of buildings and building components

Standardization in the field of energy performance of buildings, including particularly energy transfer through building components and thermal insulation of installed equipment in buildings, covering: - rules for expressing relevant thermal properties and requirements; - calculation and test methods; - input data, including climatic data; - effects of moisture.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 411 Bio-based products

i. Development of standards for bio-based products covering horizontal aspects. This includes consistent terminology, sampling, certification tools, bio-based content, application of and correlation towards life cycle analysis, sustainability criteria for biomass used and for final products, and aspects where further harmonization is needed on horizontal level;

ii. Development of standards for bio-solvents, covering product functionality, biodegradability and, if necessary, product specific aspects not covered under i.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

Standards to be considered

Table 8. Standards to be considered: CS#1 – Building (Windows)	
Window frames - Mechanical and Insulating performance (except thermal performance) and fire resistance properties	
EN 1026:2016	Windows and doors - Air permeability - Test method
EN 1027:2016	Windows and doors - Water tightness - Test method
EN 12207:2016	Windows and doors - Air permeability - Classification
EN 12208:1999	Windows and doors - Watertightness - Classification
EN 12210:2016	Windows and doors - Resistance to wind load - Classification
EN 12211:2016	Windows and doors - Resistance to wind load - Test method
EN 12400:2002	Windows and pedestrian doors - Mechanical durability - Requirements and classification
EN 13049:2003	Windows - Soft and heavy body impact - Test method, safety requirements and classification
EN 13115:2020	Windows - Classification of mechanical properties - Racking, torsion and operating forces
EN 13420:2011	Windows - Behaviour between different climates - Test method
EN 14609:2004	Windows - Determination of the resistance to static torsion
EN 14608:2004	Windows - Determination of the resistance to racking
Window frames - Thermal performance	
ISO 9229:2020	Thermal insulation — Vocabulary
ISO 15099:2003	Thermal performance of windows, doors and shading devices — Detailed calculations
ISO 19467:2017	Thermal performance of windows and doors — Determination of solar heat gain coefficient using solar simulator
EN ISO 10077-1:2017	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 1: General (ISO 10077-1:2017, Corrected version 2020-02)
EN ISO 10077-2:2017	Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: Numerical method for frames (ISO 10077-2:2017)
EN 12412-2:2003	Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 2: Frames
EN 12412-4:2003	Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 4: Roller shutter boxes
EN ISO 12567-1:2010	Thermal performance of windows and doors - Determination of thermal transmittance by the hot-box method - Part 1: Complete windows and doors (ISO 12567-1:2010)

Bio-based products	
CEN/TR 16957:2016	Bio-based products - Guidelines for Life Cycle Inventory (LCI) for the End-of-life phase
EN 16751:2016	Bio-based products - Sustainability criteria
EN 16760:2015	Bio-based products - Life Cycle Assessment
CEN/TR 17341:2019	Bio-based products - Examples of reporting on sustainability criteria
Windows - Environmental Product Declarations	
EN 17213:2020	Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets

Standards under development to be considered:

Table 9. Standards under development to be considered: CS#1 – Building (Windows)	
Window frames - Mechanical and Insulating performance (except thermal performance) and fire resistance properties	
ISO/DIS 6612	Windows and doors — Resistance to wind load — Test method
ISO/DIS 6613	Windows and doors — Air permeability — Test method
ISO/DIS 8270	Windows and doors — Determination of the resistance to soft and heavy body impact for doors
prEN 13049	Windows - Soft and heavy body impact - Test method, safety requirements and classification
Windows - Environmental Product Declarations	
EN 17213:2020/prA1	Windows and doors - Environmental Product Declarations - Product category rules for windows and pedestrian doorsets

4.5 Standardization on CS#2 – Railway

Technical committees

ISO/TC 92 - Fire safety

Standardization of the methods of assessing

- fire hazards and fire risk to life and to property;
- the contribution of design, materials, building materials, products and components to fire safety

and methods of mitigating the fire hazards and fire risks by determining the performance and behaviour of these materials, products and components, as well as of buildings and structures.

The substructure of ISO/TC 92 “Fire safety” is:

- ISO/TC 92/SC 1 Fire initiation and growth CS#2 – Railway
- ISO/TC 92/SC 2 Fire containment
- ISO/TC 92/SC 3 Fire threat to people and environment
- ISO/TC 92/SC 4 Fire safety engineering

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 256 - Railway applications

Standardization of all applications for all rail systems, in the field of heavy rail and urban rail (except electrical and electronic subjects) specifically intended for vehicles and fixed installations.

The substructure of CEN/TC 256 “Railway applications” is:

- CEN/TC 256/SC 1 Infrastructure
- CEN/TC 256/SC 2 Rolling stock products
- CEN/TC 256/SC 3 Rolling Stock Systems

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

Standards to be considered

Table 10. Standards to be considered: CS#2 – Railway	
ISO 5660-1:2015	Reaction-to-fire tests — Heat release, smoke production and mass loss rate — Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)
ISO 5660-1:2015/Amd 1:2019	Reaction-to-fire tests — Heat release, smoke production and mass loss rate — Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement) — Amendment 1
EN 45545-2:2020	Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behavior of materials and components

Standards under development to be considered:

No standards under development of interest to the project have been identified.

4.6 Standardization on CS#3 – Packaging

Technical committees

ISO/TC 61 Plastics

See section 4.2

ISO/TC 122 Packaging

Standardization in the field of packaging with regard to terminology and definitions, characteristics, performance requirements and tests, and utilization of related technologies on packaging.

The substructure of ISO/ TC 122 “Packaging” is:

- ISO/TC 122/SC 3 Performance requirements and tests for means of packaging, packages and unit loads (as required by ISO/TC 122)
- ISO/TC 122/SC 4 Packaging and the environment

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 249 Plastics

See section 4.2

CEN/TC 261 Packaging

CEN/TC 261 is responsible for the elaboration of standards dealing with terminology, dimensions, capacities, marking, test methods, performance requirements and environmental aspects in the field of packaging and unit loads. The field covers primary, secondary and transport packaging and unit loads, whatever the materials, shapes, contents or distribution system used.

The substructure of CEN/TC 261 “Packaging” is:

- CEN/TC 261/SC 4 Packaging and Environment
- CEN/TC 261/SC 5 Primary packaging and transport packaging

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

CEN/TC 194 Utensils in contact with food

Standardization in the field of kitchen, table and household utensils, used in the preparation, cooking, serving and consumption of food and beverage, domestically and in catering establishments. Standardization of conditions of storage and transportation of catering containers containing prepared foodstuffs.

The homepage of technical committee with further information on, for example, the Business Plan of the TC can be found [here](#).

Standards to be considered

Table 11. Standards to be considered: CS#3 – Packaging	
<u>Film and sheeting</u>	
ISO 4591:1992	Plastics — Film and sheeting — Determination of average thickness of a sample, and average thickness and yield of a roll, by gravimetric techniques (gravimetric thickness)
ISO 4592:1992	Plastics — Film and sheeting — Determination of length and width
ISO 4593:1993	Plastics — Film and sheeting — Determination of thickness by mechanical scanning
ISO 7765-2:2022	Plastics film and sheeting — Determination of impact resistance by the free-falling dart method — Part 2: Instrumented puncture test
ISO 8296:2003	Plastics — Film and sheeting — Determination of wetting tension
ISO 15105-1:2007	Plastics — Film and sheeting — Determination of gas-transmission rate — Part 1: Differential-pressure methods
ISO 15105-2:2003	Plastics — Film and sheeting — Determination of gas-transmission rate — Part 2: Equal-pressure method
ISO 15106-3:2003	Plastics — Film and sheeting — Determination of water vapour transmission rate — Part 2: Infrared detector method

EN ISO 527-3:2018	Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (ISO 527-3:2018)
EN ISO 6383-1:2015	Plastics - Film and sheeting - Determination of tear resistance - Part 1: Trouser tear method (ISO 6383-1:2015)
EN ISO 6383-2:2004	Plastics - Film and sheeting - Determination of tear resistance - Part 2: Elmendorf method (ISO 6383-2:1983)
EN ISO 7765-1:2004	Plastics film and sheeting - Determination of impact resistance by the free-falling dart method - Part 1: Staircase methods (ISO 7765-1:1988)
EN ISO 11501:2004	Plastics - Film and sheeting - Determination of dimensional change on heating (ISO 11501:1995)
EN 13628-1:2002	Packaging - Flexible packaging material - Determination of residual solvents by static headspace gas chromatography - Part 1: Absolute methods
EN 13628-2:2002	Packaging - Flexible packaging material - Determination of residual solvents by static headspace gas chromatography - Part 2: Industrial methods
EN 14477:2004	Packaging - Flexible packaging material - Determination of puncture resistance - Test methods
EN ISO 14616:2004	Plastics - Heatshrinkable films of polyethylene, ethylene copolymers and their mixtures - Determination of shrinkage stress and contraction stress (ISO 14616:1997)
EN ISO 15106-1:2005	Plastics - Film and sheeting - Determination of water vapour transmission rate - Part 1: Humidity detection sensor method (ISO 15106-1:2003)
EN ISO 15106-2:2005	Plastics - Film and sheeting - Determination of water vapour transmission rate - Part 2: Infrared detection sensor method (ISO 15106-2:2003)
Packaging and the environment	
ISO/TR 16218:2013	Packaging and the environment — Processes for chemical recovery
ISO/TR 17098:2013	Packaging material recycling — Report on substances and materials which may impede recycling
ISO/TR 18568:2021	Packaging and the environment — Marking for material identification
ISO 18604:2013	Packaging and the environment — Material recycling
CEN/TR 13688:2008	Packaging - Material recycling - Report on requirements for substances and materials to prevent a sustained impediment to recycling
CEN/TR 13910:2010	Packaging - Report on criteria and methodologies for life cycle analysis of packaging
CR 13504:2000	Packaging - Material recovery - Criteria for a minimum content of recycled material
CR 14311:2002	Packaging - Marking and material identification system
EN 13427:2004	Packaging - Requirements for the use of European Standards in the field of packaging and packaging waste
EN 13430:2004	Packaging - Requirements for packaging recoverable by material recycling
EN 13437:2003	Packaging and material recycling - Criteria for recycling methods - Description of recycling processes and flow chart

EN 13440:2003	Packaging - Rate of recycling - Definition and method of calculation
Materials and articles in contact with foodstuffs	
EN 1186-1:2002	Materials and articles in contact with foodstuffs - Plastics - Part 1: Guide to the selection of conditions and test methods for overall migration
EN 1186-2:2022	Materials and articles in contact with foodstuffs - Plastics - Part 2: Test methods for overall migration in vegetable oils
EN 1186-3:2022	Materials and articles in contact with foodstuffs - Plastics - Part 3: Test methods for overall migration in evaporable simulants
EN 1186-11:2002	Materials and articles in contact with foodstuffs - Plastics - Part 11: Test methods for overall migration into mixtures of C-labelled synthetic triglycerides
EN 1186-13:2002	Materials and articles in contact with foodstuffs - Plastics - Part 13: Test methods for overall migration at high temperatures
EN 13130-1:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 1: Guide to test methods for the specific migration of substances from plastics to foods and food simulants and the determination of substances in plastics and the selection of conditions of exposure to food simulants
EN 13130-2:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 2: Determination of terephthalic acid in food simulants
EN 13130-3:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 3: Determination of acrylonitrile in food and food simulants
EN 13130-4:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 4: Determination of 1,3-butadiene in plastics
EN 13130-5:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 5: Determination of vinylidene chloride in food simulants
EN 13130-6:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 6: Determination of vinylidene chloride in plastics
EN 13130-7:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 7: Determination of monoethylene glycol and diethylene glycol in food simulants
EN 13130-8:2004	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 8: Determination of isocyanates in plastics
EN 14481:2003	Materials and articles in contact with foodstuffs - Plastics - Test methods for the determination of fatty contact
EN 14233:2002	Materials and articles in contact with foodstuffs - Plastics - Determination of temperature of plastics materials and articles at the plastics/food interface during microwave and conventional oven heating in order to select the appropriate temperature for migration testing
CEN/TR 15356-1:2006	Validation and interpretation of analytical methods, migration testing and analytical data for materials and articles in contact with food - Part 1: General considerations

CEN/TS 14577:2003	Materials and articles in contact with foodstuffs - Plastics - Polymeric additives - Test method for the determination of the mass fraction of a polymeric additive that lies below 1000 Daltons
CEN/TS 13130-28:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 28: Determination of 1,1,1-trimethylolpropane in food simulants
CEN/TS 13130-27:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 27: Determination of 2,4,6-triamino-1,3,5-triazine in food simulants
CEN/TS 13130-26:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 26: Determination of 1-octene and tetrahydrofuran in food simulants
CEN/TS 13130-25:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 25: Determination of 4-methyl-1-pentene in food simulants
CEN/TS 13130-24:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 24: Determination of maleic acid and maleic anhydride in food simulants
CEN/TS 13130-23:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 23: Determination of formaldehyde and hexamethylenetetramine in food simulants
CEN/TS 13130-22:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 22: Determination of ethylene oxide and propylene oxide in plastics
CEN/TS 13130-21:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 21: Determination of ethylenediamine and hexamethylenediamine in food simulants
CEN/TS 13130-20:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 20: Determination of epichlorohydrin in plastics
CEN/TS 13130-19:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 19: Determination of dimethylaminoethanol in food simulants
CEN/TS 13130-18:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 18: Determination of 1,2-dihydroxybenzene, 1,3-dihydroxybenzene, 1,4-dihydroxybenzene, 4,4'-dihydroxybenzophenone and 4,4'-dihydroxybiphenyl in food simulants
CEN/TS 13130-17:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 17: Determination of carbonyl chloride in plastics
CEN/TS 13130-16:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 16: Determination of caprolactam and caprolactam salt in food simulants
CEN/TS 13130-15:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 15: Determination of 1,3-butadiene in food simulants
CEN/TS 13130-14:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 14: Determination of 3,3-bis(3-methyl-4-hydroxyphenyl)-2-indoline in food simulants

CEN/TS 13130-13:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 13: Determination of 2,2-bis(4-hydroxyphenyl)propane (Bisphenol A) in food simulants
CEN/TS 13130-12:2005	Material and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 12: Determination of 1,3-benzenedimethanamine in food simulants
CEN/TS 13130-11:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 11: Determination of 11-aminoundecanoic acid in food simulants
CEN/TS 13130-10:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 10: Determination of acrylamide in food simulants
CEN/TS 13130-9:2005	Materials and articles in contact with foodstuffs - Plastics substances subject to limitation - Part 9: Determination of acetic acid, vinyl ester in food simulants

Standards under development to be considered:

Table 12. Standards under development to be considered: CS#3 – Packaging	
Packaging and the environment	
ISO/WD 4924	Eco-design principle, requirement and guideline for express packaging
ISO/WD TR 18607	Packaging—Packaging and the environment — Guidebook for environment conscious designing of packaging based on ISO 18600 series of standards
prCEN/TR 12340	Packaging - Recommendations for conducting life-cycle inventory analysis of packaging systems
prCEN/TR 14311	Packaging - Marking and material identification system
prCEN/TR 13504 rev	Packaging - Material recovery - Criteria for a minimum content of recycled material
prEN(WI=00261469)	Packaging - Quality grades for plastic packaging for recycling and measuring recycling
(WI=00261470)	Packaging - Material recycling - Report on requirements for substances and materials to prevent a sustained impediment to recycling

5 Deviations from the workplan

No deviations from the work plan have occurred.

6 Conclusions and perspectives

This report brings together the technical standardization committees of interest for the SURPASS project at European and international level on the basis of a detailed analysis carried out with input from the project partners: BASF, CEA, CIDETEC, INDRESMAT and IPC. By making this report available,

the awareness of all partners in the project is raised that there is an extensive basis of potentially relevant standards. This can also prevent any duplication of work.

This document D6.3 as result of the task T6.3.1 forms the basis for the activities of task T6.3.2 on the contribution to the ongoing and future standardization developments, which extends to the end of the project. The developments within the relevant technical committees will be monitored and reported to the other project partners. This information will be included in deliverables: “D6.4 Report on the contribution to standardization – Initial” (M12), “D6.5 Report on the contribution to standardization – Interim” (M24) and “D6.6 Report on the contribution to standardization – Updated” (M42).

Task T6.3.2 will now aim at investigating the standardization potential in the field allowing the project to interact with the related standardization technical committees, assessing to what extent relationships to the committees should be and to use the standardization system as a fast and much more focused dissemination tool to the market stakeholders.

Based on the above outcomes, SURPASS will contribute to new standards developments in specific topics, related with the objectives of the project. The inclusion of the outcomes of the project in new or future standards that can be easily used by the European or international industry and research, will increase the impact of the project and will positively contribute to the transfer of the knowledge generated within the project to the industry and society.

In order to be able to use the standardisation system as a tool for dissemination of project results and interaction with market actors, it will be necessary to decide on the type of interaction with the technical standardisation committees relevant to SURPASS (see Table 3). UNE will provide the necessary technical support for such interaction.

Specific tasks may be performed in relation with the standardisation works of the identified TCs. Depending on the assessment by SURPASS partners of the impact of the identified standardisation TCs on their tasks and the level of contribution that their results can represent for these committees, several actions can be performed, for example:

- the follow up of the standardisation activity through updates reported by UNE, supported by the technical partners;
- the dissemination of the SURPASS project progress by delivering reports to the relevant TCs Secretaries or by attending relevant technical committees' meetings;
- the proposal of standardisation activities to relevant TCs, e.g. revision or modification of existing standards, participation in the development of ongoing standards, proposals of new standards, etc. In the case of new standards, the most appropriate option in the framework of a Horizon Europe project is the development of fast-track standards, such as CEN-CENELEC Workshop Agreements (CWA).

Consequently, the following objectives have been achieved with the production of this deliverable:

- Identification of documents (Standards, Technical Specifications and Technical Reports) that can be directly applied in the SURPASS activities, or/and that can be used as valuable information source.
- Identification of relevant standardization Technical Committees for SURPASS project, allowing the monitorization of their future activities.

- Awareness of the present standardization framework around the SURPASS knowledge areas, that will allow in the next steps to identify possible contributions of the SURPASS project to the on-going and future standardization developments.
- Insight into the state of the art, that will be the base for the specification of a SURPASS strategy concerning its interaction with the European standardisation system

7 References

- ASTM Website (www.astm.org)
- CEN Website (www.cen.eu)
- CENELEC Website (www.cenelec.eu)
- CEN/CENELEC Projex Online database (projex.cen.eu) (restricted to authorized users)
- ISO Website (www.iso.org)
- ISO Project Portal (isotc.iso.org) (restricted to authorized users)
- IEC Website (www.iec.ch)