

EU Roadmap and Standards development for Sustainable Textiles

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CENTEXBEL - Collective Research Centre

Research – Expertise – Testing – Services - Knowledge transfer -
Product certification

Sector Operator for the NBN

- Managing National Mirror Committees in the Textile and related sectors
- Consulting on EU legislation/ policies and standards development



EU Roadmap for Sustainable Textiles

European Green Deal Action Plan - I

GOAL: Develop a European Climate Law

- boost efficient use of resources : move to a clean, circular economy
- restore biodiversity and cut pollution
- climate neutral in 2050

STEPS & ACTIONS REQUIRED BY THE ECONOMIC SECTOR

- invest in environmentally-friendly technologies & support industry to innovate
- cleaner, cheaper and healthier forms of private and public transport
- de-carbonize energy sector & energy efficient buildings
- international cooperation to improve global environmental standards

FOCUS: resource intense sectors, e.g., textiles, construction, electronics, plastics

EU policies & actions Bio-based products

- EU's industrial policy : bio-based products sector = key enabling technology
- bioeconomy strategy and action plan: shifting the European economy towards a greater and more sustainable use of renewable resources
- flagship initiative for a resource-efficient Europe supporting the shift towards a resource-efficient low-carbon economy
- EU Circular Economy Package (see also European Green Deal)
- European Innovation Partnerships (EIP) - EIP on Raw Materials
- Commission Expert Group for Bio-based Products

Most actions have closed and now continue under the EU Green Deal.

Standards

Under development and published

Circular Economy - General - ISO

ISO/TC 207 Environmental management

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

ISO/ TC323 Circular Economy

Frameworks, guidance, supporting tools, requirements for implementing activities to maximize contribution to Sustainable Development

Circular Economy - General - CEN

CEN-CLC SABE TG Circular Economy

- Central point for all CEN and CENELEC developing general or product specific standards for circular economy
- Works together with stakeholder organisations; participating in the Circular plastics alliance (CPA)
- Follows up and interacts with EC on policies and legislation under development

Circular Economy - Textile - CEN & ISO

CEN TC248 New WG 'Circular Textiles Chain – Requirements and categories'

- New work item "Circular Textiles Chain – Requirements and categories" has been approved

ISO TC 38 WG 35 Environmental aspects

- ISO/AWI 5157 "Textiles — Environmental aspects — Vocabulary"

Other documents under preparation

Circular Economy – Plastics

CEN/TC 249/WG 24 – “Plastics - Environmental Aspects”

- CEN ISO/TR 21960:2020 Plastics - Environmental aspects - State of knowledge and methodologies
- prEN 17615 Plastics - Environmental Aspects – Vocabulary

ISO/TC 61/SC 14/WG 1 “Plastics – Environmental aspects – Terminology, classifications and general guidance”

- EN ISO 17422:2018 Plastics — Environmental aspects — General guidelines for their inclusion in standards
- ISO/DTR 4763 Plastics — Environmental aspects — Analysis of relevant terms used in the sector and need for standardization

Circular Economy – Plastics recycling

CEN/TC 249/WG 11 – “Plastics recycling”

Topics covered (for full list please refer to the work program of the WG, see references)

- Characterization & Quality requirements for recyclates, closed loop recycling of specific products
- Determination of contaminants, traceability & assessment of conformity
- Guidelines

ISO/TC 61/SC 14/WG 5 “Mechanical and chemical recycling”

- ISO/WD 5677 Testing and characterization of mechanically recycled Polypropylene (PP) and Polyethylene (PE) for intended use in different plastics processing techniques
- ISO/TR 23891:2020 Plastics — Recycling and recovery — Necessity of standards
- ISO 15270:2008 Plastics — Guidelines for the recovery and recycling of plastics waste
- ISO/PWI 6024 Plastics – Recycled plastics- Determination of chemical content and test frequency – Low Density Polyethylene (LDPE) Recyclates, mechanically recycled

Bio(based)materials – CEN & ISO

CEN/TC 411 Bio-based products

WG 1 Terminology

WG 3 Bio-based content

WG 4 Sustainability criteria, life cycle analysis and related issues

WG 5 Certification and declaration tools

For the list of published & documents under development please refer to the resources section

ISO/TC 61/SC 14/WG 3 “Biobased plastics”

For the list of published & documents under development please refer to the resources section.
The topics covered are similar to those of CEN TC411.

Bio-degradability – under development

ISO/TC 38/WG 30 Tests for Biodegradability

- ISO 21701:2019 Textiles — Test method for accelerated hydrolysis of textile materials and biodegradation under controlled composting conditions of the resulting hydrolysate

ISO/TC 61/SC 14/WG 2 “Biodegradability”

- ISO/DIS 23517 Plastics — Biodegradable mulch films for use in agriculture and horticulture - Requirements and test methods regarding biodegradation, ecotoxicity and control of constituents
- ISO/WD 5424 Compostable drinking straws
- ISO/WD 5412 Biodegradable plastic shopping bags for composting
- prEN ISO/AWI 20200 Plastics — Determination of the degree of disintegration of plastic materials under simulated composting conditions in a laboratory-scale test
- ISO/WD 5430 Plastics — Marine ecotoxicity testing scheme for biodegradable plastic materials

Bio-degradability – Published

ISO/TC 61/SC 14/WG 2 “Biodegradability”

- ISO 23977-1:2020 Plastics — Determination of the aerobic biodegradation of plastic materials exposed to seawater — Part 1: Method by analysis of evolved carbon dioxide
- ISO 23977-2:2020 Plastics — Determination of the aerobic biodegradation of plastic materials exposed to seawater — Part 2: Method by measuring the oxygen demand in closed respirometer
- EN ISO 14855-1:2012 Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide — Part 1: General method
- EN ISO 14855-2:2018 Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide — Part 2: Gravimetric measurement of carbon dioxide evolved in a laboratory-scale test
- EN ISO 14853:2016 Plastics — Determination of the ultimate anaerobic biodegradation of plastic materials in an aqueous system — Method by measurement of biogas production
- FprEN ISO/FDIS 14852 Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by analysis of evolved carbon dioxide (revising EN ISO 14852:2018)
- EN ISO 14851:2019 Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by measuring the oxygen demand in a closed respirometer

Microplastics - Textile

CEN/ TC 248/ WG 37 & ISO TC38 WG 34 "Textiles - Microplastics from textile sources"

- prEN ISO/AWI 4484-1 "Textiles and textile products — Microplastics from textile sources — Part 1: Determination of fibre loss from fabrics during washing"
- prEN ISO/AWI 4484-2 "Textiles and textile products — Microplastics from textile sources — Part 2: Qualitative and quantitative evaluation of microplastics"

ISO/ TC 38/ WG 34

- ISO/AWI 5228 "Textiles- Measurement of emission mass of fibre debris from textile products for microplastics detection — Domestic washing method"

Microplastics - Related

ISO/ TC 147/ SC2 “Water quality - Physical, chemical and biochemical methods”

- ISO/NP 24606-1 – “Water quality - Analysis of microplastics in drinking water and groundwater - Part 1: Method using vibrational spectroscopy”

ISO/TC 61/SC 14/WG 4 “Characterization of plastics leaked into the environment (including microplastics) and quality control criteria of respective methods”

- prEN ISO/NP 24542 Method for analysing micro plastics in waters with very low contents of suspended solid
- prEN ISO/CD 24187 Principles for the analysis of plastic and microplastic present in the environment
- CEN ISO/TR 21960:2020 Plastics — Environmental aspects — State of knowledge and methodologies

Reference material

Information from the European Commission

European Green Deal: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

Bio-based products: https://ec.europa.eu/growth/sectors/biotechnology/bio-based-products_en

Sustainability: https://ec.europa.eu/growth/industry/sustainability_en

List of Technical Committees and work program information:

CEN: <https://standards.cen.eu/dyn/www/f?p=CENWEB:6:::NO>

ISO: <https://www.iso.org/technical-committees.html>

(You can contact me for assistance with finding the work program information.)

Contact

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