

# ARGE Conference 2025 in Curia | Anadia (PT)

Life Cycle Assessment (LCA) tool and Material Compliance:

Future of ARGE's EPD program?

Lea Rammelmann, Christina Siemsen

11<sup>th</sup> September 2025

## Christina Siemsen

Material Compliance Specialist



## Lea Rammelmann

Lead Global Product Sustainability



# Agenda



1. Challenges
2. EPD Development
3. Material Compliance

# Why Tools for ARGE?

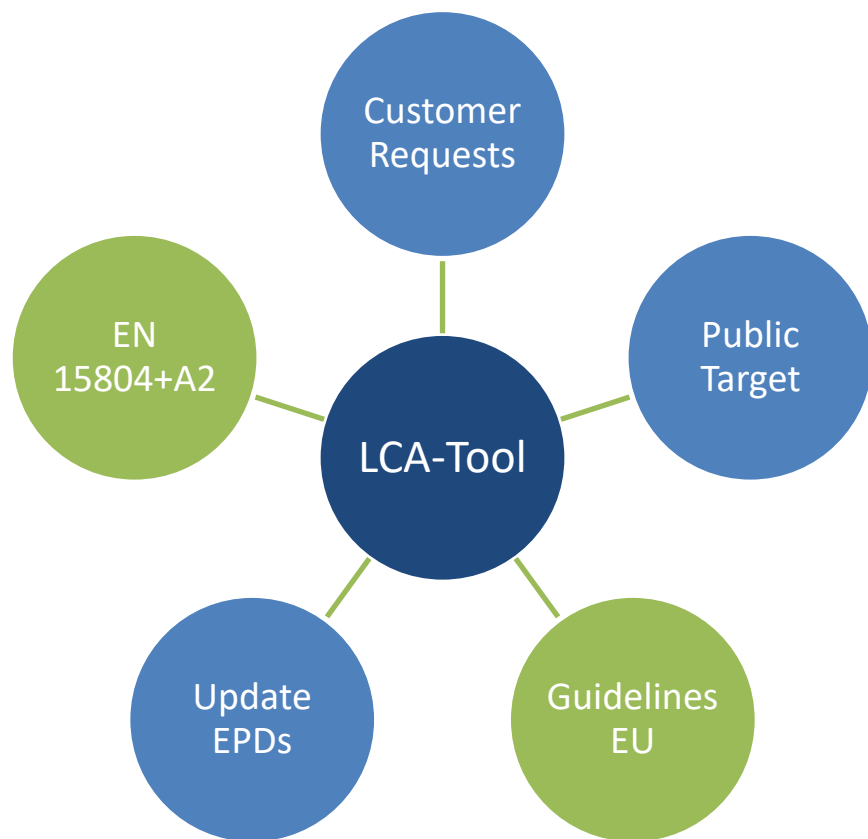
## Status Quo

- ARGE-EPDs with worst-case approach
- Rigid and inflexible
- Low product-specificity (e.g. materials)
- No basis for optimization
- Risk of future regulatory misalignment

## Possible Scenario

- LCA- or EPD-Tool
- Tool handled by association
- Flexible
- Product-specificity and efficiency
- Product Development (e.g. CO2-analysis)
- Future-Proofing (e.g. DPP)

# Challenges



**Published EPDs**

For using the EPDs in a digital format as XML file, please visit [IBU data](#).

For using the EPDs as PDF file: To download an EPD directly, please click on the name (link) in the product column.  
To view more information on an individual EPD, please click directly on the preview picture.

Search published EPDs

Preview	Product	Manufacturer	Main category	Category	PCR	Declaration number	DIN standard	Language
	<a href="#">Safe Lock Auditron</a>	dormakaba	02 Bauprodukte	Türen, Fenster, Beschläge und Zubehör	Electronic and physical Access Control Systems	EPD-DOR-20240051-CBA1-EN	EN 15804+A2	
	<a href="#">RTS 80, RTS 80 FMB, RTS 80 EN18 Series door closers</a>	dormakaba	02 Bauprodukte	Türen, Fenster, Beschläge und Zubehör	Building Hardware products	EPD-DOR-20200115-CB03-EN	EN 15804+A1	
	<a href="#">RTS 75 V, RTS 75 D, RTS 87 Series door closers</a>	dormakaba	02 Bauprodukte	Türen, Fenster, Beschläge und Zubehör	Building Hardware products	EPD-DOR-20200116-CB04-EN	EN 15804+A1	

117 EPDs

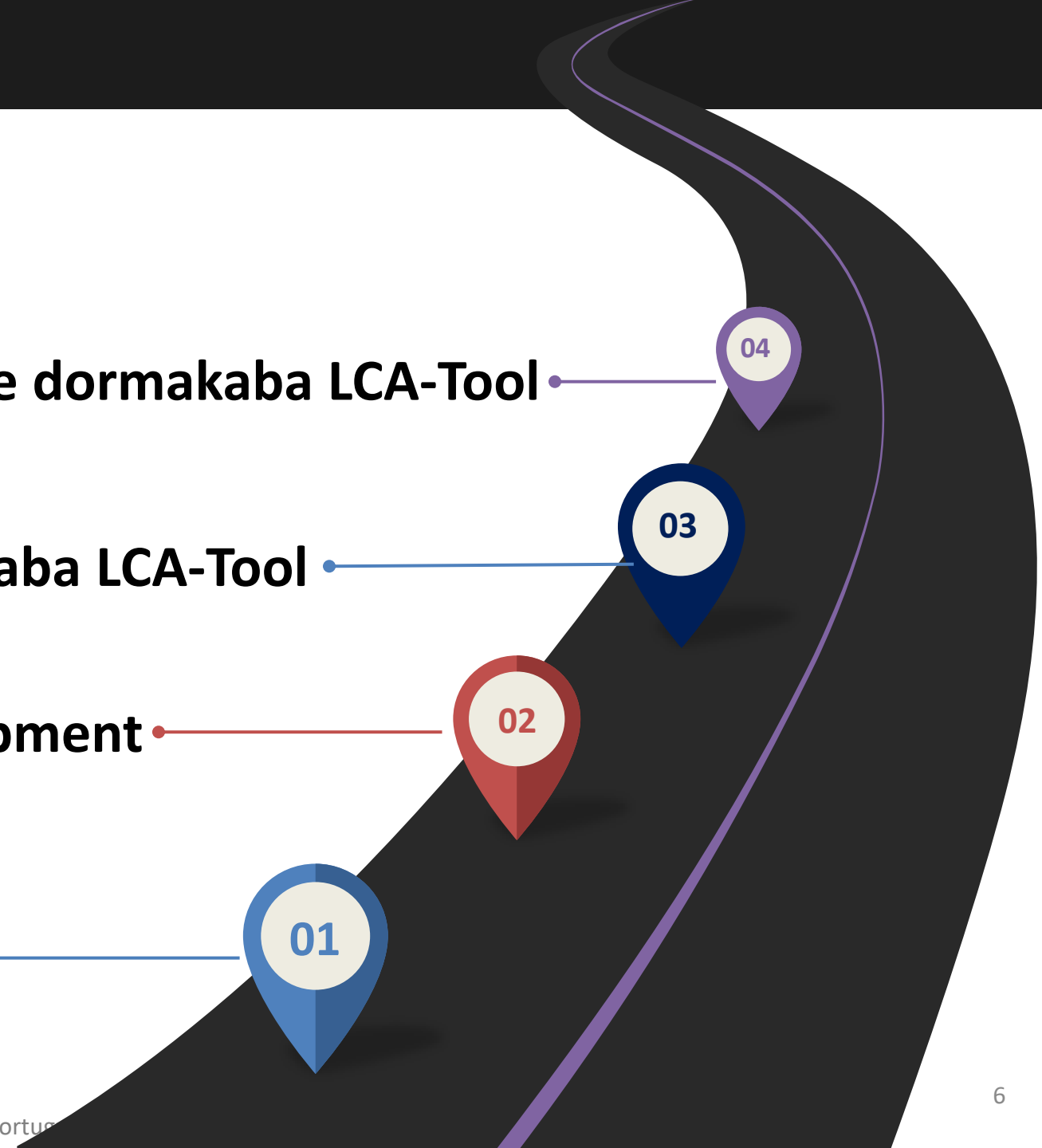
## dormakaba's „EPD Journey“

**2025:** Update dormakaba LCA-Tool

**2021:** Implementation dormakaba LCA-Tool

**2014-2020:** Individual EPD Development

**2013:** First EPD



# dormakaba LCA-Tool (1/2)

Global Settings

Text Variables

Scenarios

Drill Down Settings

EPD

☐ Show visible only
 

☒ Show all
 ☐ Show all changed
 ☐ Include subfolders

Material Group

Product weight incl. packaging

1. BOM / Raw material supply A1

Metals

Plastics

Electronic components

Batteries

Printed wiring boards

Other materials

Packaging materials and Lables

2. Transport from the suppliers A2

3. Assembly A3

4. Transport to site A4

5.a Use stage B2

5.b Use stage B6

6. End of Life C+D

Name	Glass wall system 2025-06	Comment
Aluminium die casting part	0	[kg/FU]; Aluminium - Die castin...
Aluminium die casting part (Asia)	0	[kg/FU]; Aluminium - Die castin...
Aluminium sheet part	0	[kg/FU]; Aluminium - Sheet par...
Aluminium sheet part (Asia)	0	[kg/FU]; Aluminium - Sheet par...
Aluminium sheet part (origin India)	0	[kg/FU]; Aluminium - Sheet par...
Aluminium extrusion part	6,6715	[kg/FU]; Aluminium - Extrusion ...
Aluminium extrusion part (Asia)	0	[kg/FU]; Aluminium - Extrusion ...
Aluminium casement	0	[kg/FU]; Aluminium (powder co...
Aluminium casement (Asia)	0	[kg/FU]; Aluminium (powder co...
Secondary Aluminium material	90	[%]; Ratio Aluminium secondar...
Brass part	0	[kg/FU]; Brass - part (100% sec...
Chromium metal	0	[kg/FU]; Chromium - part; Regi...
Secondary Chromium material	0	[%]; Ratio Chromium secondar...

# dormakaba LCA-Tool (2/2)

Calculation Template for EPD results  
in accordance with  
EN 15804:2012+A2:2019  
Product : TS 98 XEA



Date : 21.02.2025  
Dormakaba Version : 1  
Editor : Shreya Kori  
Comments : LCA-tool DHW\_V03

Environmental indicators and information for EPDs in accordance with  
EN 15804:2012+A2:2019

1 Core environmental impact indicators

CORE ENVIRONMENTAL IMPACT INDICATORS												
	A1	A2	A3	A4	A5	B2	B6	C1	C2	C3	C4	D
GWP - total [kg CO <sub>2</sub> eq.]	8.31E+00	5.24E-02	1.18E+00	4.08E-02	4.91E-01				1.89E-02	6.69E-01		-3.73E+00
GWP - fossil [kg CO <sub>2</sub> eq.]	8.38E+00	5.02E-02	1.72E+00	3.90E-02	1.23E-02				1.80E-02	5.71E-01		-3.72E+00
GWP - biogenic [kg CO <sub>2</sub> eq.]	-8.06E-02	2.20E-03	-5.40E-01	1.80E-03	4.78E-01				8.34E-04	9.86E-02		-1.05E-02
GWP - luluc [kg CO <sub>2</sub> eq.]	7.47E-03	1.19E-06	2.04E-03	9.29E-07	8.07E-06				4.29E-07	3.31E-05		-6.63E-04
ODP [kg CFC-11 eq.]	8.97E-11	5.27E-18	3.84E-12	4.12E-18	8.84E-17				1.90E-18	2.99E-16		-2.13E-11
AP [Mole of H+ eq.]	3.39E-02	1.44E-04	3.22E-03	3.90E-05	1.37E-04				1.81E-05	1.16E-04		-1.19E-02
EP - freshwater [kg P eq.]	1.21E-05	1.08E-08	1.36E-05	8.35E-09	1.73E-08				3.86E-09	4.76E-08		-2.20E-06
EP - marine [kg N eq.]	5.33E-03	4.05E-05	9.18E-04	1.24E-05	4.96E-05				5.75E-06	2.75E-05		-1.72E-03
EP - terrestrial [Mole of N eq.]	5.75E-02	4.46E-04	9.29E-03	1.38E-04	6.18E-04				6.39E-05	5.29E-04		-1.84E-02
POCP [kg NMVOC eq.]	1.73E-02	1.14E-04	2.55E-03	3.51E-05	1.31E-04				1.62E-05	7.59E-05		-5.63E-03
ADPE [kg Sb eq.]	1.70E-04	1.49E-09	1.35E-04	1.17E-09	1.40E-09				5.41E-10	4.13E-09		-3.27E-06
ADPF [MJ]	1.11E+02	7.07E-01	2.50E+01	5.53E-01	1.55E-01				2.56E-01	2.85E-01		-5.08E+01
WDP [m³ world equiv.]	1.00E+00	9.80E-05	6.87E-01	7.64E-05	6.08E-02				3.54E-05	6.85E-02		-2.05E-01

Caption: GWP - total = global warming potential; GWP - fossil = global warming potential (fossil fuel only); GWP - biogenic = global warming potential (biogenic); GWP - luluc = global warming potential (land use only); ODP = ozone depletion; AP = acidification terrestrial and freshwater; EP - freshwater = eutrophication potential (freshwater); EP - marine = eutrophication potential (marine); EP - terrestrial = eutrophication potential (terrestrial); POCP = photochemical ozone formation; ADPE = abiotic depletion potential (element); ADPF = abiotic depletion potential (fossil) WDP = water scarcity.

EoL settings for EPD generation (chapter "LCA: Scenarios and additional technical information"):

Process	Value	Unit and comments
Collection process	4.32	kg collected separately
Recovery system specified by type	0	kg for re-use
	4.22	kg for recycling
	0.1	kg for energy recovery
Disposal	0	kg for final deposition



# Interface to Institut Bauen und Umwelt e.V. (IBU) Germany

EPD-Online ■ Schreibtisch ■ Öffentliche EPDs ■ Eigene EPDs ■ EPD-Informationen ■ Eigene Daten

EPD-Dokument

Vorschau

1 / 8 | - 90% +

ENVIRONMENTAL PRODUCT DECLARATION  
as per ISO 14025 and EN 15804+A2

Owner of the Declaration	dormakaba International Holding GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DOR-20250124-CBA1-EN
Issue date	11.04.2025
Valid to	10.04.2030

**Door closer TS 98 XEA**  
**dormakaba**

www.ibu-epd.com | https://epd-online.com

ECO PLATFORM  
**EPD**  
VERIFIED

Eigenschaften

Bezeichnung:	Door closer TS 98 XEA
Versionsnummer:	v1 (Veröffentlicht)
Sprache:	Englisch
Kategorie/PCR:	02 Bauprodukte Türen, Fenster, Beschläge und Zubehör Building Hardware products
Deklarationsinhaber:	dormakaba International Holding GmbH
Ökobilanz-Ersteller:	dormakaba International Holding GmbH
Ansprechpartner/in:	Sonja Reich

Zusatzdokumente

Datei	Benutzer/in	Datum ↓	Öffentlich
▶ Hintergrundberichte			
▶ Zusätzliche Nachweise			
▶ Zertifikate			
▶ Prüfercheckliste			

Arbeitsdokumente

Verifizierungsbericht	25.03.2025 18:03:46 Herr Dr.-Ing. Wolfram Trinius
-----------------------	--

Benutzer/innen Benutzer/in einladen

# Process of EPD Development

Level	Article number	Part description	Material (please chose from dropdown)	Material specification (please chose from dropdown)	Weight (in kg)	Supplier (name + address)	Transport option (please chose from dropdown)	Transport distance (km, distance from supplier to dk)	Recycling quote (in %)	Comments (if lead (Pb) is contained, please add material specification/alloy on raw material level)
			Metals	Aluminium sheet part						

**SCIP Declaration**  
 Product: TS 98 XEA  
 Article No: 0000044110101  
 SCIP ID: 3bf87ac7-xxxx-yyyy-zzz-abc123456789  
  
 This product contains the following SVHC(s) above 0,1% (w/w):  
 - Lead (CAS 7439-92-1)  
  
 The product has been submitted to the SCIP database based on Article 9(1)(j) of the EU Waste Framework Directive 2008/98/EC and its amendment (EU) 2018/851.  
 Date: July 2025  
 Issued by: Material Compliance

Data collection with standardized LCA-Template

LCA development and Material Compliance screening

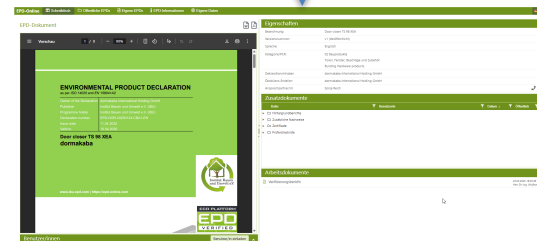
EPD development

Development of Material Compliance documentation

Calculation Template for EPD results  
in accordance with  
EN 15804:2012+A2:2019  
Product: TS 98 XEA



Date: 21.02.2025  
 Created by: Version: 1  
 Edited: Steffen Kroll  
 Comments: LCA and EPD\_V03



## Why Material Compliance Matters



### Material Compliance is essential to:

- Access regulated markets
- Meet legal & customer requirements
- Provide reliable data for EPDs & sustainability
- Strengthen product trust and reduce risk

# From Material Compliance to Product Compliance – Structured Process



## IEC 63000 ensures that:

- Declarations are based on **verified supplier data**
- Legal and customer requirements are **fulfilled**
- **Trustworthy sustainability** reporting (e.g., EPDs) and declarations (e.g., CE) are supported

## BOM Review for Material Compliance

Level	Article number	Part description	Material (please chose from dropdown)	Material specification (please chose from dropdown)	Weight (in kg)	Supplier (name + address)
10.1.1.3	0031101701150	Achslager kpl.				
10.1.1.3.1	0031101701140	Achslager	Metals	Steel part	0,048	
10.1.1.3.1.1	0005004217430	001 RD 36 1.0718 <b>11SMnPb30</b> +C EN 10278 h9				Westbridge Steelworks
10.1.1.6.2	0031101303150	Druckrolle kpl. Anlaufscheibe 0,8mm				
10.1.1.6.2.2	0031103402140	Axialscheibe AS (0,8mm)	Metals	Steel part	0,002	F. Raymar Holdings
10.1.1.6.2.3	0031101801140	Nadel Rolle 1,5x12,8	Metals	Steel tool part	0,005	SinoPark Fabrications
10.1.1.6.3	0031102601140	Volumenausgleich	Plastics	<b>Silicone rubber</b>	0,001	Jagra Rubber & Plastics
10.1.1.6.4	0031102701140	Volumenausgleich Distanzstück	Plastics	<b>Polyamide 6</b>	0,001	Fauster Polymer Works

### To review:

- Alloys / Alloy compositions
- Supplier documentation for materials likely to have SVHCs

# From Compliance Review to EPD Integration – Documentation Approach

## The review creates structured input for:

- EPD documentation → SVHC summary & phrasing
- SCIP submission check (EU products only)
- SCIP dossier creation when needed
- Global REACH declaration updates

This enables accurate and traceable substance data in sustainability documentation.

### Base materials/Ancillary materials

The major material composition including the packaging of the product is listed below:

Name	Value	Unit
Steel	76	%
Aluminium	9	%
Packaging	7	%
Others	5	%
Plastics	2	%
Brass	1	%

The product includes partial articles which contain substances listed in the *Candidate List of REACH Regulation 1907/2006/EC* (date: 25.01.2025) exceeding 0.1 percentage by mass: yes

- Lead (Pb): 7439-92-1 (CAS-No.) is included in some of the alloys used. The concentration of lead in each individual alloy does not exceed 4% (by mass).

## Summary

- **Structured processes** form the foundation
- Built-in flexibility ensures **adaptability** to changing requirements
- **Reliable master data** is key to consistency and efficiency

### ➤ One data collection

- **EPD** Development
- **Material Compliance** Documentation



