

eLCA Circularity Index v0.3

User Documentation

07.04.2025

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Introduction

This document is for test users of the application “eLCA circularity index”. Prior experience with the *eLCA bauteileditor* is assumed.

The pilot takes place in an **isolated test environment: beta.bauteileditor.de**, which is a copy of the previous test environment “2022.bauteileditor.de”. Any user who already had an account in the previous test environment can skip step 1 and instead log in using their existing credentials.

Two connected applications will be used for this pilot:

elca (beta): <https://beta.bauteileditor.de/>

elca circularity index: <https://zirkularitaet.bauteileditor.de/>

Need support? contact elcasupport@n3xtcoder.org

Set Up Your eLCA Account & Project

Before starting, you need to set up your account and project in eLCA

Terms eLCA in beta

Please keep in mind that eLCA is currently in a beta stage. The eLCA login information may not be disclosed. Publications are permitted only with approval of the BBSR. The product is in beta. Please report identified errors.

Deposits into eLCA component templates are configured exclusively for the scope of the LCA exemplary constructions. The component templates are pre-use check-intensive. The component templates used must be adapted to each project to the specific circumstances.

Participants of the expanded beta are asked to gain insights on the following points.

Verification:

- the calculation results
- the stored useful lives
- the deposited bulk densities
- the stored conversion factors

Furthermore, they may like to create high-quality component templates submit for publication in the System.

Terms of Use

All recorded data can be scientifically evaluated by the BBSR. The evaluations are not project sharp and do not allow conclusions to be drawn individual projects. The evaluated data will be proportionately in totals and serve the formation of average values.

The evaluated projects serve the

- formation of average values
- Derivation of benchmarks

apply for access

login data

E-mail*

User name*

Password*

Confirm Password*

Personal data

Anrede* ☐ Mrs. ☐ Mr.

First name*

Surname*

Organization

By clicking Send, you are agreeing to the terms and conditions shown.

Federal Institute for Research on Building, Urban Affairs and Spatial Development

Create an Account:

- Go to the eLCA **registration page**: <https://beta.bauteileditor.de/>
- Sign up ([apply for access](#)) using your **email and password**.
- Verify your account if required.

Import Your Project:

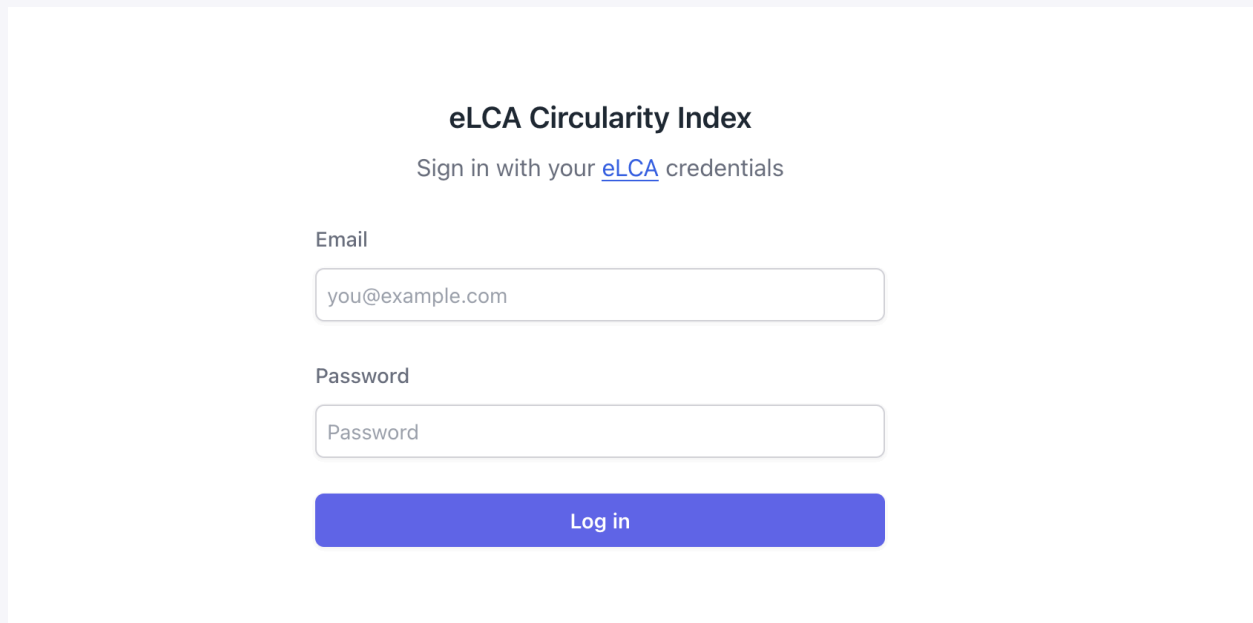
- If you have an existing project, use the **import function** to upload it.
- Follow the prompts to ensure all project data is correctly imported.

Alternatively, Create a New Project:

- If you don't have an existing project, create a **new project** manually.
- Add some **basic building components** to get started.

Once your project is set up, you can proceed with the next steps.

Log In to eLCA Circularity Index



eLCA Circularity Index

Sign in with your [eLCA](#) credentials

Email

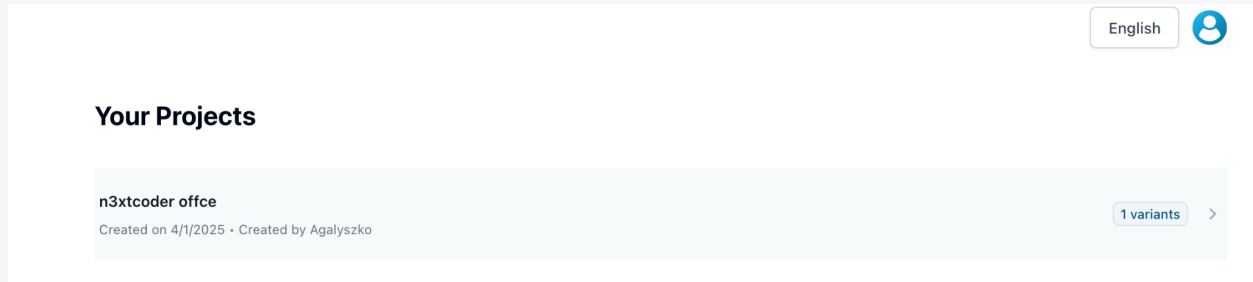
Password

Log in

1. Open the platform's login page: <https://zirkularitaet.bauteileditor.de>
2. Enter your credentials (username and password).
3. Click on the "Log In" button to access the system.

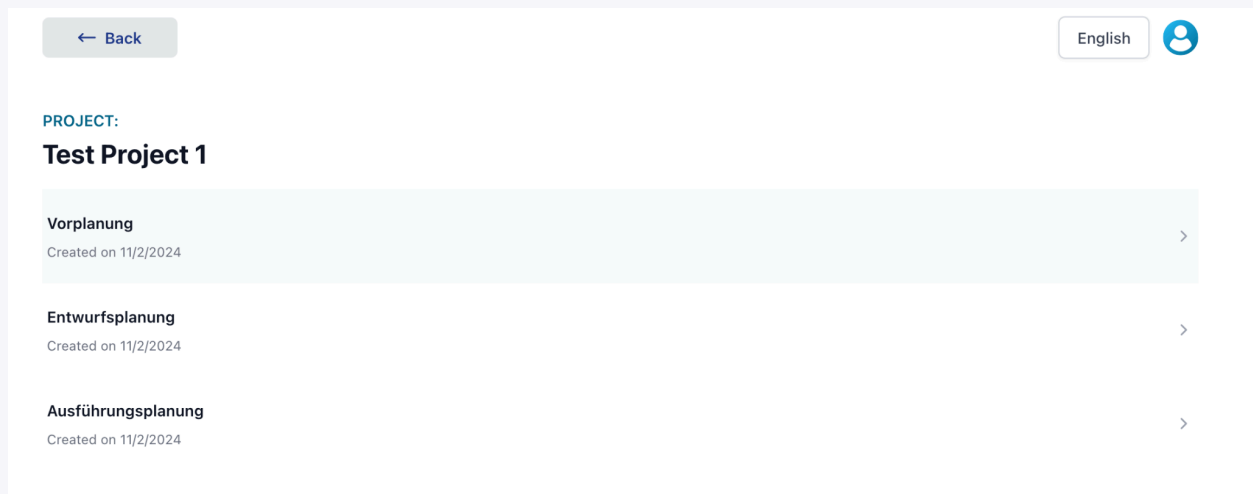
Select a Project and Variant

Select a Project



1. Once logged in, you will be directed to the main dashboard.
2. On the dashboard, you'll see a list of available projects.
3. Browse through the projects and select one to proceed.
4. Click on the project name to enter the project's variants.

Select a Project Variant

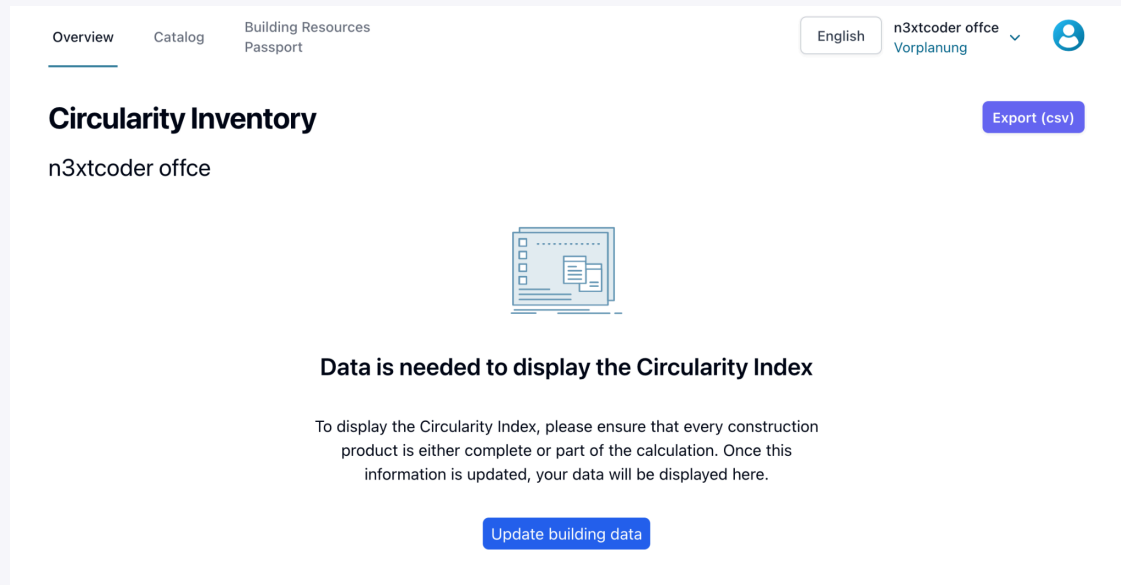


1. Within the selected project, you will see different project variants listed.
2. Choose the variant you would like to work with.
3. Click on the variant to proceed.

Proceed to the Overview Page

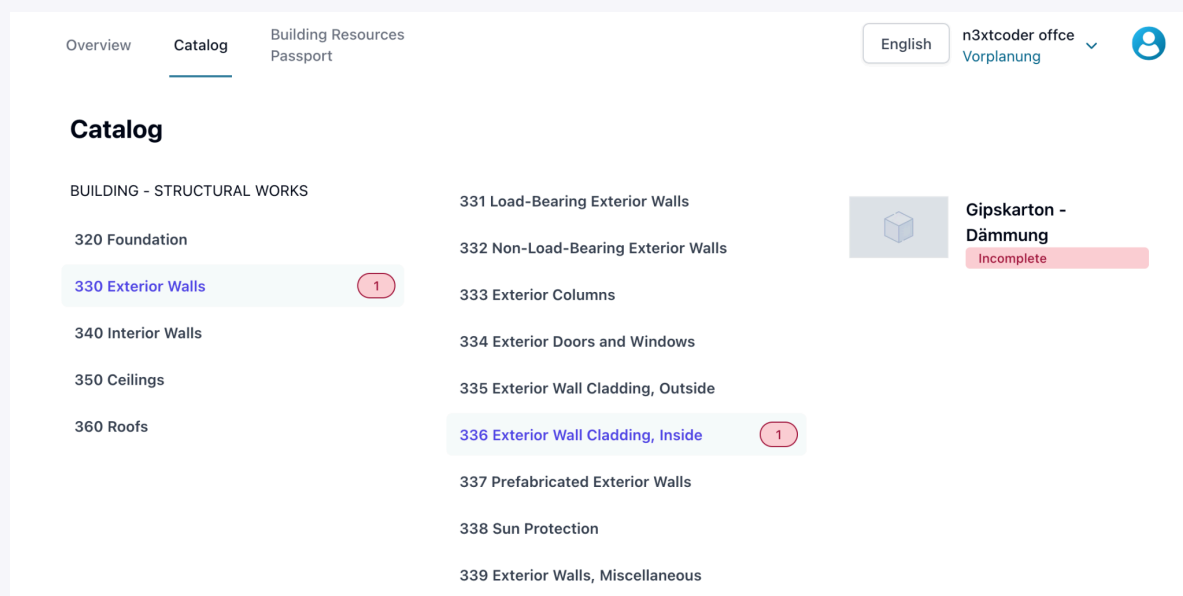
After selecting the project and variant, you will be directed to the **Circularity Index Overview** page for that project variant.

Initially, the Circularity Index page will not display any data. To display the Circularity Index data, ensure that each building material in the project either **has circularity data added**, or is excluded from the **calculation**.



Add Circularity data to building materials

Go to the catalog page and browse to a building component with a red “incomplete” tag. Select the building component to open the component detail page. To add circularity data to a building material in the component, the following steps can be taken.



Exclude a layer from calculation

To exclude a building material from calculation, click the toggle “exclude from calculation”.

1 - Gipskartonplatte (Feuerschutz)

Excluded from calculation ☒

Dismantling Potential		EOL (unbuilt)		Material Compatibility		Circularity Potential	
Points	Class	Points	Class	Points	Class	Points	Class
-	-	70	C/D	-	-	-	-

Incomplete

2 - Nadelnschittholz - getrocknet (Durchschnitt DE)

Excluded from calculation ☐

Dismantling Potential		EOL (unbuilt)		Material Compatibility		Circularity Potential	
Points	Class	Points	Class	Points	Class	Points	Class
-	-	-	-	-	-	-	-

Select a tBaustoff

The Circularity Index uses the database “tBaustoff”, created by IBÖ, for circularity data. Materials from ÖKOBAUDAT are automatically matched to a tBaustoff-equivalent. If a tBaustoff material was not automatically matched, or if you wish to choose a different material, press the “select” button and select a material from the list.

Incomplete

2 - Nadelnschittholz - getrocknet (Durchschnitt DE)

Excluded from calculation ☐

Dismantling Potential		EOL (unbuilt)		Material Compatibility		Circularity Potential	
Points	Class	Points	Class	Points	Class	Points	Class
-	-	-	-	-	-	-	-

Mass *

3.88 kg

Volume *

0.01 m3

Circularity

tBaustoff *

Kein Treffer gefunden

Select

Select a Dismantling Potential Category

Select how easily the material can be dismantled. Choose between one of four categories:

- I Deconstructable without destruction
- II Deconstructable with minimal destruction
- III Destructive deconstruction without foreign/interfering substances
- IV Deconstructable only with foreign/interfering substances

Dismantling Potential *

RebuildSection.error

Non-destructively dismantled

Can be dismantled with minimal damage

Destructively dismantlable without impurities

Can only be dismantled with impurities

Dismantling Class

-

Dismantling Points

-

Override the circularity potential (unbuilt) values (optional)

If you don't agree with the Circularity potential that was automatically assigned to the tBaustoff material, it can be overwritten. Press the "edit" button and select an alternative end of life (EOL) scenario. Textual proof should be provided.

- WV Reuse or preparation for reuse
- CL Closed-loop recycling
- RC Recycling (open loops)
- SV Other material recovery / lower-quality recycling
- EV Energy recovery / substitute fuel
- EB Energetic disposal
- Dep Landfilling

Circularity Potential - Unbuilt *

EOL Scenario (Real)
Dep+

EOL Scenario (Potential)
CL+

Edit

EOL Class (Total)	C/D	EOL Points (Total)	70
-------------------	-----	--------------------	----

Details

▼

EOL Scenario - Unbuilt

The currently selected EOL Scenario is:

EOL Scenario (Real)
CL+

EOL Scenario (Potential)
CL+

Do you want to override these values?

No, keep the values

Yes, override

Select pollutants

Describe the pollutants that impact the reusability of the material. This could for example be paint or fire-retardant. Each pollutant has a pollutant class:

- S1 Monomaterial (no foreign substance)
- S2 Foreign substance (neutral)
- S3 Interfering or harmful substance
- S4 Incompatible interfering or harmful substance

In case there are no relevant pollutants, select "S0"

Circularity Potential - Built *

Please select disturbing substances; if there are none, select 'No disturbing substances - S0'.

Contaminants *

S0 - No disturbing substances

S1

S2

S3

S4

Name of disturbing substance

+ New Contaminant

EOL Class (Built)

-

EOL Points (Built)

-

If a S4 pollutant was picked in the circularity potential (built) section, a new EOL scenario needs to be selected by the user.

Circularity Potential - Built *

Contaminants *

S1

S2

S3

S4

Name of disturbing substance

S1

S2

S3

S4

Name of disturbing substance

S1

S2

S3

S4

Name of disturbing substance

+ New Contaminant

EOL Scenario in case of S4 *

Please manually select a new EOL scenario

+ EOL Scenario Built (Specific)

EOL Class (Built)

-

EOL Points (Built)

-

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EOL Scenario in case of S4

⚠ An S4 disturbing substance has been selected. EOL points cannot be automatically deducted. Please manually select a new EOL scenario considering the disturbing substance.

Please select an option from the dropdown menu and use the reference guide below.

[Selection of an EOL scenario] ▼

Reference Guide

tBaustoff Product	EOL Scenario - Built (specific)
Balkenschichtholz Nadelholz Störst.kl. S4 (Neueinstuf.)	EV-
Betonfertigteil Decke 20cm exkl. Bewehrung, Störst.kl. S4 (Neueinstufung)	SV
Betonfertigteil Treppe (1,1 m Breite, 9 Stufen a 16 cm) exkl. Bewehrung, Störst.kl. S4 (Neueinstufung)	SV

Cancel Save

Repeat for all incomplete components

Make sure the data for all the layers is complete and repeat these steps for the other incomplete components.

Catalog

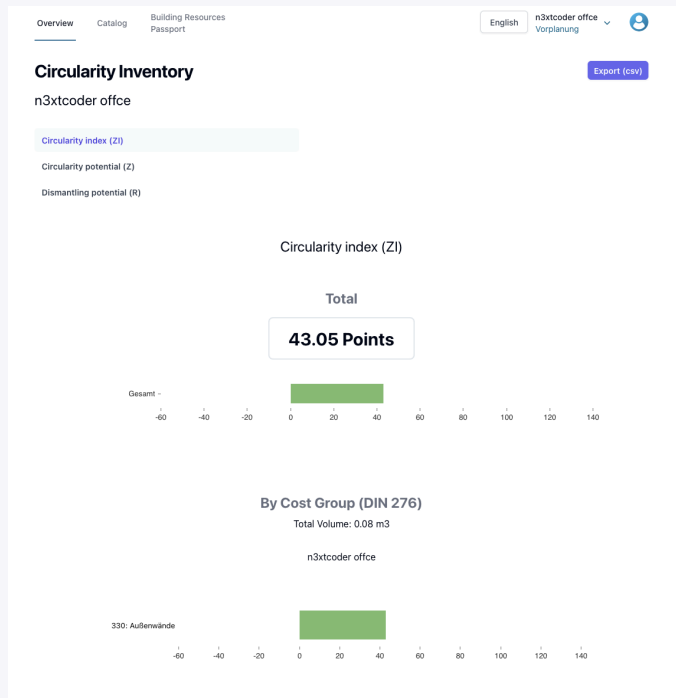
BUILDING - STRUCTURAL WORKS

- 320 Foundation
- 330 Exterior Walls** (1)
- 340 Interior Walls
- 350 Ceilings
- 360 Roofs

- 331 Load-Bearing Exterior Walls
- 332 Non-Load-Bearing Exterior Walls
- 333 Exterior Columns
- 334 Exterior Doors and Windows
- 335 Exterior Wall Cladding, Outside
- 336 Exterior Wall Cladding, Inside** (1)
- 337 Prefabricated Exterior Walls
- 338 Sun Protection
- 339 Exterior Walls, Miscellaneous

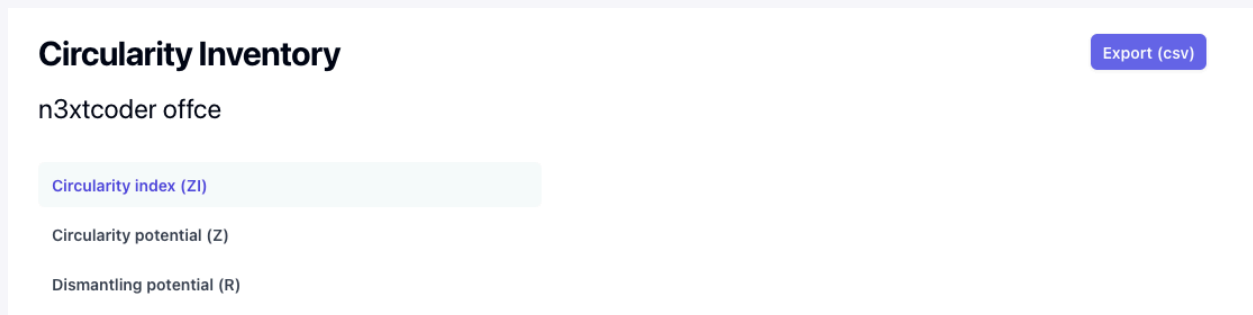
Gipskarton - Dämmung
Incomplete

Review the results on the Circularity Index Overview Page



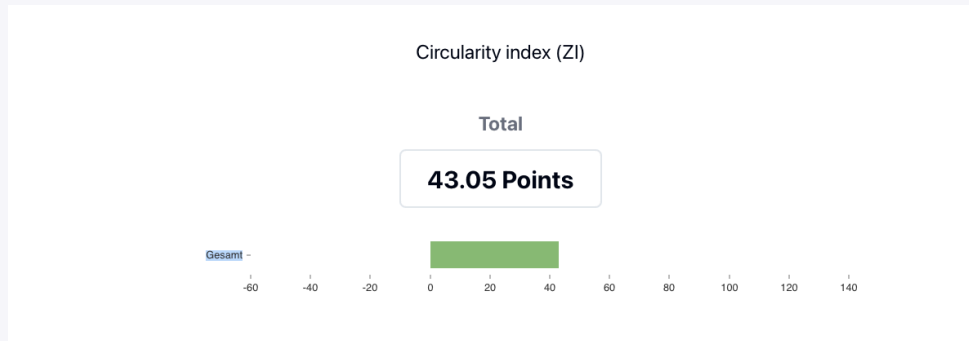
Once the materials in all building components have been updated, go to the **Circularity Index Overview** page.

Three different indicators can be reviewed using the subnavigation on the left side of the page; Circularity Index, Circularity Potential and Dismantling Potential.

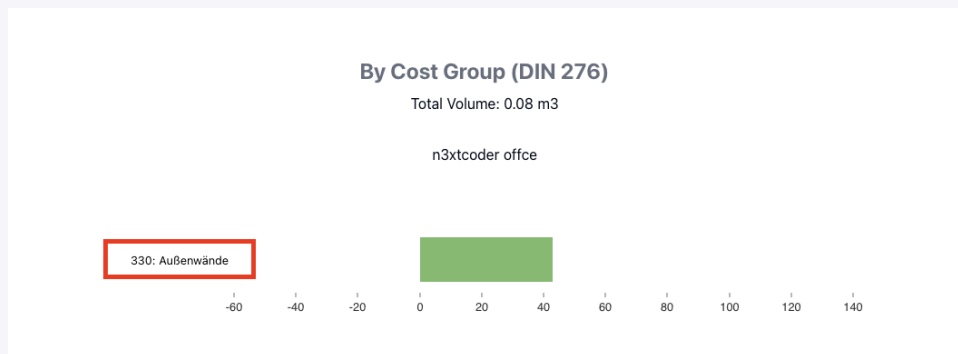


For each of the indicators, three graphs can be explored.

1. The first graph displays the circularity index for the total building weighed by mass.



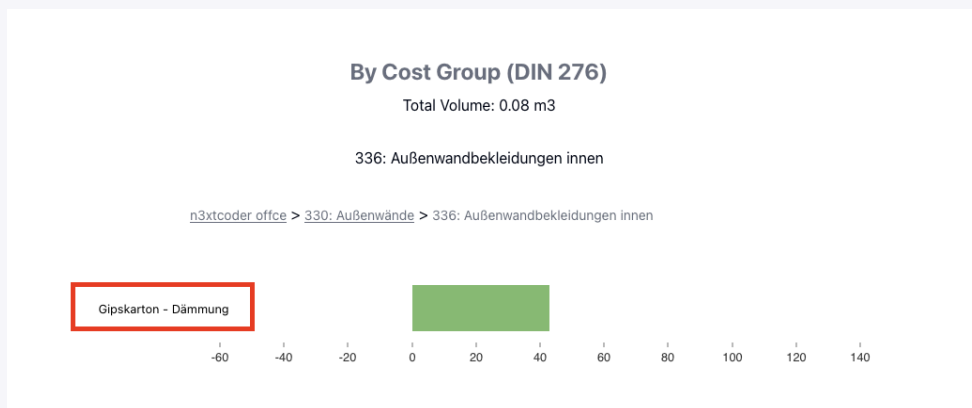
2. The second graph displays the circularity index by cost group (DIN 276).
 - a. Click on a cost group to go down in hierarchy, in order to display a more detailed graph.



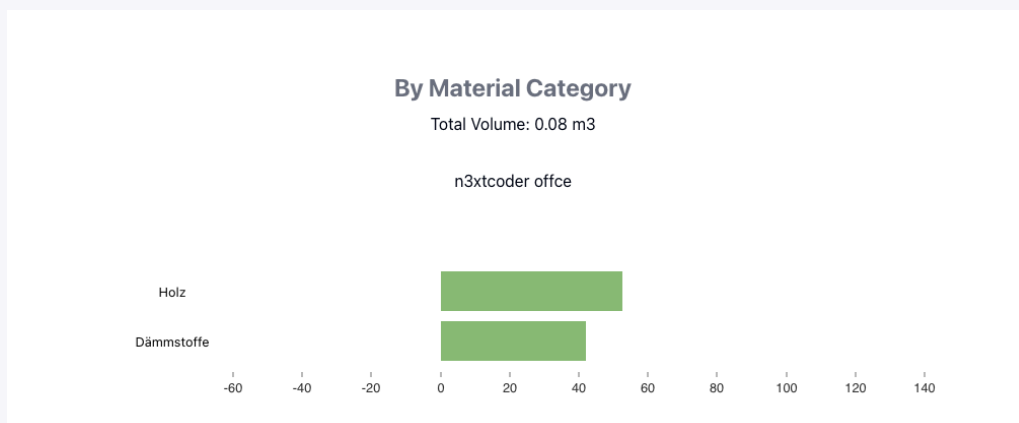
- b. Use the breadcrumb menu to go back up in the hierarchy.



- c. At the lowest level of the hierarchy, the graph displays the circularity indexes of individual components. Click a component to go to its detail page.



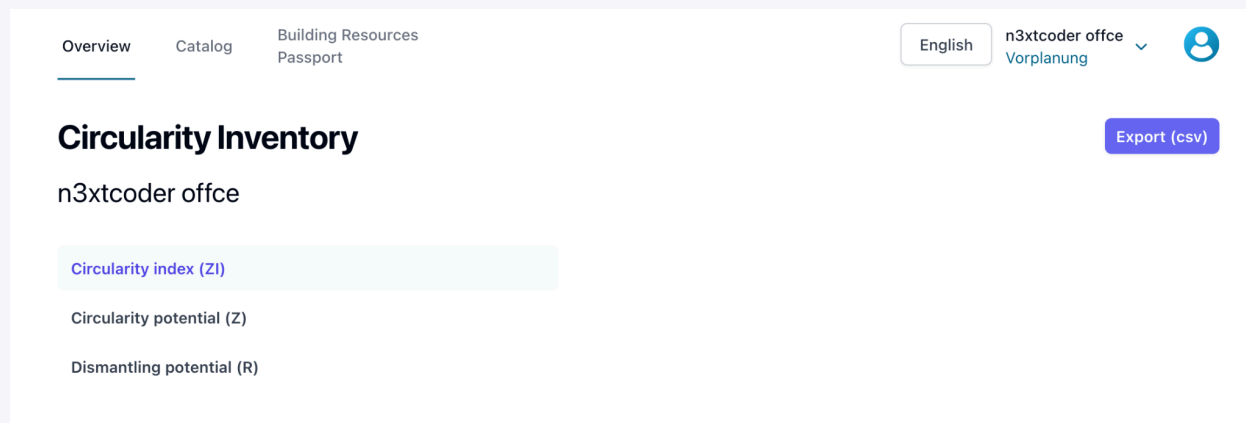
3. The third graph displays the circularity index by material type.



- Click on a material type to go down in hierarchy, in order to display a more detailed graph.
- Use the breadcrumb menu to go back up in the hierarchy.
- At the lowest level of the hierarchy, the graph displays the circularity indexes of individual components. Click a component to go to its detail page.

Download circularity inventory as csv

In the top right corner of the overview is a button that reads “export (csv)”. Click it to download the inventory. The csv file can be opened with spreadsheet software like excel.



Full inventory of individual materials

In the top right corner of the overview is a button that reads “export (csv)”. Click it to download the inventory. The csv file can be opened with spreadsheet software like excel.

Aggregated inventory of EOL class by materials category

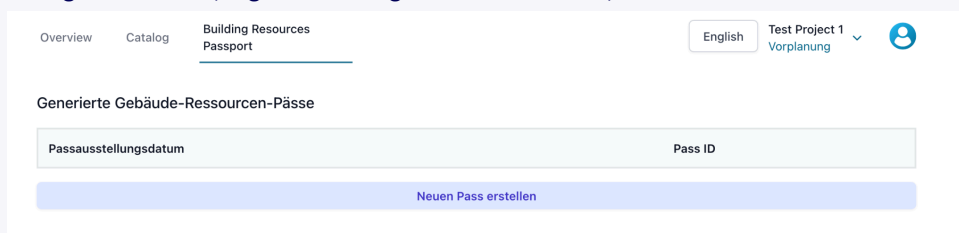
In the subnavigation menu on the left side of the overview page, click “Circularity Potential”. A button with the text “export aggregated (csv)” will be visible to the right of the title “Circularity Potential”. Click the button to download the aggregated inventory. The csv file can be opened with spreadsheet software like excel.

Generate and Download a Building Resource Passport

NOTE: the building resource passport is still under development. As such, placeholder values are used for certain datapoints and module 2 (resources) is disabled. An example of what a fully implemented building resource passport will look like can be found here:

<https://nc-elca-passport-dev-pr174.osc-fr1.scalingo.io/de/grp/a4ffd66a-c69b-4fb6-9c17-f43492db42f7>.

1. Navigate to the page “Building Resource Passport”



2. Click “generate passport” to generate a building resource passport for this project.
3. Wait for the system to process the passport.

- If the system displays an error message indicating **missing required fields**, follow these steps:

Overview Catalog **Error: Passport could not be generated!** Test Project 1 Vorplanung

Validation error: Required at "buildingBaseData.plotArea" [Close](#)

Generierte Gebäude-Ressourcen-Passe

Passausstellungsdatum	Pass ID
Neuen Pass erstellen	

- Check the error message carefully to see whether the missing fields are in **ELCA** or the **Circularity Tool**.
 - If the missing fields are in **ELCA**, go back to the <https://beta.bauteileditor.de/> and update the required fields.
 - If the missing fields are in the **Circularity Tool**, return to the construction products list and complete the missing data.
 - Once all missing information is updated, return to the **Building Resource Passport** page and try generating the passport again.
- Once the passport is successfully generated, click the link to open it.
 - View the **Overview Page** to ensure all general project information is included.
 - Navigate to the **Catalog** to see the breakdown of construction products.
 - Open the **Detail Page** for a specific product to verify the completeness of data.
 - Click "**Download PDF**" to save the passport to your device.
 - Ensure the downloaded file contains all necessary information.

Sign Out

- After finishing your work, return to the **Circularity Tool**.
- Use the menu in the top right corner of the screen to sign out

Overview Catalog Building Resources Passport English Test Project 1 Vorplanung

[Sign out](#)

Generierte Gebäude-Ressourcen-Passe

Passausstellungsdatum	Pass ID
Neuen Pass erstellen	