



Add products in Madaster Platform

Process description for adding different product types in the Madaster Platform

Made for
Madaster users

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Table of Contents

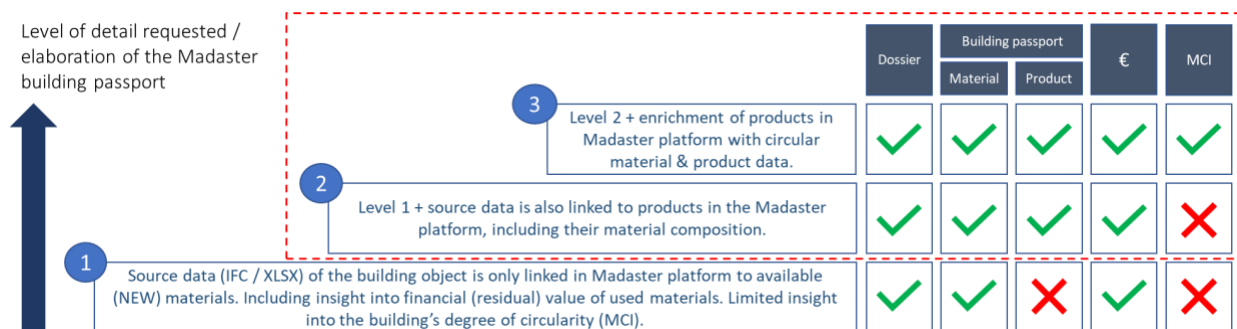
1	Add products in Madaster.....	3
1.1	Add Volume product (level 2 & 3)	5
1.2	Add Area product (level 2 & 3).....	14
1.3	Add Length product (level 2 & 3)	22
1.4	Add Quantity product (level 2 & 3)	30
2	Link added products	38
2.1	Link automatically.....	38
2.2	Link manually	38
3	Product version(s) & product availability	41
4	Copy products	42
4.1	Manual enrichment process	42
4.2	Copy on database level.....	43
5	Deactivate products.....	44
5.1	Search deactivated products.....	45
5.2	Activate products	47
6	Share Products (& materials).....	48

1 Add products in Madaster

For a more accurate building passport in Madaster and the ability to provide insight into elements and their numbers, so that they can be reused at the highest possible level in the long term, it is recommended to link as many building elements as possible from a source file (IFC and / or Excel) to a 'product' in the Madaster database (in the manual 'Madaster Action plan' this is referred to as 'level 2').

To be able to link a building element to a product in the Madaster platform, the product must be available in the Madaster database. If this is not the case (which means that an element from the source file cannot be automatically linked), the Madaster platform offers the functionality to add products themselves, including their material composition.

In addition, adding products in Madaster also allows the user to add circular data (e.g., applied raw materials, recycled materials, etc.). Subsequently, the Madaster platform, by means of the Madaster Circularity Index, then provides insight into the degree of circularity of the entire building (in the manual 'Madaster Action plan' this is referred to as 'level 3').

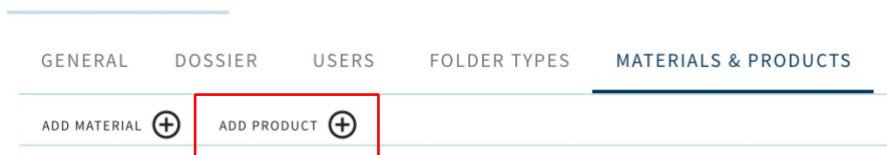


Picture 1: Elaboration levels of the Madaster building passport.

By adding products in Madaster, a 'private' materials/products database is also built up on your own (company) account, which can then be applied again when registering each successive building in Madaster. If desired, this database can be shared with other Madaster accounts, so that the materials and products from this database are also available for buildings in other accounts, folders or buildings.

In Madaster a distinction is made between four different types of products, namely: volume, area, length & Quantity products. The choice for one of these types depends primarily on the available geometric data of the relevant building element in the source file. This means that if, for example, the volume of a building element is included in the source file (IFC and Excel), it is best to set up a so-called 'volume' product in Madaster. If a building element in the source file does not contain volume information, but does contain area (m²) information, it is best to select an 'area' product in Madaster. Etc.

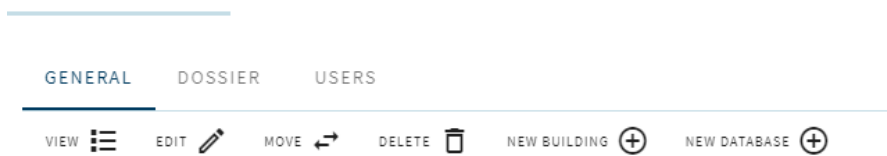
All product types in Madaster can be added (and changed) by the user in the databases he is allowed to contribute by clicking the button "Add product". The user can find the databases under the Materials & Products tab of an account or directly in the navigation drawer under account, folder, or building(s).



Picture 2: Materials & Products (add product).

In this way, all products added in the database at account level are also available on the underlying (folder type) levels (e.g., portfolio, area, project, etc.) of the Madaster account. If this is not desirable, the user can also choose to create his own dataset at a specific (folder type) level in Madaster. For example, only at portfolio, company and / or building level. This means that the private product dataset is only available at the selected (folder type) level (incl. underlying levels). In picture 3, a product dataset is created at "portfolio" level in Madaster by clicking the "New database" button. Products listed in this database are then only available in this portfolio and the levels below it.

PORTFOLIO: PORTFOLIO 2



Picture 3: Add new database (portfolio level).

EYI: Products can be added to the Madaster platform at any time, i.e., before or after the source data (IFC / Excel) of the building in Madaster has been uploaded. To automatically link as many building elements as possible from the source data to newly added products, it is recommended to first add the products in Madaster and then upload the source file in Madaster. If a source file is already uploaded in Madaster, then after all products have been added in Madaster, the source file must simply be enriched again (via: Dossier > "View details" button > "Enrich again" button).

Below, it is first described per product type how a product is added to Madaster ("level 2"). Where circular information ("level 3") is added to the product, this has been indicated by means of the text: **[level 3]**.

The following chapters describe how newly added products are linked, in an automatic and manual way. In addition, it is briefly explained how comparable products can be easily copied. Finally, it is described how self-added products can be activated and deactivated in Madaster.

1.1 Add Volume product (level 2 & 3)

This section describes how to add a "volume" product to Madaster. First, the minimum input to add this product is considered. Then it is described step by step how this type of product is added in Madaster ("level 2"). It also considers additional optional fields.

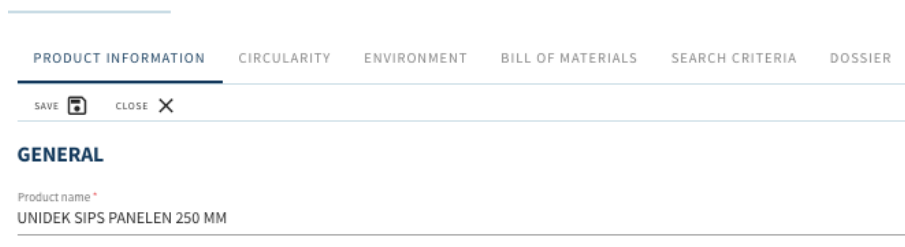
Minimum requirements to set up this type of product in Madaster:

- Building elements in the source file (IFC and Excel), for which a volume product is set up in Madaster, must contain volume information.
- (Brand) Name / description of the product to be set up.
- Bill of Materials (in m³ used materials or weight in kilograms).
- Use of raw materials (% ratio of new product vs. being reused).

Add Volume product in Madaster:

Tip: Determine in advance at which (folder type) level the new product to be added should be created. The steps below assume that a volume product is entered at the "account" level and is then available at all underlying levels. If it is desired to deviate from this standard and to list products on a specific (folder type), a database must first be created at this specific (folder type) level (see image 3 on the previous page). Then the steps below can be followed.

1. In the "Materials & Products" tab, click the "Add Product" button (see picture 2). A new product screen (with tab "Product information") is displayed (see picture 4).



Picture 4: New product.

2. Enter the product name of the new product to be added in the (mandatory) "Product name*" field. For example: "UNIDEK SIPS PANELS 250 MM".

Suggestion: If the name of an element in the source file (IFC / Excel) is unique, consider giving the new product to be added in Madaster the exact same name / description. By including this exact name / description also in the product's tab 'Search criteria', the Madaster system will automatically link the element to the newly added Madaster product.

3. In the field "Type *" (mandatory) select "Volume".



Picture 5: Product type: Volume.

4. If available, enter a description of the new product in the "Description" field (optional).

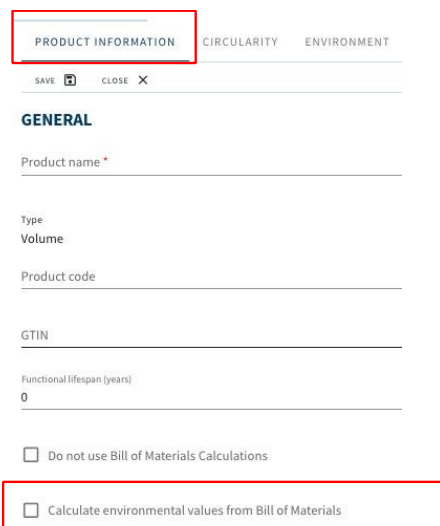
5. If available, enter a code of the new product in the "Product code" field (optional).
6. If available, enter a GTIN code of the new product in the "GTIN" field (optional).
7. If available, add one/multiple product images in the "Product Images" field (optional).
8. **[level 3]** If available, enter the functional lifespan of the product to be added in the field "Functional lifespan (years)" (optional).
9. Select (optional) the tick box "Do not use Bill of Materials Calculations" if the product composition (bill of materials) is incomplete or should not be made available in Madaster.

If selected, the "Density" field must also be filled in in kilograms/m³ and the extent to which the product (in %) is assigned to one or more Madaster material families and/or NL-SfB Table 3 categories (fields appear automatically after selection of the tick box). The latter prevents the material composition from being displayed in the 'unknown' category on the "Building" tab due to the lack of material composition.

Do not use Bill of Materials Calculations

Picture 6: Do not use Bill of Materials Calculations.

Note: When adding a composite product (main product with a sub-product in the bill of materials) in Madaster, the user can select the option 'Calculate environmental values from Bill of Materials' in the 'Product information' tab. This automatically calculates the environmental values based on the environmental values in product composition.



PRODUCT INFORMATION CIRCULARITY ENVIRONMENT

SAVE CLOSE

GENERAL

Product name *

Type

Volume

Product code

GTIN

Functional lifespan (years)
0

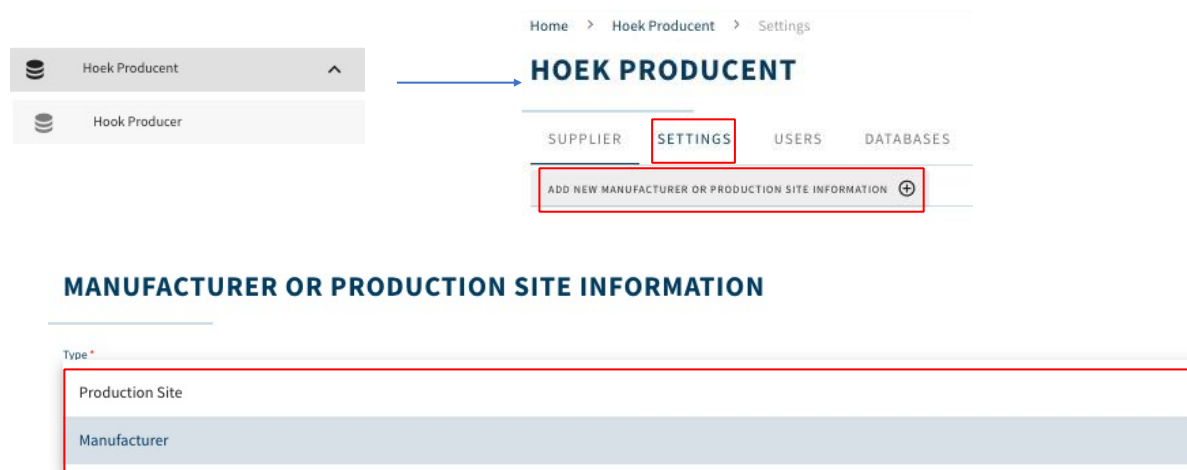
Do not use Bill of Materials Calculations

Calculate environmental values from Bill of Materials

Picture 7: Calculate environmental values from Bill of Materials.

10. If available, for this product, under the "Manufacturer" section, fill in the available (optional) fields, including Name, website, address, etc.
11. If available, for this product, under the "Production site" section, fill in the available (optional) fields, including Name, Website, Street, etc.

Note: Manufacturers now have the option in Madaster to add multiple manufacturer and production locations to their database settings.



Picture 8: Add Manufacturer and Production sites (manufacturer function).

When adding products to their database(s), the producer can then select the relevant manufacturer and/or production location. This prevents such information having to be entered repeatedly when adding a product in Madaster.

12. By default, the volume unit of a "volume" product should be set to 1m³. When processing an element from the source file (IFC / Excel), the Madaster system will take the initial volume metric of the element (calculation method: volume element source file multiplied by 1m³).

DIMENSIONS

The default volume of this volume product *

1

Define standard volume by entering the standard dimensions of this product

Picture 9: Volume unit.

Note: The option “Define standard volume by entering the standard dimensions of this product” gives the user the option to calculate the volume based on the product’s standard size.

Define standard volume by entering the standard dimensions of this product



Dimension type* m Dimension type* m Dimension type* m

Picture 10: Define default volume by entering the default dimensions of this product.

13. Click the "Save" button. The data entered is now saved in the product sheet "Product information". At the same time, the other tabs of the product are now visible.

UNIDEK SIPS PANELS 250 MM

PRODUCT INFORMATION CIRCULARITY ENVIRONMENT BILL OF MATERIALS SEARCH CRITERIA DOSSIER

SAVE  CLOSE 

GENERAL

Product name*
UNIDEK SIPS PANELS 250 MM

Picture 11: Product sheets.

14. Click on the (2nd) tab "Circularity".

15. **[level 3]** If this product is reused, enter the percentage of reuse¹ of the new product to be added in the 'reuse' field (optional) on the left. If unknown, enter 0%.

SECUNDARY: 0%

Reuse %

Picture 12: Reuse.

Note: the other input percentages under PRIMARY, SECUNDARY and SCARCITY (on the left) cannot be entered. They are calculated by the system from the materials added in the 'Bill of materials' tab.

16. **[level 3]** If available, select one or more detachability indicators in the "DETACHABILITY" section (optional field) applicable for this product to be installed in the building, according to the guidelines of the producer/manufacturer.

¹ *"Reuse" here means that the product (in this example: Unidek sips panel 250 mm) at the same level (product) has already gone through a full life cycle and is being used again during the construction of a new building.

- **Connection type:** where dry connections are being preferred over connections with added elements and direct, integral connections taking precedence over soft and hard chemical ones.
- **Accessibility of the connection:** how easily you can (physically) reach the connecting elements and to what extent this causes damage to nearby objects.
- **Intersections:** indicates the extent to which products overlap or are integrated with each other. The higher the integration, the more actions required to disassemble an element at the end of its life.
- **Product edges inclusion:** assessment of how products are placed in a composition and whether it is open or closed. A 'locked up' product can only be dismantled in the reverse order of construction.

DETACHABILITY

Connection type
Unknown

Connection detail

Connection accessibility
Unknown

Intersections
Unknown

Product edges
Unknown

Picture 13: Product detachability indicators.

Note: the OUTPUT fields (on the right) "% reused of sub-components", "% available for reuse", etc. cannot be entered in this tab. They are calculated by the system from the materials added in the 'bill of materials' tab.

0% Reuse of sub components

0% Available for reuse

0% Available for recycle (75%Recycling efficiency)

0% Landfill

100% Incineration

Picture 14: Output flow (end of life scenario).

17. Click on the "save" button. The entered data is saved.

18. Click on the (3rd) tab "Environment".

PRODUCT INFORMATION CIRCULARITY **ENVIRONMENT** BILL OF MATERIALS SEARCH CRITERIA DOSSIER FINANCIAL

SAVE CLOSE

Dataset owner _____ Dataset type _____

Reference year _____ Environmental Cost Indicator _____ €

Dataset valid until year _____ Enter LCA phase details

Compliance
EN 15804

Picture 15: Environmental impact information of product.

Use this tab to indicate the environmental information of this product. Such data is available in so-called "Environmental Product Declarations (EPDs) at product level.

After selecting one/several compliances, the environmental data can be entered. By checking the tick box 'Enter LCA phase details' (see picture 14), these environmental data can also be entered per impact category (see figure 14).

EN 15804:2012-04+A1 2013 ^

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Potential 100 years (kg CO2e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Ozone Depletion Potential (kg CFC11e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Photo Chemical Oxydant Formation (kg C2H4e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Picture 16: Environmental impact information of product (per impact category).

19. Click on the "save" button. The entered data is saved.
20. Click on the (4th) tab "Bill of Materials" and then click on the "Add" button. The fields "Element *" and "Number *" are displayed.

PRODUCT INFORMATION CIRCULARITY ENVIRONMENT **BILL OF MATERIALS** SEARCH CRITERIA

ADD CLOSE

Picture 17: Bill of Materials.

21. Click the button "Pick element *" (required field) and then select a material from the Madaster database or the user's "own material library".

ADD

Element PICK ELEMENT

Picture 18: Pick element.

- Then fill in the field "Amount*" (mandatory field) in weight (kilograms) of the selected material (tickbox 'Enter weight' should be selected). Alternatively, the volume (in m³) of the selected product can be provided.

Enter weight (When checkbox is off enter the value in the selected material or product functional unit)

Amount kg/Product functional unit

Picture 19: Material ratio.

- Click the "save" button (at the bottom of the page). The entered data is now stored in the "Bill of Materials" product sheet.
- If the new product to be added consists of several materials, repeat steps 21 to 23.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS
ADD + CLOSE ×				
Name	Type	Value		
EPS polystyrene	Material	90.46%		
Chipboard	Material	9.54%		

Picture 20: Product with material ratio (example).

- Click on the (5th) tab "Search criteria" and then click on the "Add criterion" button. Here, one or more search criteria can be added, which enable the Madaster system to automatically link elements from the source file (IFC and / or Excel) of the building to be read to this new product to be added.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER
ADD CRITERION + CLOSE ×						
Search criterium	Matching type					
No data available						

Picture 21: Search Criteria.

Note: When importing a source file (IFC and / or Excel), the materials of each element are validated against these search criteria. This examines whether the material of an element matches one of the search criteria at product / material level.

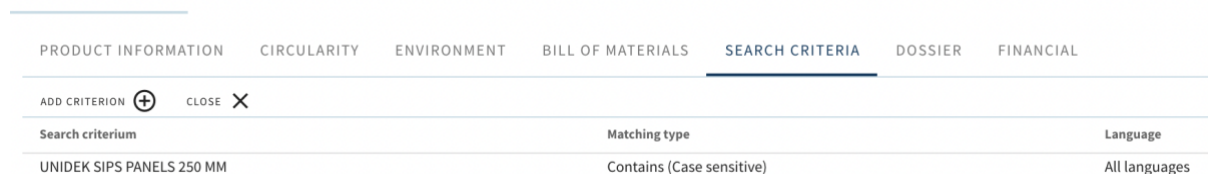
A search criterion can be set up in different ways:



- Contains the search criterion (incl. case sensitive)
- Contains exact word
- Equals the search criterion (incl. case sensitive)
- Starts with the search criterion
- Ends with the search criterion

If multiple matches are found, the largest match (largest number of matching characters) will be used.

If the material of an element matches one of the search criteria at product / material level, the Madaster system will automatically link the element. If no automatic linking takes place, the user can manually link the element in Madaster (in sub step “Enrich”).

26. Add one or more search criteria (optional field) to this new product to be added, so that the Madaster platform can automatically link this product to a corresponding element from a source file (IFC / Excel). Note: To do this, the user's "own" product library must be selected as a data set when uploading and / or when enriching the source data again.



PRODUCT INFORMATION	CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER	FINANCIAL
ADD CRITERION  CLOSE 						
Search criterium	Matching type			Language		
UNIDEK SIPS PANELS 250 MM	Contains (Case sensitive)			All languages		

Picture 22: Add search criteria (example).

27. Click on the (6th) tab 'Dossier' and then click on the button 'Upload'. Here, relevant building files (e.g., product certificates, Environmental Product Declarations, etc.) can be linked to the product to be added.
28. Click on the "select file(s)" field to select the file to be added (e.g., product certificates, etc.).
29. Select the destination folder in the Madaster Dossier, in which the file to be added (e.g., product certificates, etc.) is saved.
30. If desired, add "tags" (keywords), which will facilitate the search for this file to be added in the file in Madaster.
31. Finally click on the "Save" button. The selected file (e.g., product certificates, etc.) is added and is visible in this tab.
32. If desired, multiple files can be added in the product Dossier sheet.

ADD FILE

Select file(s) *

Select folder *

Dossier

Tags (Press enter or tab to add)

CANCEL SAVE

Picture 23: Product Dossier (add file).

Note: The (7th) tab "Financial" is under development for all Madaster product types.

33. Return to the first sheet "Product information" and finally click on the "save" button. The entered data is stored, with which the self-added 'volume' product is stored in the user's 'own' product database.

1.2 Add Area product (level 2 & 3)

This section describes how to add an "area" product to Madaster. First, the minimum input to add this product is considered. Then it is described step by step how this type of product is added in Madaster ("level 2"). It also considers additional optional fields.


Minimum requirements to set up this type of product in Madaster:

- Building elements in the source file (IFC and Excel), for which an area product is set up in Madaster, must contain area (m²) information.
- Product name / description of the product to be set up.
- Height / depth of the product to be set up.
- Use of raw materials (% ratio of new product vs. being reused).
- Bill of Materials (in m³ per square meter used materials or weight in kilograms).

Add Area product in Madaster:

Tip: Determine in advance at which (folder type) level the new product to be added should be created. The steps below assume that an area product is entered at the "account" level and is then available at all underlying levels. If it is desired to deviate from this standard and to list products on a specific (folder type), a database must first be created at this specific (folder type) level (see image 3 on page 4). Then the steps below can be followed.

1. In the "Materials & Products" tab, click the "Add Product" button (see picture 2). A new product screen (with tab "Product information") is displayed.



PRODUCT INFORMATION CIRCULARITY ENVIRONMENT SEARCH CRITERIA FINANCIAL

SAVE  CLOSE 

GENERAL

Product name *
GYPROC GF 100 RD / 1.75.1.A

Picture 24: New product.

2. Enter the product name of the new product to be added in the (mandatory) "Product name*" field. For example: "GYPROC GF 100 RD / 1.75.1.A".

Suggestion: If the name of an element in the source file (IFC / Excel) is unique, consider giving the new product to be added in Madaster the exact same name / description. By including this exact name / description also in the product's tab 'Search criteria', the Madaster system will automatically link the element to the newly added Madaster product.

3. In the field "Type *" (mandatory) select "Area".

GENERAL

Product name*
GYPROC GF 100 RD / 1.75.1.A

Type*
Area

Picture 25: Product type: Volume.

4. If available, enter a description of the new product in the "Description" field (optional).
5. If available, enter a code of the new product in the "Product code" field (optional).
6. If available, enter a GTIN code of the new product in the "GTIN" field (optional).
7. If available, add one/multiple product images in the "Product Images" field (optional).
8. **[level 3]** If available, enter the functional lifespan of the product to be added in the field "Functional lifespan (years)" (optional).
9. Select (optional) the tick box "Do not use Bill of Materials Calculations" if the product composition (bill of materials) is incomplete or should not be made available in Madaster.

If selected, the "Density" field must also be filled in in kilograms/m³ and the extent to which the product (in %) is assigned to one or more Madaster material families and/or NL-SfB Table 3 categories (fields appear automatically after selection of the tick box). The latter prevents the material composition from being displayed in the 'unknown' category on the "Building" tab due to

Do not use Bill of Materials Calculations

the lack of material composition. _____

Picture 26: Do not use Bill of Materials Calculations.

Note: When adding a composite product (main product with a sub-product in the bill of materials) in Madaster, the user can select the option 'Calculate environmental values from Bill of Materials' in the 'Product information' tab. This automatically calculates the environmental values based on the environmental values in product composition.

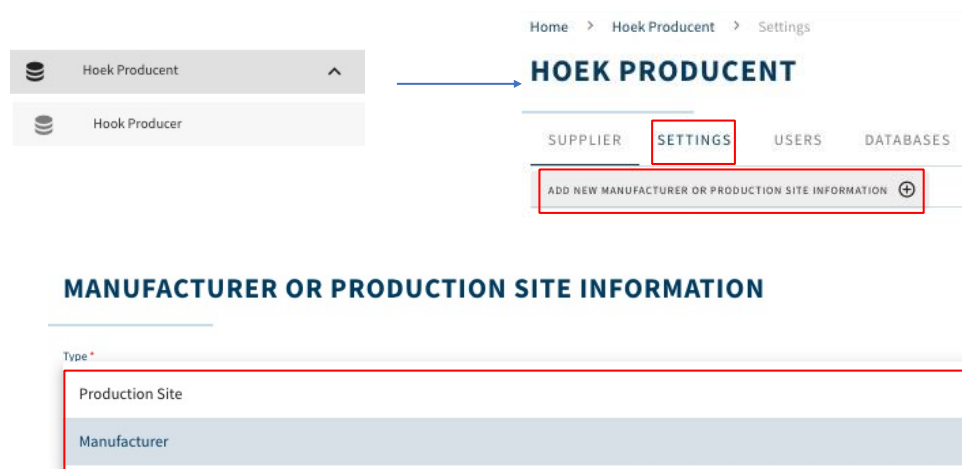
Do not use Bill of Materials Calculations

Calculate environmental values from Bill of Materials

Picture 27: Calculate environmental values from Bill of Materials.

10. If available, for this product, under the "Manufacturer" section, fill in the available (optional) fields, including Name, website, address, etc.
11. If available, for this product, under the "Production site" section, fill in the available (optional) fields, including Name, Website, Street, etc.

Note: Manufacturers now have the option in Madaster to add multiple manufacturer and production locations to their database settings.



Picture 28: Add Manufacturer and Production sites (manufacturer function).

When adding products to their database(s), the producer can then select the relevant manufacturer and/or production location. This prevents such information having to be entered repeatedly when adding a product in Madaster.

- By default, the unit of an "area" product should be set to 1m^2 . When processing an element from the source file (IFC / Excel), the Madaster system will take the initial area metric of the element (calculation method: surface element source file multiplied by 1m^2).



Picture 29: Area unit.

To calculate the volume and display it on the "Building" tab, the height (mandatory field) of the new product to be added must also be entered.

- Enter the height (in meters) in the "Fixed dimension*" field of this area product" (mandatory field).



Picture 30: Area unit: insert height.

Note: The option "Define standard surface by entering the standard dimensions of this product" gives the user the option to calculate the surface based on the product's standard size.

Define the standard surface of this product by entering dimensions

Dimension type *	▼	Dimension type *	▼
0	m	0	m

Picture 31: Define default surface by entering the default dimensions of this product.

14. Click the "Save" button. The data entered is now saved in the product sheet "Product information". At the same time, the other tabs of the product are now visible.

15. Click on the (2nd) tab "circularity".

16. **[level 3]** If this product is reused, enter the percentage of reuse² of the new product to be added in the 'reuse' field (optional) on the left. If unknown, enter 0%.

SECUNDARY: 0%

Reuse	
0	%

Picture 32: Reuse.

Note: the other input percentages under PRIMARY, SECUNDARY and SCARCITY cannot be entered. They are calculated by the system from the materials added in the 'Bill of materials' tab.

17. **[level 3]** If available, select one or more detachability indicators in the "DETACHABILITY" section (optional field) applicable for this product to be installed in the building, according to the guidelines of the producer/manufacturer.

- **Connection type:** where dry connections are being preferred over connections with added elements and direct, integral connections taking precedence over soft and hard chemical ones.
- **Accessibility of the connection:** how easily you can (physically) reach the connecting elements and to what extent this causes damage to nearby objects.
- **Intersections:** indicates the extent to which products overlap or are integrated with each other. The higher the integration, the more actions required to disassemble an element at the end of its life.
- **Product edges inclusion:** assessment of how products are placed in a composition and whether it is open or closed. A 'locked up' product can only be dismantled in the reverse order of construction.

² *"Reuse" here means that the product has already gone through a full life cycle and is being used again (as a product) during the construction of a new building.

DETACHABILITY

Connection type
Unknown

Connection detail

Connection accessibility
Unknown

Intersections
Unknown

Product edges
Unknown

Picture 33: Product detachability indicators.

Note: the OUTPUT fields (on the right) "% reused of sub-components", "% available for reuse", etc. cannot be entered in this tab. They are calculated by the system from the materials added in the 'bill of materials' tab (when these values are added).



0% Reuse of sub components
 0% Available for reuse
 0% Available for recycle (75%Recycling efficiency)
 0% Landfill
 100% Incineration

Picture 34: Output flow (end of life scenario).

18. Click on the "save" button. The entered data is saved.

19. Click on the (3rd) tab "Environment".

PRODUCT INFORMATION CIRCULARITY **ENVIRONMENT** BILL OF MATERIALS SEARCH CRITERIA DOSSIER FINANCIAL

SAVE  CLOSE 

Dataset owner _____ Dataset type _____

Reference year _____ Environmental Cost Indicator _____ €

Dataset valid until year _____ Enter LCA phase details

Compliance
EN 15804

Picture 35: Environmental impact information of product.

Use this tab to indicate the environmental information of this product. Such data is available in so-called "Environmental Product Declarations (EPDs) at product level.

After selecting one/several compliances, the environmental data can be entered. By checking the tick box 'Enter LCA phase details' (see picture 31), these environmental data can also be entered per impact category (see figure 32).

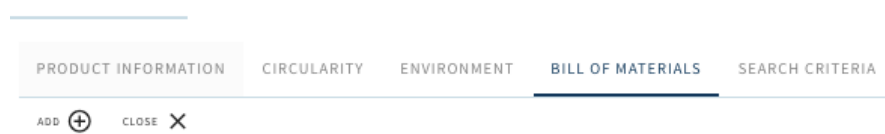
EN 15804:2012-04+A1 2013

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Potential 100 years (kg CO2e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Ozone Depletion Potential (kg CFC11e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Photo Chemical Oxydant Formation (kg C2H4e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Picture 36: Environmental impact information of product (per impact category).

20. Click on the "save" button. The entered data is saved.

21. Click on the (4th) tab "Bill of Materials" and then click on the "Add" button. The fields "Element *" and "Number *" are displayed.



Picture 37: Bill of Materials.

22. Click the button "Pick element *" (required field) and then select a material from the Madaster database or the user's "own material library".

ADD

Element PICK ELEMENT

Picture 38: Pick element.

23. Then fill in the field "Amount*" (mandatory field) in weight (kilograms) of the selected material (checkbox 'Enter weight' should be selected). Alternatively, the volume (in m³) per square meter of the selected product can be provided.

Enter weight (When checkbox is off enter the value in the selected material or product functional unit)

Amount kg/Product functional unit

Picture 39: Material ratio.

24. Click the "save" button (at the bottom of the page). The entered data is now stored in the "Bill of Materials" product sheet.
25. If the new product to be added consists of several materials, repeat steps 22 to 24 until the bill of materials (material composition of the product) is complete.

PRODUCT INFORMATION			CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS
ADD (+) CLOSE (X)					
Name	Type	Value			
Aluminum	Material	0.002m3/ m2			
Plasterboard	Material	0.025m3/ m2			
Glass wool	Material	0.075m3/ m2			

Picture 40: Product with material ratio (example).

26. Click on the (5th) tab "Search criteria" and then click on the "Add criterion" button. Here, one or more search criteria can be added, which enable the Madaster system to automatically link elements from the source file (IFC and / or Excel) of the building to be read to this new product to be added.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER
ADD CRITERION (+) CLOSE (X)						
Search criterium	Matching type					
						No data available

Picture 41: Search Criteria

Note: When importing a source file (IFC and / or Excel), the materials of each element are validated against these search criteria. This examines whether the material of an element matches one of the search criteria at product / material level.

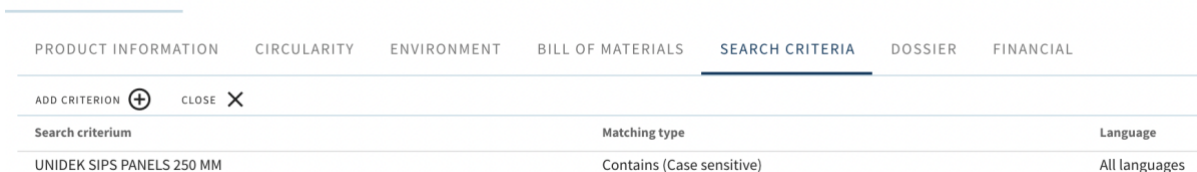
A search criterion can be set up in different ways:

- Contains the search criterion (incl. case sensitive)
- Contains exact word
- Equals the search criterion (incl. case sensitive)
- Starts with the search criterion
- Ends with the search criterion

If multiple matches are found, the largest match (largest number of matching characters) will be used.

If the material of an element matches one of the search criteria at product / material level, the Madaster system will automatically link the element. If no automatic linking takes place, the user can manually link the element in Madaster (in sub step "Enrich").

27. Add one or more search criteria (optional field) to this new product to be added, so that the Madaster platform can automatically link this product to a corresponding element from a source file (IFC / Excel). Note: To do this, the user's "own" product library must be selected as a data set when uploading and / or when enriching the source data again.

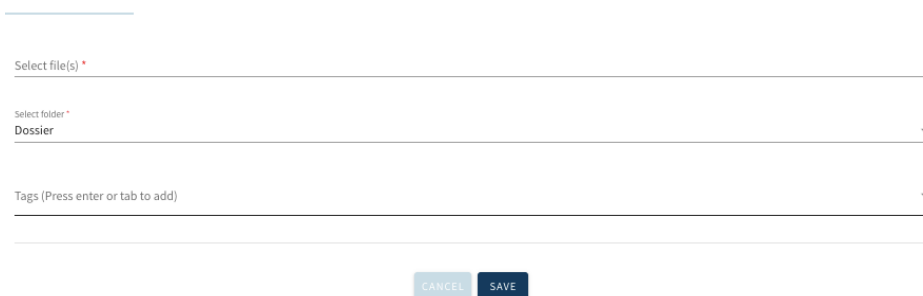


PRODUCT INFORMATION	CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER	FINANCIAL
ADD CRITERION + CLOSE ×						
Search criterium			Matching type		Language	
UNIDEK SIPS PANELS 250 MM			Contains (Case sensitive)		All languages	

Picture 42: Add search criteria (example).

28. Click on the (6th) tab 'Dossier' and then click on the button 'Upload'. Here, relevant building files (e.g., product certificates, Environmental Product Declarations, etc.) can be linked to the product to be added.
29. Click on the "select file(s)" field to select the file to be added (e.g., product certificates, etc.).
30. Select the destination folder in the Madaster Dossier, in which the file to be added (e.g., product certificates, etc.) is saved.
31. If desired, add "tags" (keywords), which will facilitate the search for this file to be added in the file in Madaster.
32. Finally click on the "Save" button. The selected file (e.g., product certificates, etc.) is added and is visible in this tab.
33. If desired, multiple files can be added in the product Dossier sheet.

ADD FILE



Select file(s) *

Select folder *

Dossier

Tags (Press enter or tab to add)

CANCEL SAVE

Picture 43: Product Dossier (add file).

Note: The (7th) tab "Financial" is under development for all Madaster product types.

34. Return to the first sheet "Product information" and finally click on the "save" button. The entered data is stored, with which the self-added 'area' product is stored in the user's 'own' product database.

1.3 Add Length product (level 2 & 3)

This section describes how to add a "length" product to Madaster. First, the minimum input to add this product is considered. Then it is described step by step how this type of product is added in Madaster ("level 2"). It also considers additional optional fields.

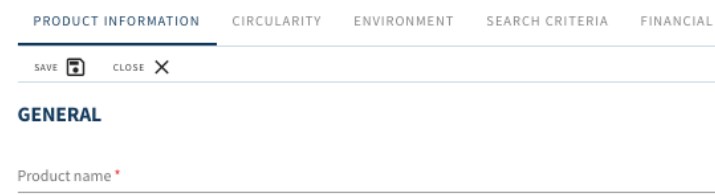
Minimum requirements to set up this type of product in Madaster:

- Building elements in the source file (IFC and Excel), for which a length product is set up in Madaster, must contain length (m) information.
- Product name / description of the product to be set up.
- Standard surface (in m²) of the product to be set up.
- Use of raw materials (% ratio of new product vs. being reused).
- Bill of Materials (in m³ per meter used materials or weight in kilograms).

Add Length product in Madaster:

Tip: Determine in advance at which (folder type) level the new product to be added should be created. The steps below assume that a length product is entered at the "account" level and is then available at all underlying levels. If it is desired to deviate from this standard and to list products on a specific (folder type), a database must first be created at this specific (folder type) level (see image 3). Then the steps below can be followed.

1. In the "Materials & Products" tab, click the "Add Product" button (see picture 2). A new product screen (with tab "Product information") is displayed.



Picture 44: New product.

2. Enter the product name of the new product to be added in the (mandatory) "Product name*" field. For example: "500mm 304 Stainless Steel Tube Pipe OD6mm ID4mm".

Suggestion: If the name of an element in the source file (IFC / Excel) is unique, consider giving the new product to be added in Madaster the exact same name / description. By including this exact name / description also in the product's tab 'Search criteria', the Madaster system will automatically link the element to the newly added Madaster product.

3. In the field "Type *" (mandatory) select "length".

Type *
Length

Picture 45: Product type: length.

4. If available, enter a description of the new product in the "Description" field (optional).
5. If available, enter a code of the new product in the "Product code" field (optional).
6. If available, enter a GTIN code of the new product in the "GTIN" field (optional).
7. If available, add one/multiple product images in the "Product Images" field (optional).

8. **[level 3]** If available, enter the functional lifespan of the product to be added in the field "Functional lifespan (years)" (optional).

9. Select (optional) the tick box "Do not use Bill of Materials Calculations" if the product composition (bill of materials) is incomplete or should not be made available in Madaster.

If selected, the "Density" field must also be filled in in kilograms/m³ and the extent to which the product (in %) is assigned to one or more Madaster material families and/or NL-SfB Table 3 categories (fields appear automatically after selection of the tick box). The latter prevents the material composition from being displayed in the 'unknown' category on the "Building" tab due to

Do not use Bill of Materials Calculations

the lack of material composition. _____

Picture 46: Do not use Bill of Materials Calculations.

Note: When adding a composite product (main product with a sub-product in the bill of materials) in Madaster, the user can select the option 'Calculate environmental values from Bill of Materials' in the 'Product information' tab. This automatically calculates the environmental values based on the environmental values in product composition.

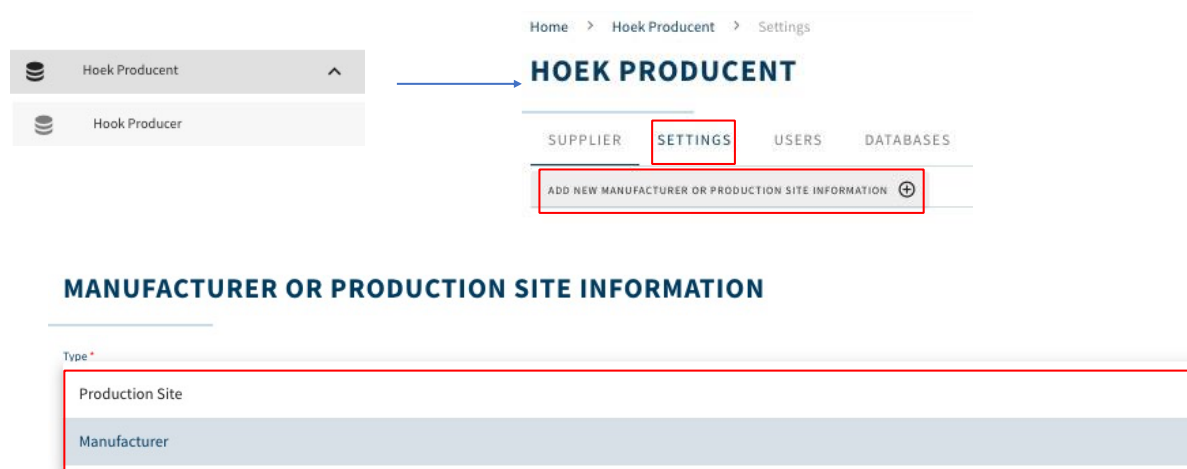
Do not use Bill of Materials Calculations

Calculate environmental values from Bill of Materials

Picture 47: Calculate environmental values from Bill of Materials.

10. If available, for this product, under the "Manufacturer" section, fill in the available (optional) fields, including Name, website, address, etc.
11. If available, for this product, under the "Production site" section, fill in the available (optional) fields, including Name, Website, Street, etc.

Note: Manufacturers now have the option in Madaster to add multiple manufacturer and production locations to their database settings.



Picture 48: Add Manufacturer and Production sites (manufacturer function).

When adding products to their database(s), the producer can then select the relevant manufacturer and/or production location. This prevents such information having to be entered repeatedly when adding a product in Madaster.

12. Enter the default "length" of the product (or leave it to 1 meter and enter the bill of material amounts in m³/m). When processing an element from the source file (IFC / Excel), the Madaster system will calculate all values based on the ratio between the real length as found in the source file and the default length.

DIMENSIONS

The standard length of this product

1

m

Picture 49: length unit.

13. Enter the fixed surface (in meters) in the "Fixed surface of this product*" field of this length product" (mandatory field).

The fixed surface of this product *

1

m²

Picture 50: Area unit: insert fixed surface.

Note: The option "Define fixed surface by entering dimensions" gives the user the option to calculate the fixed surface based on the product's fixed size.

Define fixed surface of this product by entering dimensions

Dimension type *	Dimension type *
m	m

Picture 51: Define fixed surface by entering the fixed diameter of this product.

14. Click on the "Save" button. The data entered is now saved in the product sheet "Product information". At the same time, the other tabs of the product are now visible.
15. Click on the (2nd) tab "Circularity".
16. **[level 3]** If this product is reused, enter the percentage of reuse³ of the new product to be added in the 'reuse' field (optional) on the left. If unknown, enter 0%.

SECONDARY: 0%

Reuse

0

Picture 52: Reuse.

Note: the other input percentages under PRIMARY, SECONDARY and SCARCITY cannot be entered. They are calculated by the system from the materials added in the 'Bill of materials' tab.

17. **[level 3]** If available, select one or more detachability indicators in the "DETACHABILITY" section (optional field) applicable for this product to be installed in the building, according to the guidelines of the producer/manufacturer.
 - **Connection type:** where dry connections are being preferred over connections with added elements and direct, integral connections taking precedence over soft and hard chemical ones.
 - **Accessibility of the connection:** how easily you can (physically) reach the connecting elements and to what extent this causes damage to nearby objects.
 - **Intersections:** indicates the extent to which products overlap or are integrated with each other. The higher the integration, the more actions required to disassemble an element at the end of its life.
 - **Product edges inclusion:** assessment of how products are placed in a composition and whether it is open or closed. A 'locked up' product can only be dismantled in the reverse order of construction.

³ *"Reuse" here means that the product has already gone through a full life cycle and is being used again as a product during the construction of a new building.

DETACHABILITY

Connection type	Unknown
Connection detail	
Connection accessibility	Unknown
Intersections	Unknown
Product edges	Unknown

Picture 53: Product detachability indicators.



Note: the OUTPUT fields (on the right) "% reused of sub-components", "% available for reuse", etc. cannot be entered in this tab. They are calculated by the system from the materials added in the 'bill of materials' tab (when data is provided).

0% Reuse of sub components
 0% Available for reuse
 0% Available for recycle (75%Recycling efficiency)
 0% Landfill
 100% Incineration

Picture 54: Output flow (end of life scenario).

18. Click on the "save" button. The entered data is saved.

19. Click on the (3rd) tab "Environment".

PRODUCT INFORMATION CIRCULARITY ENVIRONMENT BILL OF MATERIALS SEARCH CRITERIA DOSSIER FINANCIAL	
SAVE  CLOSE 	
Dataset owner	Dataset type
Reference year	Environmental Cost Indicator €
Dataset valid until year	<input checked="" type="checkbox"/> Enter LCA phase details
Compliance EN 15804	

Picture 55: Environmental impact information of product.

Use this tab to indicate the environmental information of this product. Such data is available in so-called "Environmental Product Declarations (EPDs) at product level.

After selecting one/several compliances, the environmental data can be entered. By checking the tick box 'Enter LCA phase details' (see picture 49), these environmental data can also be entered per impact category (see figure 50).

EN 15804:2012-04+A1 2013

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Potential 100 years (kg CO2e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Ozone Depletion Potential (kg CFC11e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Photo Chemical Oxydant Formation (kg C2H4e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Picture 56: Environmental impact information of product (per impact category).

20. Click on the "save" button. The entered data is saved.

21. Click on the (4th) tab "Bill of Materials" and then click on the "Add" button. The fields "Element *" and "Number *" are displayed.



Picture 57: Bill of Materials.

22. Click the button "Pick element *" (required field) and then select a material from the Madaster database or the user's "own material library".

ADD

Element PICK ELEMENT

Picture 58: Pick element.

23. Then fill in the field "Amount*" (mandatory field) in weight (kilograms) of the selected material (checkbox 'Enter weight' should be selected). Alternatively, the volume (in m³) per meter of the selected product can be provided.

Enter weight (When checkbox is off enter the value in the selected material or product functional unit)

Amount kg/Product functional unit

Picture 59: Material ratio.

24. Click the "save" button (at the bottom of the page). The entered data is now stored in the "Bill of Materials" product sheet.
25. If the new product to be added consists of several materials, repeat steps 22 to 24 until the bill of materials (material composition of the product) is complete.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER	FIN
ADD (+)		CLOSE (X)					
Name	Type	Value			Mass		
Steel	Material	0.00062835m ³ / 0.5m = 0.0012567m ³ / m			9.802259999999999 kg / m		

Picture 60: Product with material ratio (example).

26. Click on the (5th) tab "Search criteria" and then click on the "Add criterion" button. Here, one or more search criteria can be added, which enable the Madaster system to automatically link elements from the source file (IFC and / or Excel) of the building to be read to this new product to be added.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER
ADD CRITERION (+)		CLOSE (X)				
Search criterium	Matching type					
No data available						

Picture 61: Search Criteria.

Note: When importing a source file (IFC and / or Excel), the materials of each element are validated against these search criteria. This examines whether the material of an element matches one of the search criteria at product / material level.

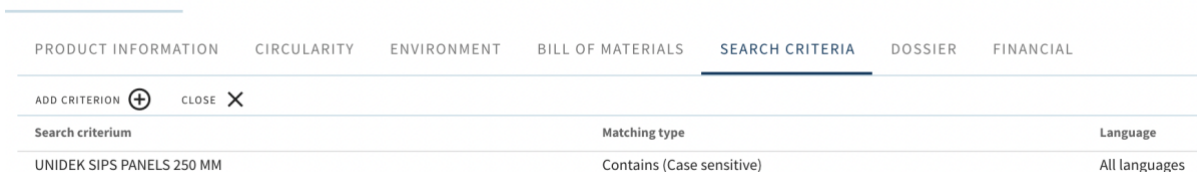
A search criterion can be set up in different ways:

- Contains the search criterion (incl. case sensitive)
- Contains exact word
- Equals the search criterion (incl. case sensitive)
- Starts with the search criterion
- Ends with the search criterion

If multiple matches are found, the largest match (largest number of matching characters) will be used.

If the material of an element matches one of the search criteria at product / material level, the Madaster system will automatically link the element. If no automatic linking takes place, the user can manually link the element in Madaster (in sub step "Enrich").

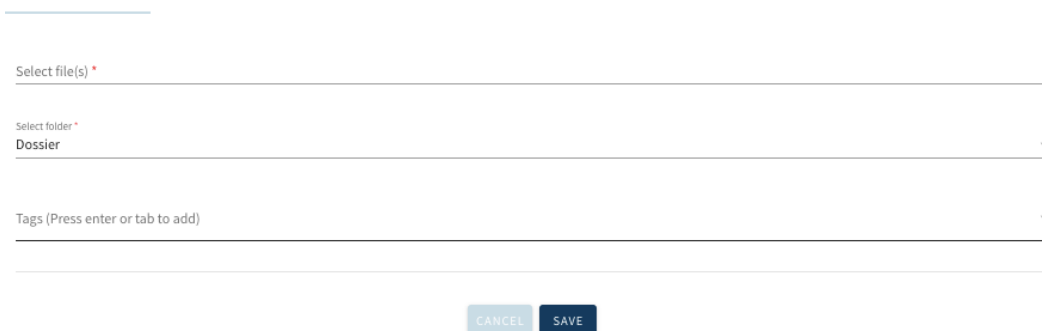
27. Add one or more search criteria (optional field) to this new product to be added, so that the Madaster platform can automatically link this product to a corresponding element from a source file (IFC / Excel). Note: To do this, the user's "own" product library must be selected as a data set when uploading and / or when enriching the source data again.



Picture 62: Add search criteria (example).

28. Click on the (6th) tab 'Dossier' and then click on the button 'Upload'. Here, relevant building files (e.g., product certificates, Environmental Product Declarations, etc.) can be linked to the product to be added.
29. Click on the "select file(s)" field to select the file to be added (e.g., product certificates, etc.).
30. Select the destination folder in the Madaster Dossier, in which the file to be added (e.g., product certificates, etc.) is saved.
31. If desired, add "tags" (keywords), which will facilitate the search for this file to be added in the file in Madaster.
32. Finally click on the "Save" button. The selected file (e.g., product certificates, etc.) is added and is visible in this tab.
33. If desired, multiple files can be added in the product Dossier sheet.

ADD FILE



Picture 63: Product Dossier (add file).

Note: The (7th) tab "Financial" is under development for all Madaster product types.

Return to the first sheet "Product information" and finally click on the "save" button. The entered data is stored, with which the self-added 'length' product is stored in the user's 'own' product database.

1.4 Add Quantity product (level 2 & 3)

This section describes how to add a "quantity" product to Madaster. First, the minimum input to add this product is considered. Then it is described step by step how this type of product is added in Madaster ("level 2"). It also considers additional optional fields.

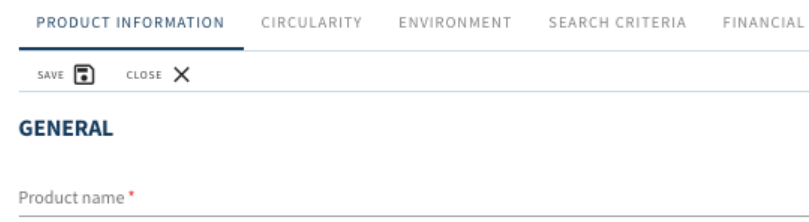
Minimum requirements to set up this type of product in Madaster:

- Product name / description of the product to be set up.
- The volume (in m³) of the product to be set up.
- Use of raw materials (% ratio of new product vs. being reused).
- Bill of Materials (product's composition (in m³ used materials)).

Add Quantity product in Madaster:

Tip: Determine in advance at which (folder type) level the new product to be added should be created. The steps below assume that a quantity product is entered at the "account" level and is then available at all underlying levels. If it is desired to deviate from this standard and to list products on a specific (folder type), a database must first be created at this specific (folder type) level (see image 3 on page 4). Then the steps below can be followed.

1. In the "Materials & Products" tab, click the "Add Product" button (see picture 2 on the previous page). A new product screen (with tab "Product information") is displayed (see image 1).



Picture 64: New product

2. Enter the product name of the new product to be added in the (mandatory) "Product name*" field. For example: "GU- Light dome".

Suggestion: If the name of an element in the source file (IFC / Excel) is unique, consider giving the new product to be added in Madaster the exact same name / description. By including this exact name / description also in the product's tab 'Search criteria', the Madaster system will automatically link the element to the newly added Madaster product.

3. In the field "Type *" (mandatory) select "Quantity".

Type *
Quantity

Picture 65: Product type: Quantity.

4. If available, enter a description of the new product in the "Description" field (optional).
5. If available, enter a code of the new product in the "Product code" field (optional).
6. If available, enter a GTIN code of the new product in the "GTIN" field (optional).
7. If available, add one/multiple product images in the "Product Images" field (optional).

8. **[level 3]** If available, enter the functional lifespan of the product to be added in the field "Functional lifespan (years)" (optional).

9. Select (optional) the tick box "Do not use Bill of Materials Calculations" if the product composition (bill of materials) is incomplete or should not be made available in Madaster.

If selected, the "Density" field must also be filled in in kilograms/m³ and the extent to which the product (in %) is assigned to one or more Madaster material families and/or NL-SfB Table 3 categories (fields appear automatically after selection of the tick box). The latter prevents the material composition from being displayed in the 'unknown' category on the "Building" tab due to the lack of material composition.

Do not use Bill of Materials Calculations

Picture 66: Do not use Bill of Materials Calculations.

Note: When adding a composite product (main product with a sub-product in the bill of materials) in Madaster, the user can select the option 'Calculate environmental values from Bill of Materials' in the 'Product information' tab. This automatically calculates the environmental values based on the environmental values in product composition.

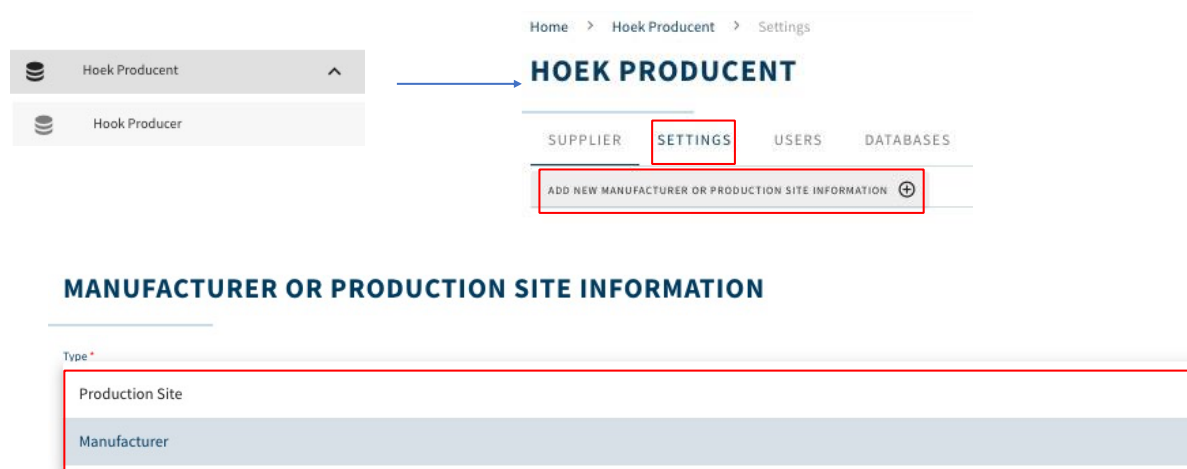
Do not use Bill of Materials Calculations

Calculate environmental values from Bill of Materials

Picture 67: Calculate environmental values from Bill of Materials.

10. If available, for this product, under the "Manufacturer" section, fill in the available (optional) fields, including Name, website, address, etc.
11. If available, for this product, under the "Production site" section, fill in the available (optional) fields, including Name, Website, Street, etc.

Note: Manufacturers now have the option in Madaster to add multiple manufacturer and production locations to their database settings.



Picture 68: Add Manufacturer and Production sites (manufacturer function).

When adding products to their database(s), the producer can then select the relevant manufacturer and/or production location. This prevents such information having to be entered repeatedly when adding a product in Madaster.

12. Click on the "Save" button. The data entered is now saved in the product sheet "Product information". At the same time, the other tabs of the product are now visible.
13. Click on the (2nd) tab "Circularity".
14. **[level 3]** If this product is reused, enter the percentage of reuse⁴ of the new product to be added in the 'reuse' field (optional) on the left. If unknown, enter 0%.

SECONDARY: 0%

Reuse

0

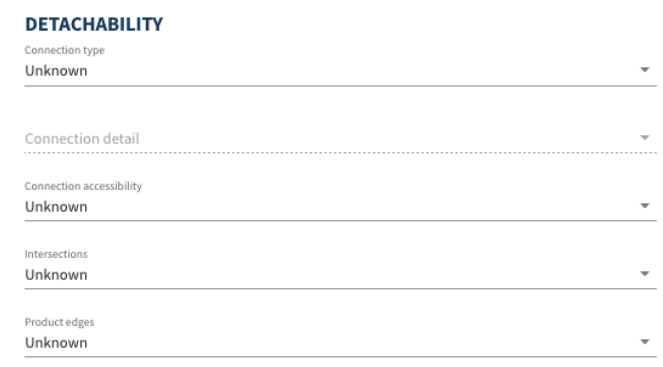
Picture 69: Reuse.

Note: the other input percentages under PRIMARY, SECONDARY and SCARCITY cannot be entered. They are calculated by the system from the materials added in the 'Bill of materials' tab.

⁴ *"Reuse" here means that the product has already gone through a full life cycle and is being used again as product during the construction of a new building.

15. **[level 3]** If available, select one or more detachability indicators in the "DETACHABILITY" section (optional field) applicable for this product to be installed in the building, according to the guidelines of the producer/manufacturer.

- **Connection type:** where dry connections are being preferred over connections with added elements and direct, integral connections taking precedence over soft and hard chemical ones.
- **Accessibility of the connection:** how easily you can (physically) reach the connecting elements and to what extent this causes damage to nearby objects.
- **Intersections:** indicates the extent to which products overlap or are integrated with each other. The higher the integration, the more actions required to disassemble an element at the end of its life.
- **Product edges inclusion:** assessment of how products are placed in a composition and whether it is open or closed. A 'locked up' product can only be dismantled in the reverse order of construction.



DETACHABILITY

Connection type
Unknown

Connection detail

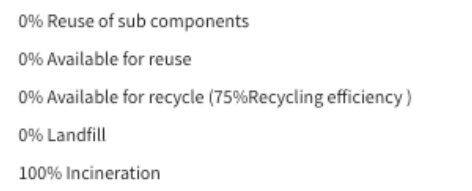
Connection accessibility
Unknown

Intersections
Unknown

Product edges
Unknown

Picture 70: Product detachability indicators.

Note: the OUTPUT fields (on the right) "% reused of sub-components", "% available for reuse", etc. cannot be entered in this tab. They are calculated by the system from the materials added in the 'bill of materials' tab (when data is provided).



0% Reuse of sub components

0% Available for reuse

0% Available for recycle (75% Recycling efficiency)

0% Landfill

100% Incineration

Picture 71: Output flow (end of life scenario).

16. Click on the "save" button. The entered data is saved.

17. Click on the (3rd) tab "environment".

PRODUCT INFORMATION CIRCULARITY **ENVIRONMENT** BILL OF MATERIALS SEARCH CRITERIA DOSSIER FINANCIAL

SAVE CLOSE

Dataset owner _____ Dataset type _____

Reference year _____ Environmental Cost Indicator € _____

Dataset valid until year _____ Enter LCA phase details

Compliance
EN 15804

Picture 72: Environmental impact information of product.

Use this tab to indicate the environmental information of this product. Such data is available in so-called "Environmental Product Declarations (EPDs) at product level.

After selecting one/several compliances, the environmental data can be entered. By checking the tick box 'Enter LCA phase details' (see picture 64), these environmental data can also be entered per impact category (see picture 65).

EN 15804:2012-04+A1 2013 ^

IMPACT CATEGORY	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Potential 100 years (kg CO2e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Ozone Depletion Potential (kg CFC11e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Photo Chemical Oxydant Formation (kg C2H4e)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Picture 73: Environmental impact information of product (per impact category).

18. Click on the "save" button. The entered data is saved.

19. Click on the (4th) tab "Bill of Materials" and then click on the "Add" button. The fields "Element *" and "Number *" are displayed.

PRODUCT INFORMATION CIRCULARITY ENVIRONMENT **BILL OF MATERIALS** SEARCH CRITERIA

ADD CLOSE

Picture 74: Bill of Materials.

20. Click the button "Pick element *" (required field) and then select a material from the Madaster database or the user's "own material library".

ADD

Element	PICK ELEMENT
---------	--------------

Picture 75: Pick element.

- Then fill in the field "Amount*" (mandatory field) in weight (kilograms) of the selected material (checkbox 'Enter weight' should be selected). Alternatively, the volume (in m3) of the selected product can be provided.



Enter weight (When checkbox is off enter the value in the selected material or product functional unit)

Amount	kg/Product functional unit
--------	----------------------------

Picture 76: Material ratio.


- Click the "save" button (at the bottom of the page). The entered data is now stored in the "Bill of Materials" product sheet.
- If the new product to be added consists of several materials, repeat steps 20 to 22 until the bill of materials (material composition of the product) is complete.

GU - LIGHT DOME

PRODUCT INFORMATION			CIRCULARITY	ENVIRONMENT	Bill
ADD 			CLOSE 		
Name	Type	Value			
Plastic	Material	0.005m3			

Picture 77: Product with material ratio (example).

- Click on the (5th) tab "Search criteria" and then click on the "Add criterion" button. Here, one or more search criteria can be added, which enable the Madaster system to automatically link elements from the source file (IFC and / or Excel) of the building to be read to this new product to be added.

PRODUCT INFORMATION		CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER
ADD CRITERION 		CLOSE 				
Search criterium	Matching type					
						No data available

Picture 78: Search Criteria.

Note: When importing a source file (IFC and / or Excel), the materials of each element are validated against these search criteria. This examines whether the material of an element matches one of the search criteria at product / material level.


A search criterion can be set up in different ways:

- Contains the search criterion (incl. case sensitive)
- Contains exact word
- Equals the search criterion (incl. case sensitive)
- Starts with the search criterion
- Ends with the search criterion

If multiple matches are found, the largest match (largest number of matching characters) will be used.

If the material of an element matches one of the search criteria at product / material level, the Madaster system will automatically link the element. If no automatic linking takes place, the user can manually link the element in Madaster (in sub step “Enrich”).

25. Add one or more search criteria (optional field) to this new product to be added, so that the Madaster platform can automatically link this product to a corresponding element from a source file (IFC / Excel). Note: To do this, the user's "own" product library must be selected as a data set when uploading and / or when enriching the source data again.



PRODUCT INFORMATION	CIRCULARITY	ENVIRONMENT	BILL OF MATERIALS	SEARCH CRITERIA	DOSSIER	FINANCIAL
ADD CRITERION  CLOSE 						
Search criterium	Matching type				Language	
UNIDEK SIPS PANELS 250 MM	Contains (Case sensitive)				All languages	

Picture 79: Add search criteria (example).

26. Click on the (6th) tab 'Dossier' and then click on the button 'Upload'. Here, relevant building files (e.g., product certificates, Environmental Product Declarations, etc.) can be linked to the product to be added.
27. Click on the "select file(s)" field to select the file to be added (e.g., product certificates, etc.).
28. Select the destination folder in the Madaster Dossier, in which the file to be added (e.g., product certificates, etc.) is saved.
29. If desired, add "tags" (keywords), which will facilitate the search for this file to be added in the file in Madaster.
30. Finally click on the "Save" button. The selected file (e.g., product certificates, etc.) is added and is visible in this tab.
31. If desired, multiple files can be added in the product Dossier sheet.

ADD FILE

Select file(s) *

Select folder *

Dossier

Tags (Press enter or tab to add)

CANCEL SAVE

Picture 80: Product Dossier (add file).

Note: The (7th) tab "Financial" is under development for all Madaster product types.

32. Return to the first sheet "Product information" and finally click on the "save" button. The entered data is stored, with which the self-added 'quantity' product is stored in the user's 'own' product database.

2 Link added products

Elements of a source file (IFC and / or Excel) of the building can be linked to newly added products in the Madaster platform. In the Madaster system this works in the same way as with existing materials and / or products. There are two ways to link elements of a source file, namely: (1) automatic and (2) manual.

2.1 Link automatically

During the import process of a source file in Madaster, the platform will, based on the material description, automatically try to link each element in the source file to a corresponding material or product (based on the defined 'search criteria') registered in the Madaster database. For this reason, it is therefore very important that, when adding your 'own' set of products (and materials) in Madaster, the search criteria (of these products (and materials)) are filled in and correspond to the naming of the elements of the source file. Products in Madaster that are set-up without search criteria cannot be found and subsequently cannot be automatically linked by the system.

If a source file is already uploaded into Madaster (in Dossier) and products (or materials) have been added afterwards in Madaster, the source file does not have to be uploaded again. Instead, the import process can be reactivated in the platform by using the "Enrich again" function (File > "View details" button > "Enrich again" button). The system will then attempt to reconnect each element in the source file to a product (or material) in the Madaster database. Alternatively, the source file is modified and a new version of the IFC file must be uploaded and processed in Madaster.

Note: by using the "Enrich again" function in Madaster, existing manual links will be lost.

2.2 Link manually

If there is no automatic link between an element from a source file (IFC and / or Excel) and a product (or material) in the Madaster database, it is possible to manually link the element (at a later stage) in Madaster to a corresponding product (or material) in the Madaster database (see also step 4 "Checking & enriching source data" in the Madaster Step-by-Step Manual). This manual process is briefly explained below.

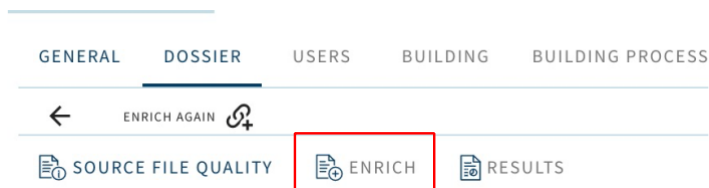
1. In the "Dossier" sheet, click on the name (link) of the source file (or click on the "View details" button located behind the source file).

SOURCE FILE (BIM OR EXCEL)

Name	Size	Classification method	Date exported
 MaterialImportTemplate_ShearingLayers_NAA.KT (3).xlsx Microsoft Macintosh Excel (16.0300)	34KB	Shearing layers	14-05-2021 10:59

Picture 81: View details.

2. The "Quality Source file" screen is displayed. Click on the "Enrich" step in the submenu of this page. The "Enrich" page is displayed.



Picture 82: Submenu 'Enrich'.

In the 'Enrich' page, the 'Element' column shows the name of the element of the source file (including the material description) and in the column 'Product / Material' the linked / yet to be linked product or material from the Madaster- database. In the column "Quantity" the linked elements are shown in blue color and the non-linked elements in red color. To the left of the page, using various filters, the variety of elements of a source file can be displayed.

Element	Materials	Product / material	Quantity
<input type="checkbox"/> ... glas_generiek_ntb	glas_generiek_ntb	... Glass	1/1
<input type="checkbox"/> ... steenachtig_porisosteentb	steenachtig_porisosteentb	... Poriso stone	1/1
<input type="checkbox"/> ... gips_anhydriet_ntb	gips_anhydriet_ntb	... Anhydrite	1/1
<input type="checkbox"/> ... beton_staalvezelbetontb	beton_staalvezelbetontb	... Concrete	1/1
<input type="checkbox"/> ... organisch_wol_ntb	organisch_wol_ntb	... Sheep's wool	1/1
<input type="checkbox"/> ... metaal_tin_ntb	metaal_tin_ntb	... Tin	1/1
<input type="checkbox"/> ... natuursteen_lei_ntb	natuursteen_lei_ntb	... Slate	1/1
<input type="checkbox"/> ... hout_houtwol_ntb	hout_houtwol_ntb	... Wood wool (insulation)	1/1
<input type="checkbox"/> ... metaal_staal_ntb	metaal_staal_ntb	... Steel	1/1
<input type="checkbox"/> ... hout_bangkirai_ntb	hout_bangkirai_ntb	... Hardwood	1/1
<input type="checkbox"/> ... hout_masonite_ntb	hout_masonite_ntb	... Wood	1/1
<input type="checkbox"/> ... steenachtig_keramisch_ntb	steenachtig_keramisch_ntb	...	0/1

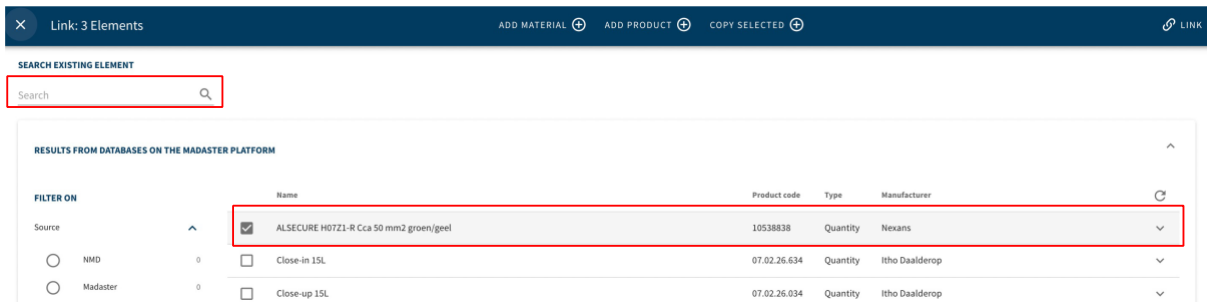
Picture 83: Submenu 'Enrich'.

3. In the 'Element' column select one/multiple elements by ticking the radio button before the element.
4. Click the "(Re) Link Selection" button in the submenu. The "Link elements" screen is displayed.

<input type="checkbox"/> ... natuursteen_lei_ntb	natuursteen_lei_ntb	... Slate	1/1
<input checked="" type="checkbox"/> ... hout_houtwol_ntb	hout_houtwol_ntb	... Wood wool (insulation)	1/1
<input checked="" type="checkbox"/> ... metaal_staal_ntb	metaal_staal_ntb	... Steel	1/1
<input checked="" type="checkbox"/> ... hout_bangkirai_ntb	hout_bangkirai_ntb	... Hardwood	1/1
<input type="checkbox"/> ... hout_masonite_ntb	hout_masonite_ntb	... Wood	1/1
<input type="checkbox"/> ... organisch_wol_ntb	organisch_wol_ntb	... Sheep's wool	1/1
<input type="checkbox"/> ... metaal_tin_ntb	metaal_tin_ntb	... Tin	1/1

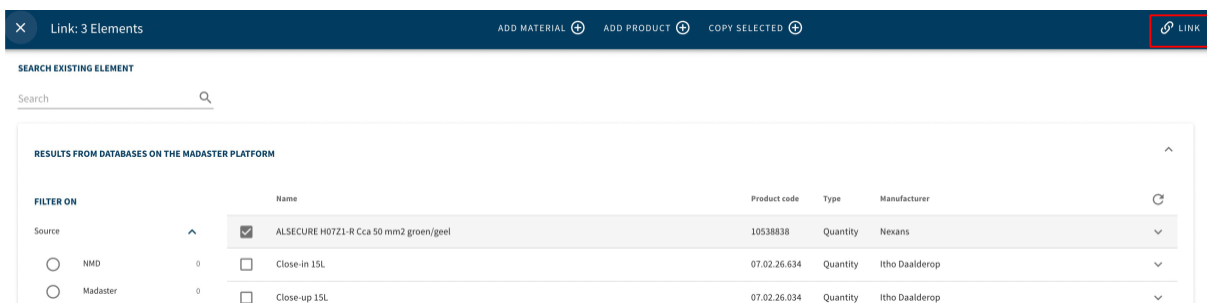
Picture 84: Select elements.

5. Search for and select the (added) product in the Madaster database.



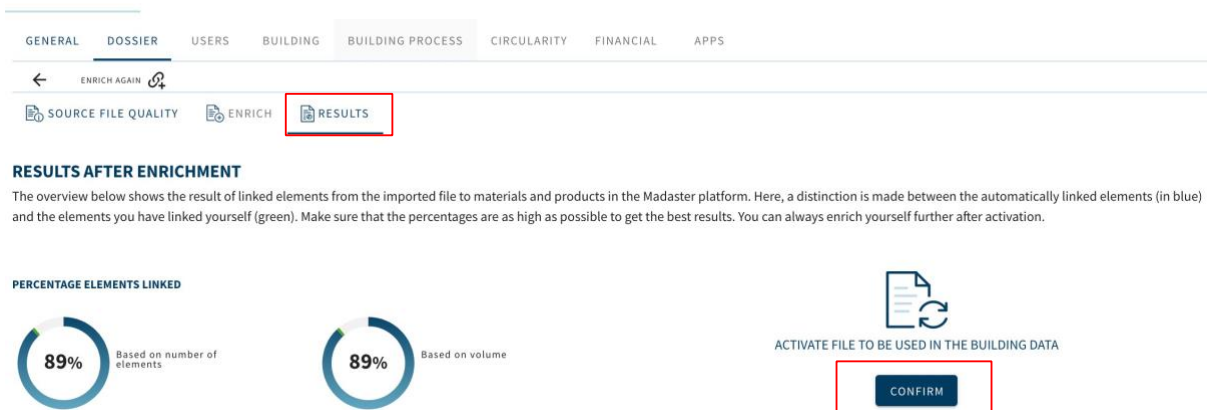
Picture 85: Link element(s) to newly added product.

- Click the "Link" button. This links the selected elements of the source file to a product (or material) from the Madaster database. Repeat this process until all elements are linked.



Picture 86: Linked element(s).

Note: Changes in linked elements as well as changes in products (and materials) in the Madaster database must first be manually confirmed before these changes are visible in the various Madaster sheets (e.g., "Building" tab, etc.). To do this, click on the "Confirm" submenu, select the "yes" radio button and finally click on the "Confirm" button.

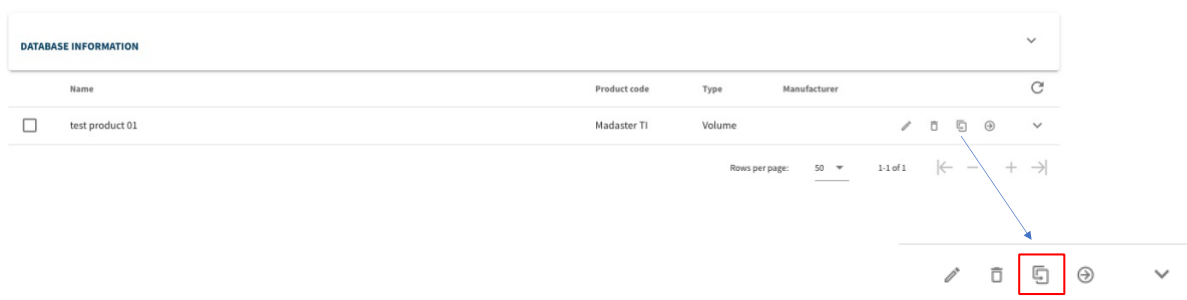


Picture 87: Confirm changes.

3 Product version(s) & product availability

Product version(s)

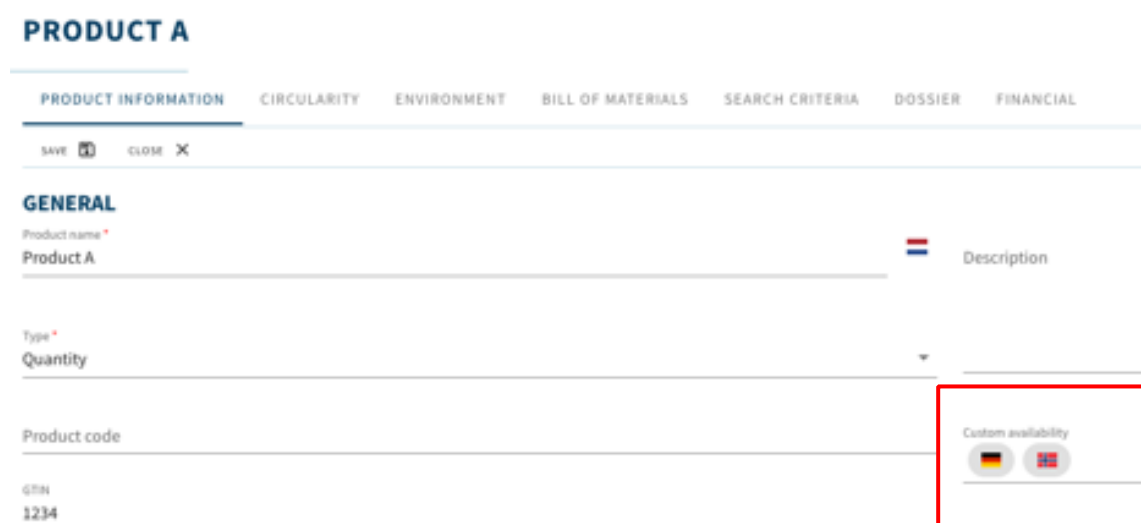
In Madaster it is possible to make a new version of an existing product (or material). By clicking on the version icon in its own database, the Madaster system copies the current product (or material) to a new version, which can then be modified by the user. The initial version is automatically made inactive (although it remains visible via the “inactive” status).



Picture 88: Product version(s).

Product availability

Products set-up in generic and/or specific manufacturer databases, that are available in multiple countries, can be made unavailable in certain countries in Madaster. In the "custom availability" field on the "Product information" tab, a selection can easily be made per product of the countries in which the product is available. In the non-selected countries, the product is also not visible in the database.



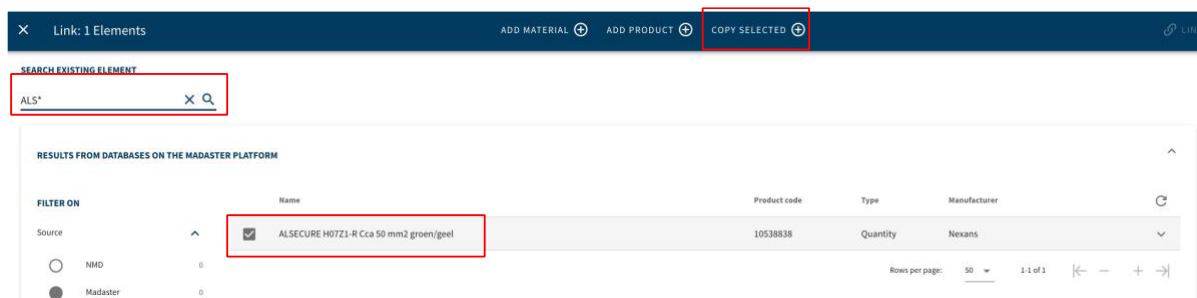
Picture 89: Product availability.

4 Copy products

If several comparable products need to be added to the user's "own" product library in the Madaster platform, it is possible to copy an existing product and then adjust this copied product as desired. The copy function is available within the "manual enrich" process and on database level. This function is briefly explained below.

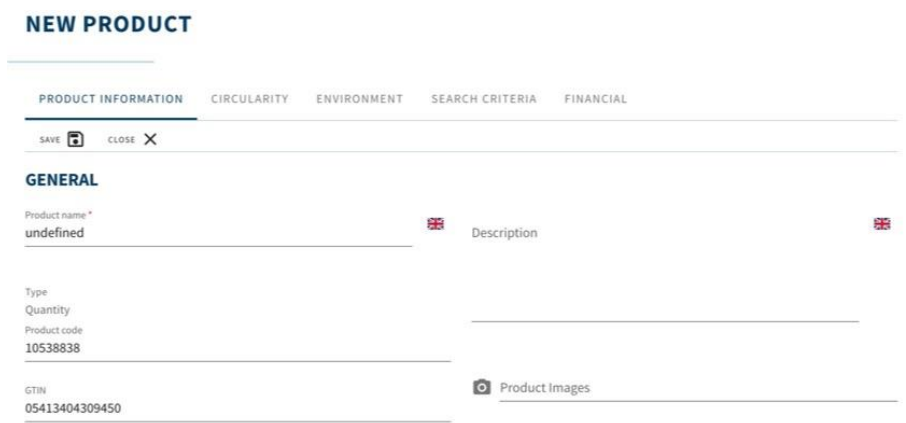
4.1 Manual enrichment process

1. Repeat steps 1 to 6 as described above in the section "Link manually". This selects one or more elements of the source file (IFC and / or Excel) that you want to link (to a product that is already available in the Madaster database or own products library and you want to copy).
2. Click the "Copy selected product" button (on right hand side) in the "Link" screen.



Picture 90: Copy selected product.

3. In the "Create new product" screen you change the fields (e.g., "product name", etc.), with which you distinguish the copied product from the original.



Picture 91: Create new product.

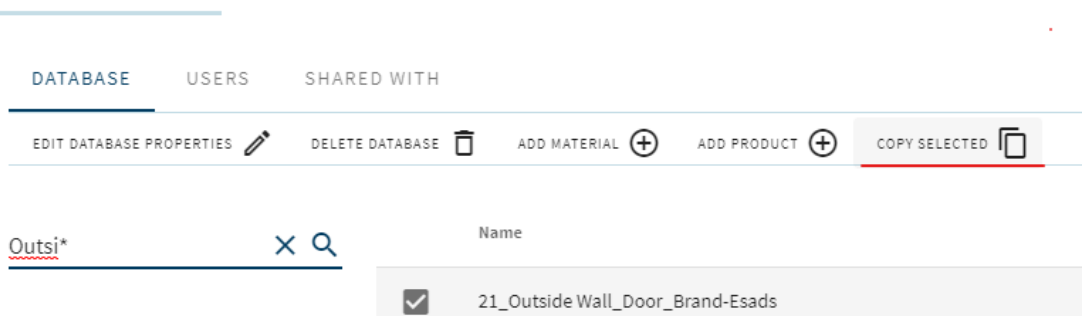
4. Click the "Save" button. The copied product is saved and the other product sheets (including "Bill of materials", "Search criteria", etc.) are displayed.

5. Where required, change the information on these sheets to match the set-up of the copied product.
6. Click the "Save" button to save any changes made to the product sheets of the copied product. The "Linking elements" screen is then displayed.
7. Click the "Link" button. This links one or more selected elements of the source file to the copied product.

4.2 Copy on database level

1. In the navigation drawer, select the relevant database that contains the product to be copied.
2. Subsequently, select the product to be copied. The "Copy selected" button appears in the sub-navigation bar.

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Picture 92: Copy selected element.

3. Click on the "Copy selected" button. The product opens.
4. If desired, change one or more product characteristics in the various tabs and save the copied product with the "Save" button. The product will now be added to the relevant database

5 Deactivate products

If a self-added product is no longer needed and should no longer be part of the user's 'own' library to link elements of the source file manually or automatically, this product can be deactivated. This means that the product no longer appears in the (active) selection of its own product set and the Madaster system will no longer automatically be able to link this product. Pre-existing links will be maintained. This function is briefly explained below.

1. On your account menu, click on tab 'Materials & Products' or go directly to your database on account/folder or building database

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GENERAL DOSSIER USERS FOLDER TYPES **MATERIALS & PRODUCTS**

ADD MATERIAL (+) ADD PRODUCT (+) COPY SELECTED

Search

	Name	Product code (EAN or GTIN, ...)	Type	Supplier
<input type="checkbox"/>	21_Buitenwanden_Deur_Merk 00.04		Volume	Kubus
<input type="checkbox"/>	21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/>	21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/>	21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/>	21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo

FILTER ON

Source

- Database Norway 0
- Database De Groene Afs...1
- DB Training The Arc 1

Picture 93: Materials & Products tab.

△ Madaster Training ^

- 🏠 Madaster Training Services BV v
- 🏠 MRA v
- 🏠 Noord-Holland v
- 🏠 Enterprise 1 v
- 📄 Madaster Training ←

Picture 94: Select database in navigation drawer.

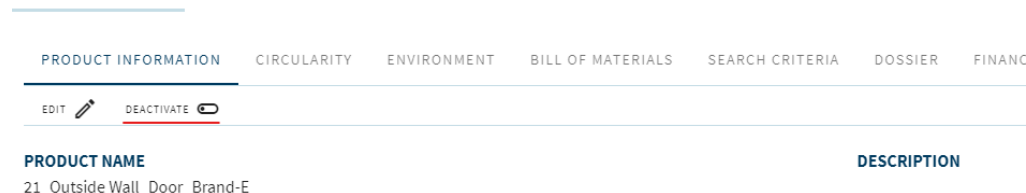
2. Use the search function or filters to find the product to be deactivated.
3. Click the "arrow" icon behind this product. The product features of this product (incl. The different product sheets) are displayed.

21_Buitenwanden_Openingen_Stelkozijn-A MadasterDemo Volume

Picture 95: Arrow icon (view product).

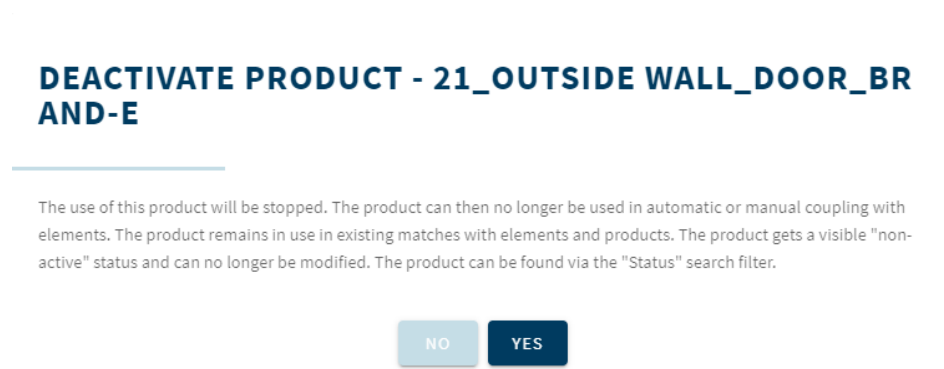
4. Click the "Deactivate" button in the top left of the "Product information" sheet. The "Confirm" screen is displayed.

21_OUTSIDE WALL_DOOR_BRAND-E



Picture 96: Deactivate product.

5. Click the "Yes" button in the "Confirm" screen.



Picture 97: Confirm product deactivation.

The product is now deactivated in the Madaster system.

5.1 Search deactivated products

If desired, a deactivated product can be reactivated. This makes the product part again of the active selection of the user's 'own' products library in Madaster and the product is included in the process of manually or automatically linking elements from source files. This function is briefly explained below.

1. On your account menu, click on tab 'Materials & Products' or go directly to your database on account/folder or building database.

MADASTER TRAINING

GENERAL DOSSIER USERS FOLDER TYPES **MATERIALS & PRODUCTS**

ADD MATERIAL (+) ADD PRODUCT (+) COPY SELECTED (📄)

Search

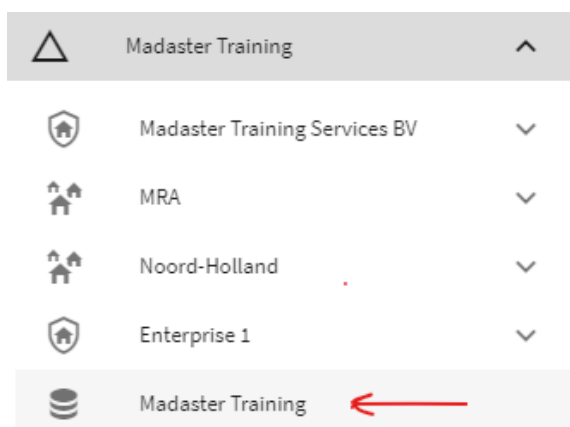
FILTER ON

Source

- Database Norway 0
- Database De Groene Afs...1
- DB Training The Arc 1

Name	Product code (EAN or GTIN, ...)	Type	Supplier
<input type="checkbox"/> 21_Buitenwanden_Deur_Merk 00.04		Volume	Kubus
<input type="checkbox"/> 21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/> 21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/> 21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo
<input type="checkbox"/> 21_Buitenwanden_Deur_Merk-E		Volume	MadasterDemo

Picture 98: Materials & Products tab.



Picture 99: database link in left navigation.

2. Open the filter 'Status' in the bottom left of the Material and Product screen.

FILTER ON

Manufacturer

Product type

- Volume 1
- Material 0

Status

- Active 0
- Inactive 1

Picture 100: Filter 'Status'.

3. Select the radio button "inactive" in the filter "Status" (see picture 2). The "Administration" screen now shows all deactivated (inactive) products under the user's own Madaster account.

5.2 Activate products

1. Repeat steps 1 to 3 as described above in the chapter "Search deactivated products".
2. In the list of deactivated products, find the product to be activated.
3. Click on the "arrow" icon behind this product. The product features of this product (incl. The different product sheets) are displayed.

Name	Product code	Type	Manufacturer
<input type="checkbox"/> 21_Outside Wall_Door_Brand-Esads	MadasterDemo	Volume	  

Picture 101: arrow icon (view product).

4. Click the "Activate" button in the top left of the "Product information" sheet. The "Confirm" screen is displayed.



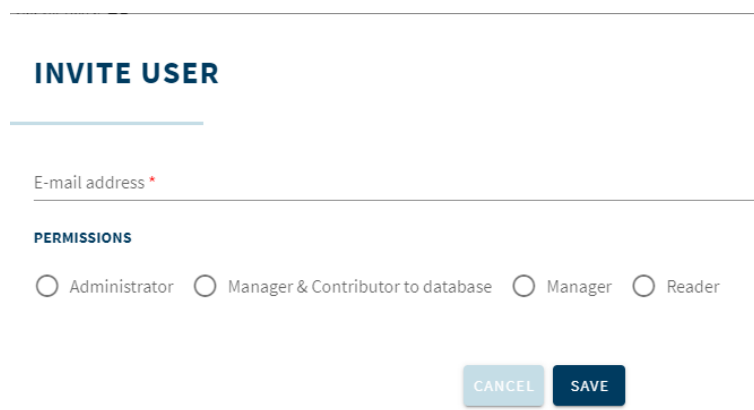
Picture 102: Activate product.

In the "Confirm" screen, click the "Yes" button. The product is now (re)activated in the Madaster system. This is visible because the fields of this product are now displayed in white color again.

6 Share Products (& materials)

By adding products (and materials) in Madaster, a ("private") products (and materials) database is built up at the account level. Besides the fact that this database remains available for each successive building under your own Madaster account, it can also be shared with external users. To this end, the party that makes its database available must explicitly share it with the receiving party. The private database can be made available in Madaster in three ways:

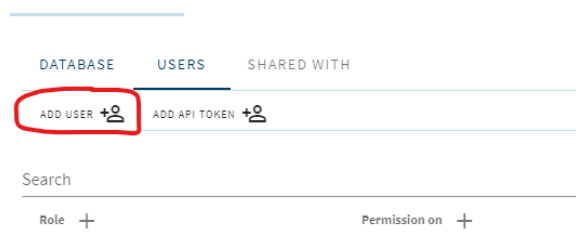
- (1) by inviting an external user (personally by email) to the account, folder or building in Madaster, which includes the specific database and assigning this user a specific role as 'administrator', 'Manager & contributor', 'Manager' or 'reader' (see picture 1).



Picture 103: Invite user (account, folder or building).

- (2) by inviting an external user (personally by email) to a specific database at account, folder or building level and assigning this user a specific role as "administrator" or "contributor".

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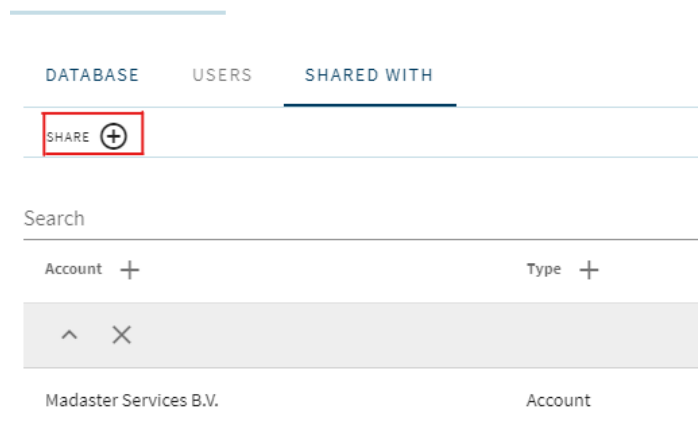
Picture 104: Invite user (account, folder or building database).

- (3) by making the database available at account or folder level ("sharing with") an external Madaster account with different rights and properties:

- Map – elements can be linked to the materials and products in this database.
- Copy – the materials and products from this database can be copied.

- Contribute – new materials and products can be entered into this database by the users with whom this database is shared.
- Manage – the database can be managed by the users with the rights, on the account/folder/building with which this database is shared.

FYI: before a database can be shared in the above manner, the external party (who gains access to the database) must first grant you access to its account, folder or building in Madaster. This external party does this at the desired level by means of assign the "add user" role and the role "Manager & Contributor to Database".



Picture 105: Share database (account or folder level).