

RAKENNUSTIETO >



DIRECT LINE

How to apply
M1 emission classification?

21st of April, 2026 at 10.00–11.00 EEST (Finnish time)

RAKENNUSTIETO >

Product Managers
Anniina Telkkälä,
Hanna Leppänen

People working with M1 Classifications



Hanna Leppänen
Team Lead, Conformity
assessment,
M1-Product Manager

Anniina Telkkälä
M1-Product Manager

Eemil Ferrand
M1-Product coordinator

Jussi Pietiläinen
M1-Product coordinator



In this webinar, you'll get answers to questions such as:

- What are the criteria for M1 emission classification?
- For which kind of products the classification can be applied?
- Why to choose M1 classification for your products?
- How does M1 differ from other international classifications?
- How does the M1 emission classification align with the needs of the EU taxonomy?
- How does the continuously updated application portal support the M1 application process?

Introducing Rakennustieto Oy



Originated in 1942

Located in Helsinki, Finland

Owned by Building Information Foundation RTS

- **Leading provider** of construction information in Finland.
- RTS committees represent the **highest expertise in the real estate** and construction sector as well as the **perspectives of various stakeholders** in the industry.
- Rakennustieto provides **information, product data, and verification services** for the needs of construction, infrastructure, building technology, and property management.



Who owns the M1?



Building Information Foundation RTS (Rakennustietosäätiö RTS)

Rakennustieto Oy

Emission classification



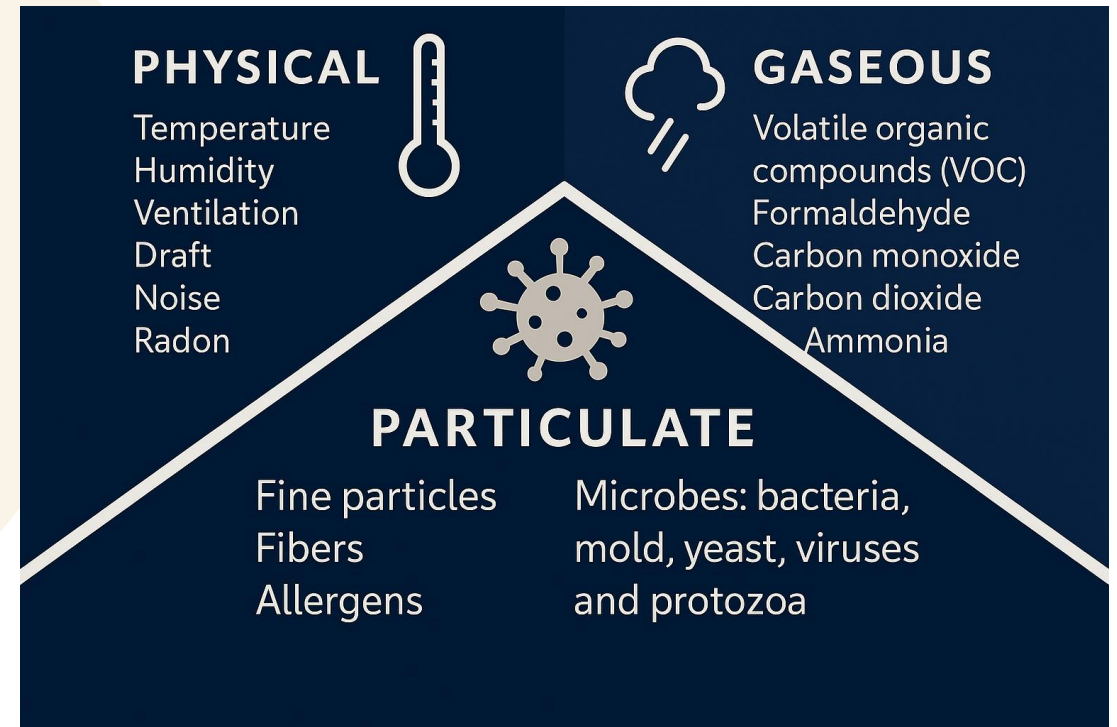
Owens Rakennustieto Oy and the Emission classification

Operates the Emission classification

Separate impartial Classification Committee

Which factors affect the quality of indoor environment?

- We spend most of our time in different indoor environments
- The quality of indoor air has a great impact on the wellbeing.
- With M1 emission classification we can affect the gaseous impurities of a product.



The Finnish approach to emissions

- Finland does not have national legislation regarding emissions of building materials, but the voluntary way 'M1 emission classification' has been highly successful.
- the emission classification was introduced in 1996 to promote the development and use of low-emitting building materials.
- according to research data, since the early 2000's the measured TVOC levels [$\mu\text{g}/\text{m}^3$] in indoor air of office-type buildings have dropped from hundreds to tens.



The criteria for M1 classification

- As the foundation of the M1 classification is to support good indoor environment, the odour evaluation is an important part of the criteria.
 - Sometimes a product has strong odour even if the chemical tests are below the limit values. In this case, the product cannot be said to support good indoor air quality.
 - The odour testing is carried out in accordance with the ISO 16000-28 standard. The testing is carried out blindly.
- In addition to VOCs and formaldehyde, ammonia testing is also a mandatory part of M1 testing.
- Even though casein is no longer used in screed-type products, there are multiple other sources of ammonia.
- Also, carcinogenic compounds (EC No 1272/2008 cat. Carc. 1A and 1B) is a mandatory part of M1 testing.

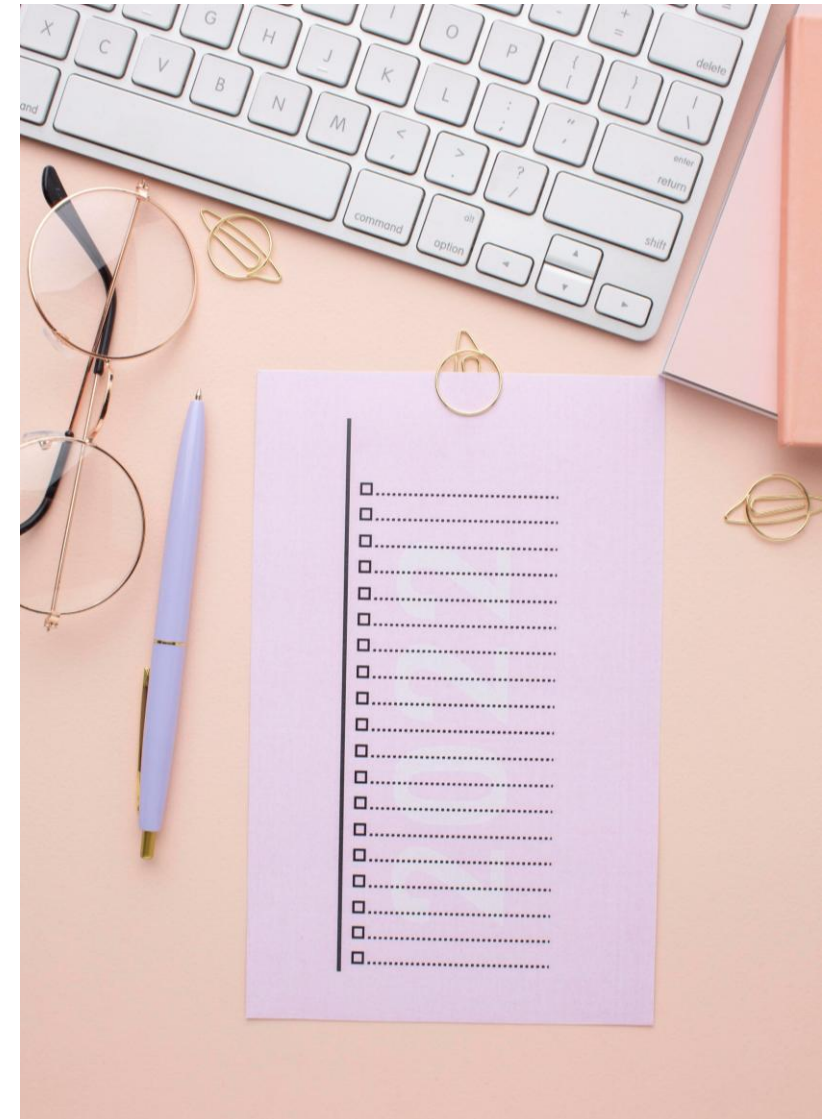
Requirements of M1 emission classification

- The M1 classification requires emission testing according to EN16516-based M1 testing protocol after 28 days.
 - No compositional testing
 - No annual audits
- Only compositional requirements are that plaster-type products do not contain casein, and upsholded office chairs do not contain fungicides.
- Products are expected to fulfil all legal requirements, including REACH and CE.



Requirements of M1 emission classification

- M1 classification utilizes the EU-LCI (Lowest Concentration of Interest) limit values.
- The M1 criteria is given as (area) specific emission rate, SER [mg/m²h] or [µg/m²h]
 - As the testing is done according to EN 16516, the SER value can be converted to reference room concentration [µg/m³]
- For small and very small areas (such as tiling grout or sealants) and upsholstered office chairs, the M1 criteria is given by reference room concentration.



M1 criteria

Valid M1
criteria

Not valid M1 criteria,
calculated from SER
[$\mu\text{g}/\text{m}^2\text{h}$] criteria

Parameter	Valid M1 criteria		Not valid M1 criteria, calculated from SER [$\mu\text{g}/\text{m}^2\text{h}$] criteria	
	M1 [$\mu\text{g}/\text{m}^2\text{h}$]	M1 for small areas & office chairs [$\mu\text{g}/\text{m}^3$]	M1 for wall products [$\mu\text{g}/\text{m}^3$]	M1 for floor & ceiling products [$\mu\text{g}/\text{m}^3$]
Total of volatile organic compounds (TVOC)	≤ 200	≤ 20	≤ 400	≤ 160
Volatile organic compounds (VOC)	$\leq \text{EU-LCI}$ [$\mu\text{g}/\text{m}^3$]	$\leq \text{EU-LCI}$	$\leq \text{EU-LCI}$	$\leq \text{EU-LCI}$
Formaldehyde	≤ 50	≤ 10	≤ 100	≤ 40
Ammonia	≤ 30	≤ 10	≤ 60	≤ 20
Carcinogenic compounds (EC No 1272/2008 cat. Carc. 1A and 1B)	≤ 1 [$\mu\text{g}/\text{m}^3$]	≤ 1	≤ 1	≤ 1
Odour acceptability	≥ 0.0 [no unit]			

Quality assurance

- Emission measurements for the Emission classification may only be performed by a testing laboratory approved by Rakennustieto. An approved testing laboratory shall fulfil the following criteria:
 - the laboratory shall have an accredited quality assurance system according to ISO/IEC 17025
 - the accreditation shall cover the chemical testing of material emissions including chamber technique and analyses according to ISO 16000 series standards
 - the laboratory shall regularly participate and prove acceptable performance in international material emission round robin tests covering chamber technique and analysis
- We conduct annual spot checks on different types of M1-classified products to ensure product reliability.

Product types included in M1 emission classification



- Building and decorative materials, e.g.:
 - floor coverings
 - building boards
 - paints and varnishes
 - adhesives and sealants
 - screeds and levelling compounds
 - insulations
 - waterproofing products



- Non-upholstered furniture, e.g.:
 - drawers
 - shelves
 - chairs
 - desks
- Upholstered office and auditorium chairs



- Fixtures, e.g.:
 - kitchen and bathroom cupboards
 - fixture doors
 - countertops
- Factory-made elements and combined products, e.g.:
 - windows
 - doors
 - notice boards
 - partition walls

Product type not included in M1 emission classification



- Appliances and other electrical devices
- Sofas and other upholstered furniture (except upholstered office chairs)
- Soft furnishings



- Sporting equipment (e.g. basketball hoops)
- Kitchen and bathroom sinks (unless fixed part of a fixture)
- Mirrors and toilet seats



- Massive structures (e.g. auditorium structures)
 - these can utilize M1 Classification for seats and surface materials (e.g. paints) but the whole structure cannot be tested and therefore cannot be M1-classified

M1 is a part of the puzzle – not the only answer

- The product manufacturer is responsible for ensuring that the product meets the requirements.
- An M1-classified product is low-emitting only when properly stored, installed, and used, so adequate instructions for correct use and maintenance are essential:
 - how the product should be stored
 - what types of applications and with which other products the product is suitable for use
 - how the product should be serviced and maintained
 - what cleaning methods are suitable for the product
- Quality assurance, sufficient documentation, and operational guidance should be guaranteed.

How does M1 differ from other international classifications?

- M1 sets limit values for emissions of volatile organic compounds (VOC), formaldehyde, and ammonia as well as the acceptability of odour.
 - Ammonia is a criteria only in M1 classification and the acceptability of odour is covered only in two classifications besides M1 classification (GUT and Danish Indoor Climate Label).
- Although emission testing in Europe is generally based on the same standard (EN 16516), the measurement and calculation methods of the different classifications differ, so the limit values cannot be directly compared.
- Emissions can be determined at different times (e.g. 3 days or 28 days), in which case the result tells a different story (primary emissions vs. long-term emissions).
- Especially if the comparison is made in model room concentrations ($\mu\text{g}/\text{m}^3$ or ppm), special attention should be paid to the assumptions used in the calculation (model room volume, product usage scenario (i.e. surface area) and ventilation coefficient).

EU taxonomy

- Part of the EU Green Deal, which aims to jointly define which activities can be considered sustainable in the real estate and construction sector.
- Includes also requirements for indoor air emissions from building materials (formaldehyde and carcinogenic VOCs)
- 'No significant harm' criterion for the objectives 'Substantial contribution to climate change mitigation' and 'Substantial contribution to climate change adaptation' in sections 7.1. Construction of new buildings and 7.2. Renovation of existing buildings



M1 emission classification and EU taxonomy

- In 2023 Rakennustieto launched an additional service to the M1 classification to ensure that the M1 certificate can be used to demonstrate product's compliance with EU taxonomy.
 - The concentration of formaldehyde $< 60 \mu\text{g}/\text{m}^3$
 - The concentration of carcinogenic compounds $< 1 \mu\text{g}/\text{m}^3$
- A scope suitable for taxonomy and SINTEF: emission of formaldehyde $< 60 \mu\text{g}/\text{m}^3$, emissions of carcinogenic compounds $< 1 \mu\text{g}/\text{m}^3$, and total volatile organic compound (TVOC) $< 300 \mu\text{g}/\text{m}^3$



M1 certificate with limit value examination

- Verifies that the product is M1-classified, low-emitting, and supports good indoor air quality.
- Provides the emission data needed for EU taxonomy reporting in a standardized, unambiguous and correct format.
- The reported emission data is verified by an impartial third party.
- Eliminates the need for sharing test reports as part of reporting documentation.



Emission Classification of Building Materials

Company

The classification committee appointed by Rakennustietosäätiö RTS sr has approved product:

Product

to Emission Class M1. The classification is valid until ~~xx.xx.xxxx~~.

Company has the right to mark its classified products with the classification label and to use the classification label in the marketing of these products. The classification decision is based on documents Classification of Indoor Environment 2018, and Emission Classification of Building Materials, General rules.

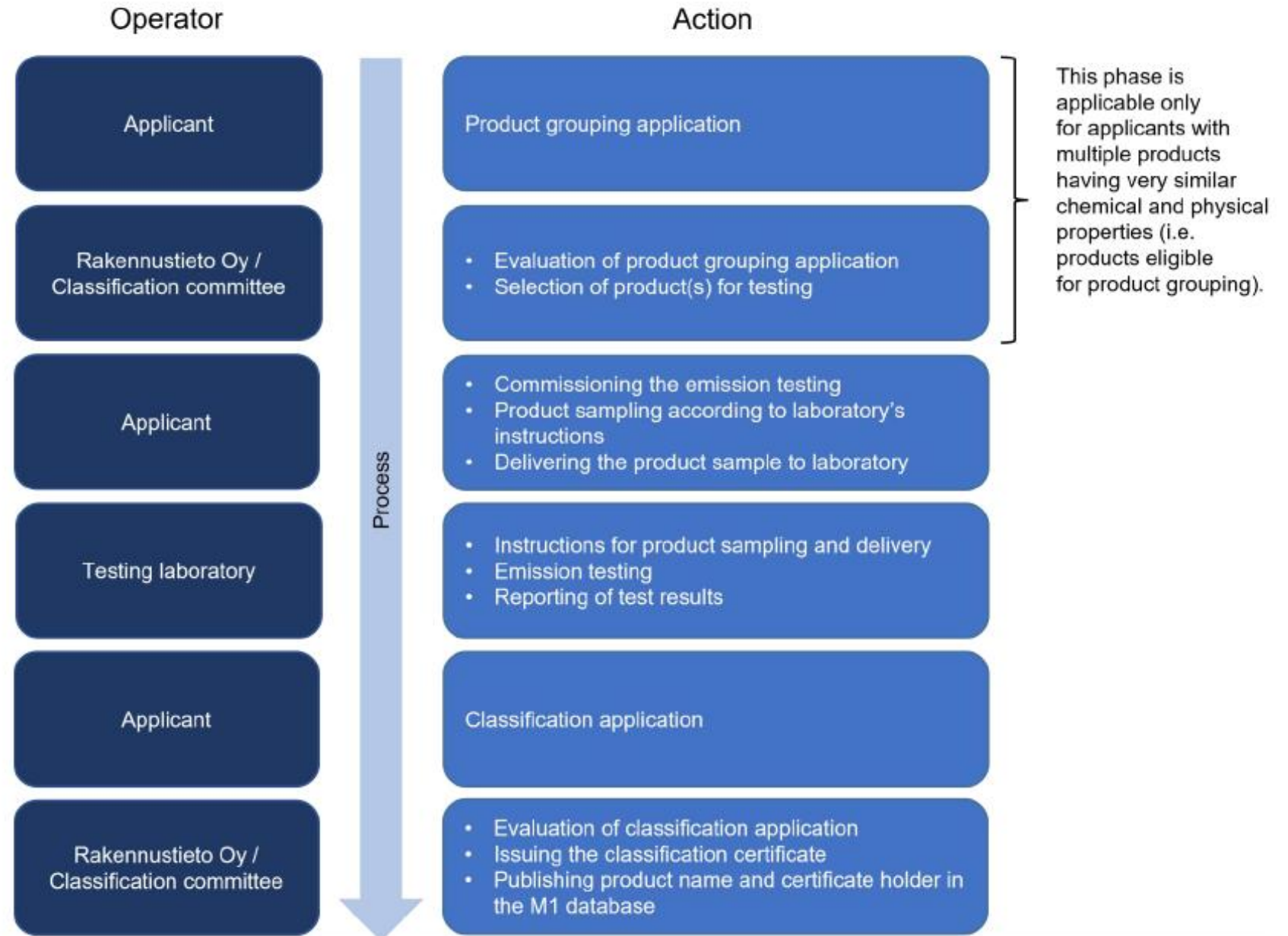
In addition to the criteria for the Emission Classification of Building Materials, based on the test report the following criteria are also met: formaldehyde emission < 60 µg/m³, emission of EC Regulation No. 1272/2008 category Carc. 1A and 1B carcinogenic compounds (excluding formaldehyde and acetaldehyde) < 1 µg/m³, and total volatile organic compounds (TVOC) < 300 µg/m³. The emissions have been determined after ageing period of 28±2 days using a chamber method based on the document M1 Emission Classification of Building Materials: Protocol for Chemical and Sensory Testing of Building Materials, and standard EN 16516:2017 + A1:2020. The test results have been reported in accordance with standard EN 16516:2017 + A1:2020 as reference room concentrations applying loading factor 0,4 m²/m³.

Rakennustieto Oy

Laura Apilo
Chief Executive Officer

Hanna Leppänen
Secretary of the Classification
Committee

The M1 process



How to use the M1 portal?

RAKENNUSTIETO

Main | English | Sign in | Register

Sign in Register

Sign In

* Email

* Password

Remember Me

Sign in Forgot your password?

- If you are using the portal for the first time, please register first.
- If you try to register an email address that is already in the system, the registration page will give an error message 'Username [email address] is already in use.'
→ click 'Forgot your password?'

How does the application portal support the M1 application process?

- Applications are left logged in, allowing the applicant to monitor the progress of the application and supplement their application if necessary.
- A draft application can be deleted if desired. If the status of the submitted application is either 'Submitted' or 'Additional information required', the application can be further edited.
- Please remember to press the 'Submit' button so that the application will be send in the applications being processed in Rakennustieto.



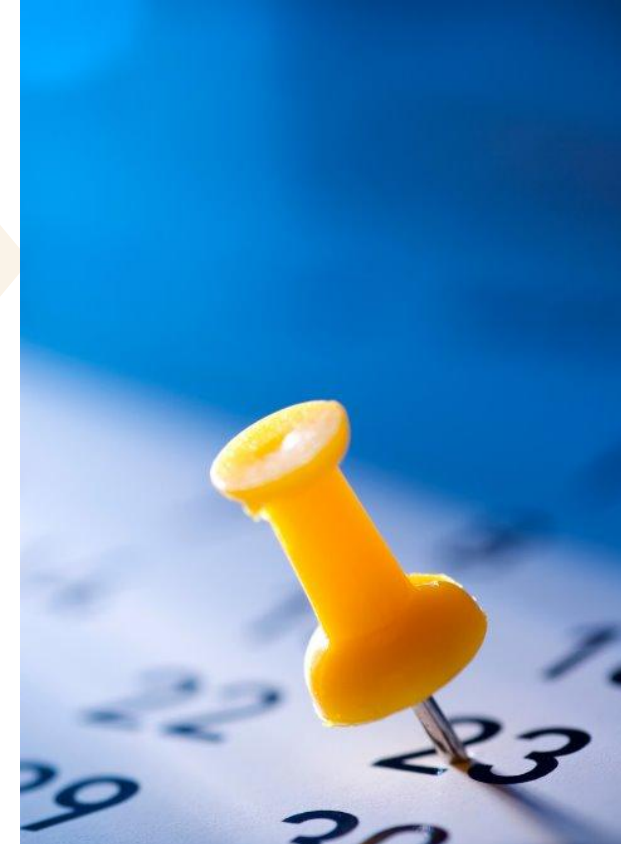
The application portal centralizes classification-related information

- Classification certificates and classification labels are no longer sent to the applicant by email, but the documentation can be downloaded from the portal after the application has been approved.
- The documents can be found in the application attachments in the folder 'Classification documents'.
- The contact person can see all his/her products in the portal and can thus better manage, for example, upcoming renewal needs.
- Also, all the company's application (under control of the contact person) are available in the portal.



The portal enables automatic reminder messages

- The portal sends automatic reminder messages for expiring classifications.
- The message is sent to both the application contact person and the company's general email address, if known.
- If the classification renewal process has already started, the reminder message can be ignored.
- If you want to give up the classification, you must notify us so that the application can be archived.



Instructions for applying can be found on the website

- The application process and application type-specific instructions can be found in websites of [Emission Classification of Building Materials](#)
- The website also includes classification fees, classification criteria and testing instructions, as well as a search for M1-classified products.
- The dates of upcoming classification meetings can be found on the application portal homepage.

Application Portal

1. Emission Classification of Building Materials

2. How to Apply

Eligible Products

Apply via Portal

Application Types



Requirements for an M1-classified product

Testing & Criteria

Authorised testing laboratories

3. Pricing

4. Using the Classification

Search for M1-classified building products

Downloadable Materials

F.A.Q

Contact

Tips for making the application

- Please, select the application type that best describes your application.
- An application can only have one type, but that doesn't mean that one application can't include several different things.
 - Also remember to use the additional information field on the form.
 - You can always attach a cover letter or other clarifying document to your application
- Matters with multiple decision numbers cannot be combined into one application.

Application Details

Application type *

New classification application

Select

New classification application

Classification continuation application

Classification renewal application

Classification application for a private label product

Product grouping application

Addition to an existing product group

New parallel product name

Change in product name

Change in company

Change in composition or manufacturing process

Removal of a product

Limit value examination

Tips for making the application

Product Details

If the application includes fewer than five (5) products, enter the product information individually by selecting **Add a New Product**.

If there are more than five products, you can use the **Bulk Import of Products** option. Download the provided Excel template, fill it out according to the instructions, and upload it as an application attachment.

Mass Import of Product Information

If the application involves many products, you can import their information to the application using this import [template](#). The product information must be filled in according to the instructions given in the file, and this is not the same file as the table used for product grouping.

- The application must have at least one product
 - product = product data ≠ product card
 - If there are ≤ 5 products, please add them to the application one by one using the 'Add product' button.
 - If there are more than 5 products, select 'Mass import of product information', download the import template and attach the file filled in according to the instructions as an attachment to the application.

Tips for making the application

- We will send requests for additional information by email, but please always complete the information in the application in the portal.
 - Please, remember to resubmit the application for processing, otherwise it will not be returned to the queue of applications to be processed.
- Please, remember to first send the product grouping application, so that the classification committee can select the product to be tested for a new or renewal application.
- Please, use only an approved laboratory for emission testing, which performs testing in accordance with the M1 testing protocol including odor acceptability and ammonia emission.

Updates in the application portal

- Checkbox “Order product-specific certificates” has been added to the portal.

By default, all products are included in the same classification certificate.

If you want a separate certificate for each product (1 product = 1 certificate), select this option. Please note that additional charges apply based on product quantity! [price list](#)

Order product-specific classification certificates

- New application name identifier field will be added to the application portal. This is optional, and it allows the applicant to assign a custom identifier to their application, which will be included in the application title.

Example

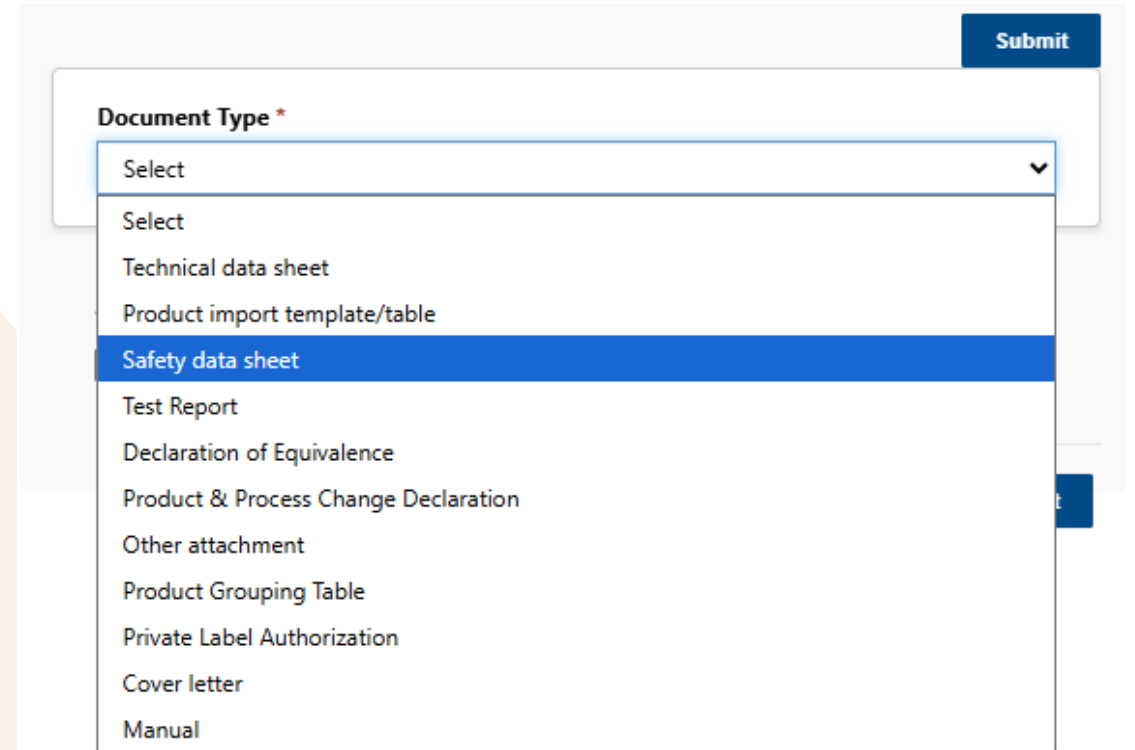
"Rakennustieto Oy New classification application 2026-4-21 9h00m"

"Rakennustieto Oy **<identifier>** New classifiactor"

Optional Application identifier text (part of application name)

Upcoming updates in the portal

- “Mandatory requirements” for required attachment types are being introduced
 - When all required attachment types are immediately available, application processing will be faster
- In the future, the applicant will be able to copy a previous application as the basis for a new application.




A screenshot of a web form showing a dropdown menu for "Document Type *". The menu is open, displaying a list of document types. The "Safety data sheet" option is highlighted in blue. Other options include "Select", "Technical data sheet", "Product import template/table", "Test Report", "Declaration of Equivalence", "Product & Process Change Declaration", "Other attachment", "Product Grouping Table", "Private Label Authorization", "Cover letter", and "Manual". A "Submit" button is visible in the top right corner of the form area.

Document Type *
Select
Select
Technical data sheet
Product import template/table
Safety data sheet
Test Report
Declaration of Equivalence
Product & Process Change Declaration
Other attachment
Product Grouping Table
Private Label Authorization
Cover letter
Manual



A screenshot of the "Application Attachments" section in a web portal. It features a table with columns for "Name" and "Modified". A file named "SDS (Safety data sheet).pdf (98 KB)" is listed in the table, with its name highlighted by a red box. The "Modified" date is "17.04.2026 16:42". There is an "Add Files" button in the top right corner and a dropdown arrow in the bottom right corner of the table.

Name ↑	Modified
 SDS (Safety data sheet).pdf (98 KB)	17.04.2026 16:42

Why apply M1 classification for your products?

Better Indoor Air Quality

- M1 is a well-established and respected classification in Europe and increasingly around the world.
- It signals quality and responsibility to customers, designers, and regulators.
- Supports healthy indoor environments by setting limit values for volatile organic compounds (VOC), formaldehyde, and ammonia as well as the acceptability of odour.
- Well recognized and trusted in the construction industry.



Why apply M1 classification for your products?

Responsible Choice

- Supports sustainable construction and environmentally friendly decisions, addressing the requirements of EU taxonomy.
- Also suitable for environmentally certified projects (e.g., Rakennustieto Environmental Classification, LEED, BREEAM)

Quality Guarantee

- Communicates high quality and manufacturer responsibility
- Often a requirement in public building projects in Finland





Good indoor quality starts with good choices





Thank you for your interest!

m1@rakennustieto.fi

<https://ymparisto.rakennustieto.fi/en/mission-classification-of-building-materials>