EU Ecolabel for decorative paints, varnishes and related products, performance coatings and related products, and water-based aerosol spray paints

User Manual

Version 1.0, January 2026

European Commission

EU Ecolabel for decorative paints, varnishes and related products, performance coatings and related products, and water-based aerosol spray paints

Contents

Using this manual

This manual guides you through the process of applying for an EU Ecolabel, in accordance with the criteria requirements. The following symbols are used throughout:

Symbol description	
	Boxes with definitions or additional explanations of technical terms that could complement the definitions already included in Commission Decision (EU) 2025/2607.
	Notable or important information.
	Documentation on how to fill in the application form and information about documents to be submitted with the application.
	Website links where further information can be found.

The manual is structured as follows:

Part A: General Information – provides information about the EU Ecolabel, details of the application process as well as frequently asked questions about the applications.

Part B: Product Assessment and Verification – outlines the criteria for the specific product group set out in the Commission Decision.

The manual is supplemented by the following elements as separate files:

- Application Form: an Excel-based spreadsheet to be filled in.
- Declarations: as pdf files to be filled in.

The spreadsheet contains a first tab labelled "Read_me", which describes the different worksheets, the type of information needed, their purpose, correspondence to the EU Ecolabel criteria and to each other. The core information is included in two worksheets titled "PRODUCT_INFO" and "CHEMICAL INFO". The Excel form is designed to handle data for up to 40 products or product families. The last tab, "SUMMARY", reflects the status of all related outputs from the Application Form.

Declarations from suppliers may be compiled by the applicant and provided to the assessing competent body or, alternatively, suppliers may supply declarations directly to the competent body.

- *Please read this manual all the way through before completing and submitting the verification form or any other documentation. EU Ecolabel competent bodies can help applicants/licence holders understand the EU Ecolabel criteria and can provide guidance on how to assemble an application dossier.*
- *This User Manual is for guidance only; it does not have any legal standing and does not, in any way, replace the Commission Decision or any relevant legislation. In case of doubt on specific points in the User Manual, please refer directly your national competent body.*
- All referenced legal acts are available at: https://eur-lex.europa.eu/homepage.html.

1 Introduction

This User Manual is for guidance only and is designed to support the application phase for the EU Ecolabel for decorative paints, varnishes, and related products, performance coatings and related products, and water-based aerosol spray paints. It includes an outline of all data, tests and documentation that are required to demonstrate compliance with the criteria.

The basis for the manual is the Commission Decision establishing the EU Ecolabel criteria for decorative paints, varnishes, and related products, performance coatings and related products, and water-based aerosol spray paints. A copy of the criteria can be found at:

- http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

This document does not aim to duplicate the text of the criteria but is intended to support their application, focusing on providing helpful explanations, context and clarifications. Each criterion name appears as a heading under Part B with a short summary of what documents are needed for the verification of the criterion. Only additional information, clarifications and explanations are included.

⚠ *Please read the Commission Decision and this manual all the way through before completing and submitting the application form or any other documentation.*

For general questions about the EU Ecolabel and the application process, please check the following pages:

- http://ec.europa.eu/environment/ecolabel/faq.html
- http://ec.europa.eu/environment/ecolabel/how-to-apply-for-eu-ecolabel.html

2 Before you start

We recommend that you take the following steps before you start:

- ⚠ *Read the Commission Decision and its Annexes carefully*[1].
- ⚠ *Contact the national EU Ecolabel competent body of your choice*[2].
- ⚠ *Make sure that the candidate product(s) fulfil all applicable legal requirements of the country or countries in which the product is intended to be placed on the market.*

[1] EU Ecolabel for decorative paints, varnishes, and related products, performance coatings and related products, and water-based aerosol spray paints. Commission Decision 2025/2607. Available at this link.

[2] More information of your competent body is available at https://ec.europa.eu/environment/ecolabel/competent-bodies.html

3 Part A: General Information

Part A 'General information' is a horizontal document for all EU Ecolabel products, explaining the different steps of the application process in detail. It has been translated into each Member State language and can be found at:

- https://environment.ec.europa.eu/publications/eu-ecolabel-translated-user-manuals-part_en

4 Part B: Product Assessment and Verification

4.1 Scope of Annexes I, II and III

The scope of the EU Ecolabel product group for "decorative paints, varnishes, and related-products, performance coatings and related products, and water-based aerosol spray paints" is split into three parts (included in three annexes), as indicated in the table below.

TABLE 1. SCOPE OF EU ECOLABEL CRITERIA.

Annex	What is in the scope	Remarks
I: decorative paints, varnishes, and related products	Subcategories 1.1(a) to 1.1(h) as described in Annex I to Directive 2004/42/CE.	Already included in the 2014 criteria and covers paints, varnishes, primers and indoor and outdoor products. Any tinting systems would most likely belong to this Annex.
II: performance coatings and related products	Subcategories 1.1(i) and 1.1(j) as described in Annex I to Directive 2004/42/CE. And specifically limited to floor coatings, anti-corrosion coatings, waterproofing coatings, radiator paints and any associated primers.	Already included in the 2014 criteria but now applications are more explicitly stated.
III: water-based aerosol spray paints	Metal spray cans that are ready to use, with a water-based paint formulation and non-flammable aerosol classification.	Completely new to the EU Ecolabel scope.

⚠ *Although one EU Ecolabel licence can cover many different products and product families, they must all lie within the same Annex. An applicant that produces both Annex I and Annex II products and wants to apply for the EU Ecolabel for both must make two applications, one for the Annex I products, and one for the Annex II products.*

⚠ *For the sake of clarity regarding the term "woodstain", it should be understood that all products covered by the EU Ecolabel scope (Annexes I to III) must be able to form a continuous film on the substrate they are applied to. Semi-transparent coating products referred to as "lasure" can be considered as woodstain for the decoration and protection of exterior wood surfaces, so long as they are not marketed as wood preservative products (biocidal product type 8 under the Biocidal Products Regulation).*

⚠ *"Just add water" products are a new addition to the scope for Annex I. They are mentioned separately because they are technically not covered by Directive 2004/42/CE. They come into the Annex I scope if the end-use they are marketed for (after adding water) is aligned with any of the subcategories (a) to (h). In those cases, the product would then need to meet the same requirements as the equivalent conventional product.*

Which products are excluded?

- multicoloured coatings as defined in subcategory 1.1(k) of Annex I to Directive 2004/42/EC;
- decorative effect coatings as defined in subcategory 1.1(l) of Annex I to Directive 2004/42/EC;
- anti-fouling coatings;
- wood preservatives;
- any other coating systems marketed as having anti-microbial, anti-bacterial, anti-viral, disinfectant or other primary biocidal effects for the benefit of human health or related to hygiene standards in

the food or drink industry, health services or any other sector, that extend beyond in-can preservation and preservation of the dry film (that is to say, beyond biocidal product types 6 and 7 as defined in Annex V to Regulation (EU) No 528/2012 of the European Parliament and of the Council[3]);

- coatings and coating systems designed for use in industrial processes, such as powder coatings applied as powders to substrates and coatings that are cured by UV radiation;
- coatings primarily intended for vehicles;
- wood oils and waxes;
- fillers, plasters, grouts, sealants and adhesives;
- cement-based paints;
- road-marking paints.
- coatings designed to impart flame retardancy;
- coatings designed to impart graffiti resistance;
- aerosol spray paints with an organic solvent-based paint formulation;
- aerosol spray paints that are classified as an extremely flammable aerosol (H222) or a flammable aerosol (H223) under the classification rules for mixtures set out in Regulation (EC) No 1272/2008 of the European Parliament and of the Council[4];
- water-based aerosol spray paints marked as substitutes for conventional paints in large-scale applications, for both wall and ceiling surfaces;
- water-based aerosol spray paints used for road-marking paints.

[3] Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1, ELI: http://data.europa.eu/eli/reg/2012/528/oj).

[4] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1, ELI: http://data.europa.eu/eli/reg/2008/1272/oj).

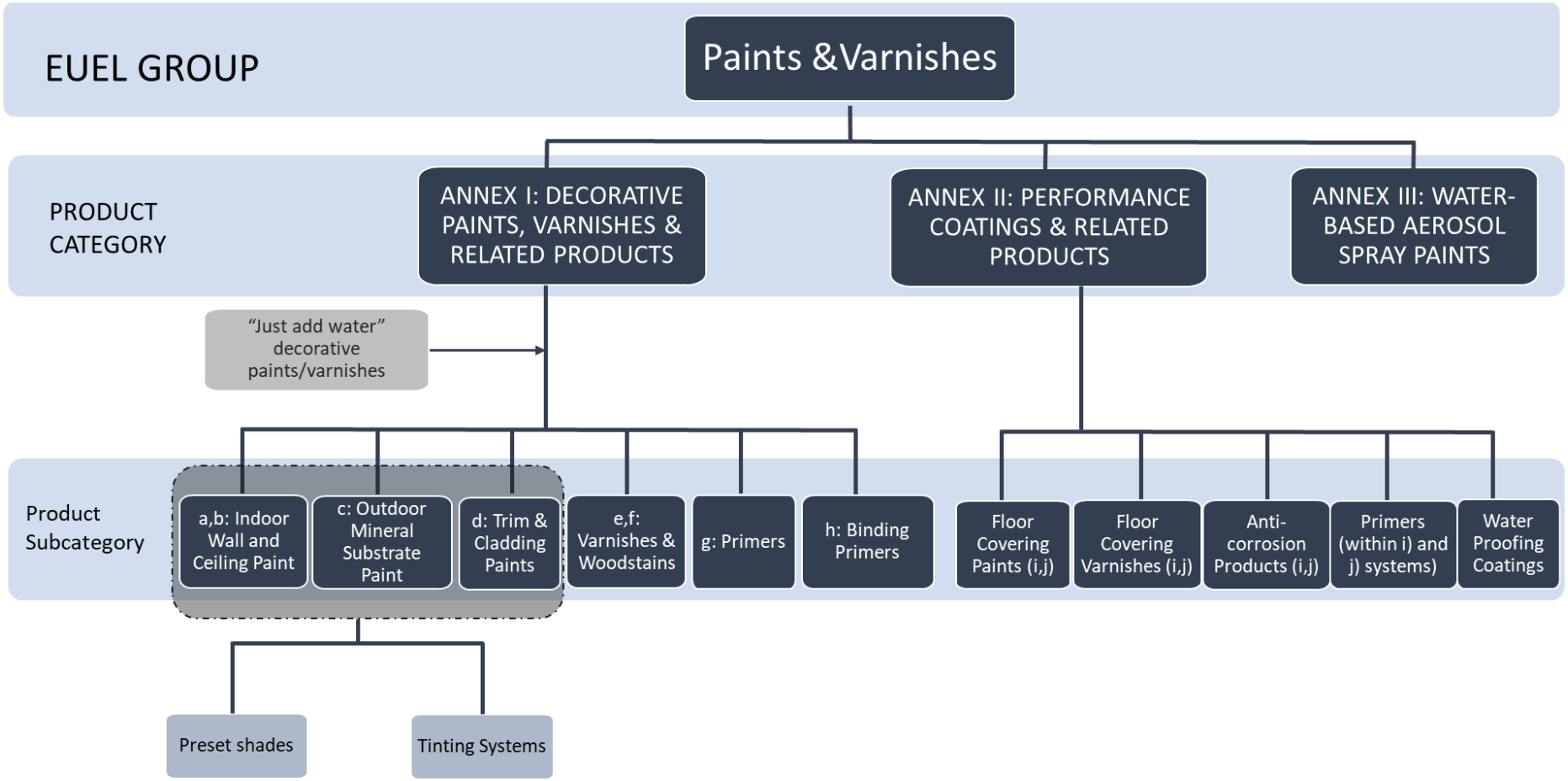


FIGURE 1. HIERARCHICAL LAYOUT OF THE PRODUCT GROUP SCOPE.

4.2 General assessment and verification (A+V) requirements

The general assessment and verification preamble at the beginning of the Annexes states some general requirements and a set of six specific types of information to be provided as part of the application. These specific requirements are common to all three Annexes and so they are explained here in this section before going into the Annex I criteria.

TABLE 2. HOW SPECIFIC REQUIREMENTS IN THE GENERAL A+V TEXT RELATE TO THE UM.

Specific requirement	Relation to the User Manual materials
a) List of individual paint and varnish products covered by the EU Ecolabel application	The naming of products and product families shall be set out in the PRODUCT_INFO worksheet. With information in column A (unique ID number), column B (product subcategory) and column C (free text general description). In cases where a single row and single ID is used for a product family, the applicant shall keep a record of the exact names of the individual products in that family. This could be typed into column C without bothering to wrap the text or a longer free text provided in the last column (column R onwards) which can be more easily read on screen. However, when there are potentially hundreds of different products simply due to shade variations in a tinting system, there is no need to list all of them, just the number of tinting bases and colour tints and combinations.
b) A description of the product formulation(s), with a % composition of the ingredients used and the specific function of each ingredient	Information shall be provided at two levels and this relates to the C3+INFO and C4-INFO worksheets. In the C3+INFO sheet, the applicant shall describe how their products are composed of different ingredients (chemical products) for the worst-case VOC/SVOC content. The chemical products, including water, must add up to 100%. In the C4-INFO sheet, either the same formulation or another, if the worst-case for C4 is different to the worst-case for C3 is defined. In C4, the definition of the formulation is then further broken down into ingoing substances using information chemical supplier declarations about the presence and maximum concentration of any ingoing substances or known impurities in their chemical products that have any of the EUEL-restricted CLP hazards, are SVHCs, are SVOCs or are VOCs. The list of ingoing substances does not need to add up to 100%. It only focuses on ingoing substances that have some countable or screenable property according to the EU Ecolabel criteria.
c) Safety Data Sheets for ingredients used	Together with the chemical supplier declaration on ingoing substances and known impurities, suppliers of chemical products shall also provide copies of safety data sheets whenever such documents are obligatory in line with REACH and CLP legislation.
d) Any other information associated with the production of ingredients and materials	The clearest example of this would be the information on emissions and low dust working environments related to TiO_2 production. Other examples could relate to the application of tests for levels of selected heavy metal impurities in pigments in sub-criterion 4.3(k).
e) Description of packaging formats used	This refers to column D in the PRODUCT_INFO worksheet. This is a free text entry for the applicant to describe in their own words (e.g. based on the materials used and volumes contained). The total number of packaging variations should also be inserted in column E and the total number of shade/gloss variations in column F. If each shade/gloss variation is available

Specific requirement	Relation to the User Manual materials
	in all the packaging formats, then the total number of products (column G) would be equal to (*column E* x *column F*). But this will not always be the case.
f) Explanation of worst-case products within product families	When a row in the application Excel form refers to a product family, it is not necessary to provide data for each individual product in the family. Instead, data for the worst-case product should normally be applied. The worst-case product in the same family could vary when looking at different criteria. In some cases, it might not be the "worst-case", but the "most relevant case", for example, in cases where testing is required only when certain claims are made (e.g. alkali resistance), then if some products in a family make the claim and some do not, select the example from those that do make the claim. Room is left for such explanations in the last column for each of the criteria in the Excel form (e.g. column P in C2 for criteria 2a and 2b; column Q in C2 for criteria 2c and 2d; column Q in C3 for criterion 3; column G in C4_INFO for criterion 4.2; column U in C5 for criterion 5).

4.3 Annex I criteria: decorative paints, varnishes, and related products

The next sub-sections walk through the practical considerations of criteria 1 to 7, as laid out in Annex I. Where relevant, additional context is provided to help explain why certain approaches to data gathering and assessment and verification are needed.

Criterion 1: Titanium dioxide production

Why a 3.0% w/w threshold: Titanium dioxide is a commonly used ingredient in paints and its unique technical properties impart several desirable technical characteristics to paint coatings. The use of TiO_2 pigments can be reduced via the use of pigment extenders and avoided altogether if certain properties in the paint coating are not needed. For this reason, the TiO_2 content in paints can vary from 0% to upwards of 30% on a weight by weight basis. To avoid disproportionate assessment and verification efforts, criterion 1 only applies when the TiO_2 content is >3% w/w.

Need for flexibility in test methods and calculations: Due to the energy and chemically intensive processes required to produce TiO_2, their use in EU Ecolabel paints beyond 3.0% is only permitted in cases where production complies with certain limits on emissions of pollutants to air and water.

Allowance for campaign-specific data: Allowance is made for campaign-specific data because it is possible that a given plant will run a production campaign for EU Ecolabel pigments and then another campaign for non-EU Ecolabel pigments. Factors such as the choice of ore quality can have an important effect on the final emissions measured. Higher quality ores are more expensive (and have higher upstream environmental impacts) but consume less chemicals and generate less waste and emissions.

Low dust working environments: The risk assessment for the workplace shall include the following mitigation measures for demonstrating compliance with the low dust requirements for the EU Ecolabel criteria:

- Storage and handling of dry and powdered raw materials in enclosed areas and/or in closed spaces maintained under a negative air pressure differential and with any suspended dust being collected in cyclones, bag filters or similar dust separation systems.
- Cleaning protocols for regular cleaning of dust from indoor surfaces using either water sprays or vacuum devices for dust removal (sweeping of dry dust should not be carried out). Any vacuum devices should be fitted with HEPA filters (HEPA filters are “High Efficiency Particulate Air” filters), not standard filters.
- Provision of an enclosed storage area for all dewatered sludge or filter cake prior to recovery operations, prior to sale, prior to shipment for reuse, prior to reuse onsite or prior to shipment and disposal to landfill.

The occupational hygiene monitoring program shall include the scheduling of cleaning activities and records of them being completed. It shall also encompass measures relating to training and the provision of personal protective equipment.

Burden of proof on TiO_2 producer

The declaration forms for TiO_2 producers request descriptions of what type of data was collected, what test standards were used and to explain briefly how the calculation for each emission has been done.

An idea of the information requirements for the TiO_2 producer relating to emission data can be gathered from this excerpt from the TiO_2 producer declaration:

TABLE 3. EXCERPT FROM THE TiO_2 PRODUCER DECLARATION – EXAMPLE OF CHLORIDE PROCESS.

Production site:	*(copy same name to summary table on page 1)*		
How were dust emissions to air measured?	*(Annual average or only for a specific campaign? Continuous or periodic samples? What data was measured (in mg/Nm^3) and what specific air flow rate was assumed (in Nm^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standard is EN 13284-1*		
How were HCl emissions to air measured?	*(Annual average or only for a specific campaign? Continuous or periodic samples? What data was measured (in mg/Nm^3) and what specific air flow rate was assumed (in Nm^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standard is EN 1911*		
How were Cl^- emissions to water measured?	*(Annual average or only for a specific campaign? Was a mass balance method used? If so, what were the input and output totals? Or were continuous or periodic samples taken? If samples taken, what data was measured (in mg/m^3) and what specific wastewater emission rate was assumed (in m^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standards are EN ISO 10304-1 and EN ISO 15682*		
Pigment product details and specific emissions *(insert more rows as required)*	Dust (air)*	HCl (air)**	Cl^- (water)***
(insert commercial name, year and average TiO_2 content of the ore)	*0.54*	*0.68*	*224 (c)*
Limits	0.66 kg/t	0.70 kg/t	103 kg/t (a) ; 179 kg/t (b) ; 329 kg/t (c)

* dust emissions to air cover at least the milling, chlorination, oxidation and micronisation stages.

** HCl emissions to air cover at least the chlorination, acid scrubber from solids separation and metal chloride treatment processes.

*** applicable limits for chloride emissions to water vary depending on the average TiO_2 content of the ore processed. Limit (a) applies if average ore content is >95% TiO_2 content. Limit (b) applies if average ore content is 90-95% TiO_2 content. Limit (c) applies when average ore content is <90% TiO_2.

TABLE 4. EXCERPT FROM THE TiO_2 PRODUCER DECLARATION – EXAMPLE OF SULPHATE PROCESS

Production site:	*(copy same name to summary table on page 1)*		
How were dust emissions to air measured?	*(Annual average or only for a specific campaign? Continuous or periodic samples? What data was measured (in mg/Nm^3) and what specific air flow rate was assumed (in Nm^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standard is EN 13284-1*		
How were SO_2 emissions to air measured?	*(Annual average or only for a specific campaign? Continuous or periodic samples? What data was measured (in mg/Nm^3) and what specific air flow rate was assumed (in Nm^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standard is EN 14791*		
How were SO_4^{2-}- emissions to water measured?	*(Annual average or only for a specific campaign? Was a mass balance method used? If so, what were the input and output totals? Or were continuous or periodic samples taken? If samples taken, what data was measured (in mg/m^3) and what specific wastewater emission rate was assumed (in m^3/t pigment) in order to get to a unit of kg/t pigment? What method was used? The relevant standard is EN ISO 10304-1*		
Pigment product details and specific emissions *(insert more rows as required)*	Dust (air)*	SO_2 (air)**	SO_4^{2-} (water)
(insert commercial name, year)	*0.34*	*3.23*	*224*

Limits	0.40 kg/t	4.5 kg/t	300 kg/t

* dust emissions to air cover at least the milling, digestion, calcination and micronisation stages.

** SO_2 emissions to air cover at least the digestion and calcination processes.

What to do?

1. Declare the maximum TiO_2 content for each row covered by the application in column I of the PRODUCT_INFO worksheet.
2. If even one row has an entry of >3.0% in column I, it will be necessary to provide declarations regarding TiO_2 production.
3. Obtain the TiO_2 producer declarations needed to ensure compliance with criterion 1.
4. In cases where TiO_2 pigments are supplied by intermediary actors, the supplier must declare the actual TiO_2 producer, so that the applicant can request a declaration from them. In this case, two declarations will be needed, one from the supplier and one from the producer.
5. Transfer relevant information from supplier/producer declarations into the C1 worksheet.

⚠ *It is not necessary to link particular TiO_2 pigments to particular products, just to declare that all TiO_2 pigments used in the EUEL products with more than 3,0% TiO_2 content come from the sources covered by the TiO_2 producer declarations.*

⚠ *For any "just add water" products, the applicant has the option to count the TiO_2 content in the dry product or in the already mixed and ready to use formulation.*

⚠ *Because the TiO_2 declaration also covers information on any additives with EUEL-restricted CLP hazards, that information can serve as part of the inputs for criterion 4.*

⚠ *No templates are provided for the documentation relating to risk assessments, site systems, enclosures and training programs because these will be site and company-specific.*

Required documentation:

- A copy (or excerpts) of a risk assessment for the production site that includes the assessment of risks of worker and visitor exposure to dust and describes the personal protective equipment made available to employees and visitors.
- If not already included in the risk assessment, a copy of an occupational hygiene workplace monitoring program.
- A copy (or excerpts) of the employee training program, highlighting parts that refer to good practice for dust control.
- Excel form – (with information on the maximum content of TiO_2 filled out in column I of the PRODUCT_INFO worksheet) and summaries of relevant information in the C1 worksheet.
- Declaration form(s) filled out by TiO_2 producer(s) in cases where any of the products contain more than 3% w/w TiO_2 pigment.
- If relevant, declarations from any intermediate TiO_2 suppliers.

An overview of the logic to follow with criterion 1 for both applicants and TiO_2 producers is provided in Figure 2. The starting point would be the dark grey diamond on the left-hand side.

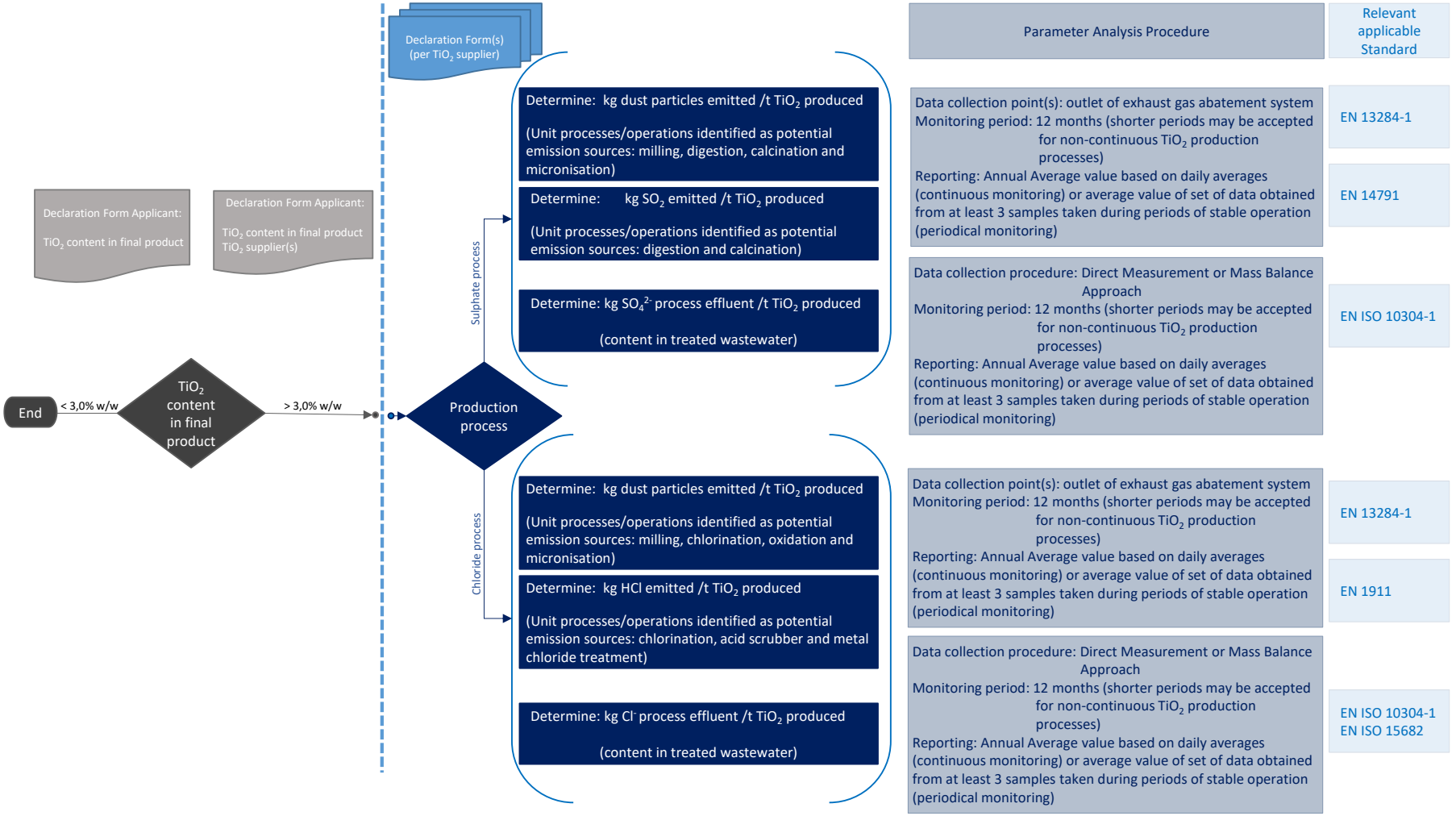


FIGURE 2. LOGIC FOR APPLYING CRITERION 1 ON TiO_2 PRODUCTION.

Criterion 2: Efficiency in use

Efficiency in use covers 12 different product properties: Spreading rate, Wet scrub resistance, White pigment content, Resistance to water, Adhesion, Weathering, Water vapour permeability, Liquid water permeability, Fungal resistance, Algal resistance, Crack bridging and Alkali resistance.

Which properties need to be tested, and the associated results required, will vary depending on the nature of each individual coating product in question and any marketing claims made. The following subsections provide some insights about how to work with sub-criteria 2(a) to 2(k).

Sub-criterion 2(a): Spreading rate

This criterion does only apply to opaque products. Minimum threshold values have been established, in units of m^2/l of product, depending on the factors shown in the diagram below.

FIGURE 3. LOGIC FOR DETERMINING APPLICABLE SPREADING RATE THRESHOLDS IN SUB-CRITERION 2(A).

⚠ *The assessment and verification text of criterion 2(a) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the spreading rate requirement. A suitable non-justification shall be considered as the selection of "No" in column J of the PRODUCT_INFO worksheet in response to the question: "Is the product opaque?" The two relevant standards methods are ISO 6504-1 and ISO 6504-3. The main principles of the two relevant standard methods are briefly described below so that other methods can be evaluated for potential equivalence.*

'spreading rate' means, according to ISO 4618, the surface area that can be covered by a given quantity of coating material to give a dried film of requisite thickness (expressed in m^2/L);

'opaque' means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness.

TABLE 5. MAIN PRINCIPLES OF THE TWO SPREADING RATE TEST METHODS.

ISO 6504-1 (Kubelka-Munk Method)	ISO 6504-3 (Practical Spotting Method)
Application of paint at various film thicknesses over black and white substrates. Measure reflectance over both backgrounds. Calculate the contrast ratio (CR): $$CR = \frac{R_b}{R_w}$$ where: Rb = reflectance over black Rw = reflectance over white Repeat the measurements with different wet film thicknesses (WFT) until there are results above and below CR = 0.98. Then extrapolate to get the thickness corresponding to 0.98. Calculate spreading rate (SR) as: $$SR\ (m^2/L) = \frac{1000}{WFT\ (um) x\ density\ (g/cm^3)}$$	Application of paint to black and white contrast charts or transparent foil placed over black/white panels. Visual or instrumental assessment is used to determine when minimum hiding power (98%) is achieved. Apply paint at increasing thicknesses until contrast ratio ≥ 0.98 is observed. Measure the volume of paint used to cover a known area at that thickness. Calculate spreading rate (SR) as follows: $$SR\ (m^2/L) = \frac{Area\ covered\ (m^2)}{Volume\ of\ paint\ used\ (L)}$$

What to do?

1. Measure the spreading rates for all opaque products according to ISO 6504-1 or ISO 6504-3 and obtain relevant test reports.
2. Using the test reports as a basis, compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
3. Transfer the relevant information into the Excel-based application form, specifically in column I of the C2 worksheet. If the value is not high enough compared to the limit, it will appear in red.
4. Explain in column P of the C2 worksheet the details of the individual coating used to calculate a single representative spreading rate for a family of products. These details should line up with notes 2 and 3 which appear at the beginning of the legal text for sub-criterion 2(a).

Required documentation:

- Test reports for spreading rate measurement according to ISO 6504-1 or ISO 6504-3.
- Laboratory test report template, with the relevant parts on spreading rate filled out and with ID numbers that link correctly to original text reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns I and P of the C2 worksheet, in the block starting at row 17.
- Customer advice – only in cases of tinting systems, evidence on how the end-user will be advised to use a relevant primer and/or grey (or other relevant shade) of undercoat before application of the product.

Sub-criterion 2(b): Wet Scrub Resistance (WSR) and White Pigment Content (WPC)

Context for WPC: The counting of "white pigment content" here only considers white pigments with a high refractive index (RI). Sub-criterion 2(b) specifically cites that the RI must be at least 1.8, although there is not an accepted method that could be used to measure RI. The most appropriate method is the application of the diffuse reflectance principle of a pigment-coated surface using the Kubelka-Munk theory.

As a general rule of thumb, the following RI values can be assumed:

- Titanium dioxide (TiO_2): RI = 2.6 to 2.7.
- Zinc sulphide (ZnS): RI = 2.4.
- Zinc oxide (ZnO): RI = 2.0 to 2.1.
- Lithopone ($BaSO_4$/ZnS): RI = 1.8 to 2.1.
- Calcium carbonate ($CaCO_3$): RI = 1.65.
- Barium sulphate ($BaSO_4$): RI = 1.64.

Such pigments (RI > 1.8) tend to have a higher environmental impact than calcium carbonate and barium sulphate, despite also being more expensive than lower refractive index pigments, they are used in paints due to the desirable technical properties that they impart. The most commercially relevant high RI white pigment for paints is TiO_2. Other pigments such as ZnS, ZnO or $BaSO_4$/ZnS could be used if their RI is >1.8.

Context for WSR: Wet Scrub Resistance is a technical property that is only applicable to indoor wall and ceiling paints (subcategories (a) and (b) according to the Annex I scope). It is a desirable property because it means that paint films will be more resistant to degradation when the surface is cleaned with a wet cloth to remove any superficial stains.

The use of higher quantities of TiO_2 (or high RI white pigments) helps improve WSR and so sub-criterion 2(b) makes some allowance for higher quantities of TiO2 when a good WSR class is guaranteed (see the flow diagram below). The relevant method to carry out the WSR test is EN ISO 11998 with measures film thickness loss after "scrubbing". Results are used to determine the WSR class according to the EN 13300 classification system (see table below).

TABLE 6. WET SCRUB RESISTANCE CLASSES ACCORDING TO EN 13300.

WSR Class (EN 13300)	WSR result (EN ISO 11998)
1	≤ 5 µm film thickness loss after 200 scrubs
2	5 < X ≤ 20 µm film thickness loss after 200 scrubs
3	20 < X ≤ 70 µm film thickness loss after 200 scrubs
4	≤ 70 µm film thickness loss after 40 scrubs
5	>70 µm film thickness loss after 40 scrubs

'wet scrub resistance' means the ability of a dry coating film to sustain less than a specific loss of film thickness, averaged over a defined area, when exposed to 200 wet-scrub cycles;

'opaque' means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness.

The logic for deciding which WPC limit applies, and how WSR influences that, is shown below.

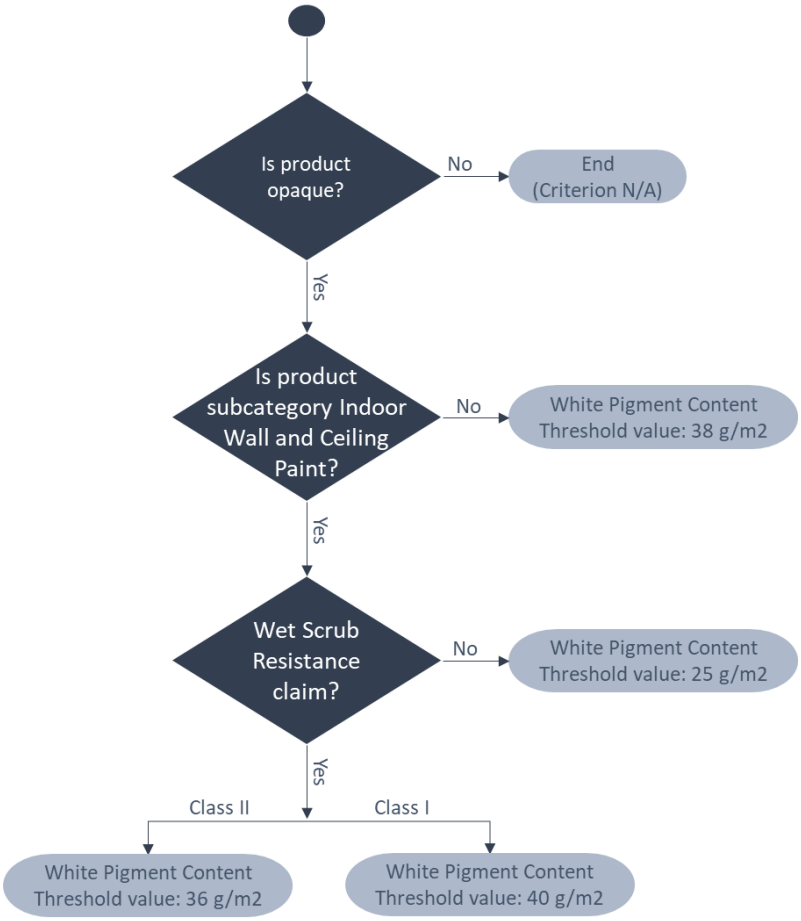


FIGURE 4. LOGIC FOR DETERMINING WHAT THE APPLICABLE REQUIREMENTS ARE IN SUB-CRITERION 2(B).

⚠ *Sub-criterion 2(b) does NOT imply that all subcategory (a) and (b) products need to have a WSR class of 1 or 2. It simply requires that such properties would permit higher quantities of WPC to be included in the paint formulation.*

⚠ *The assessment and verification text of sub-criterion 2(b) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the specific WPC content requirement. As with sub-criterion 2(a), a suitable non-justification shall be considered as the selection of "No" in column J of the PRODUCT_INFO worksheet in response to the question: "Is the product opaque?"*

⚠ *The same products that are tested for spreading rate should also be checked for actual high RI WPC. This is an important synergy and prevents the need for additional spreading rate tests.*

What to do?

1. If in doubt about whether some pigments are high RI or not, ask pigment suppliers.
2. If not done already, complete the PRODUCT_INFO input under column O of the Excel form about whether wet scrub resistance claims are made.
3. Check the C2 worksheet, of the Excel form, which should have automatically flagged which products need to declare on WPC and what the limits are (column M therein).
4. Data for spreading rate should already be there in column I of the C2 worksheet after checking compliance with sub-criterion 2(a).

5. Manually insert data on high RI pigment content in column K of the C2 worksheet. The value should be in units of g/l. If only known in terms of % w/w, it can be converted by multiplying that value (as a decimal) by the density of the paint in units of g/L (see equation below).
6. The specific WPC content, in units of g/m^2, will be automatically calculated in column L of the C2 worksheet.
7. If the specific WPC content (column L) is higher than the limit (column M), the text will turn red, indicating non-compliance.

$$\frac{WPC\ content\ (\%\ w/w, as\ a\ decimal)\ x\ paint\ density\ (g/L)}{spreading\ rate\ (m^2/L)} = specific\ WPC\ (g/m^2)$$

Required documentation:

- Test reports, where relevant, for wet scrub resistance measurement according to ISO 11998.
- Laboratory test report template, with the relevant parts on wet scrub resistance filled out and with ID numbers that link correctly to original text reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in column O of the PRODUCT_INFO worksheet and columns I and K of the C2 worksheet and the corresponding results in column L of the C2 worksheet, in the block starting at row 17 (column I on spreading rate is already presumed to have been filled out under sub-criterion 2(a)).
- Declarations from chemical suppliers about any high RI white pigment content, if not already known.

Sub-criterion 2(c) Resistance to water

Context: This requirement is intended for all decorative varnishes, woodstains and floor coatings, including floor paints. Floor coatings fall under Annex II (having a similar sub-criterion) so the requirement in Annex I is limited only to varnishes and woodstains. Note that due to the lack of opacity in these products, changes in colour are not relevant, only changes in gloss for Annex I products.

The relevant standard that defines how samples should be prepared, how the liquids should be applied, and the general test condition environment is the ISO 2812-3. The standard can be used for resistance to various types of liquid. When referring to water, it should be "grade 3" water as defined in ISO 3696. One point to note is that the sub-criterion 2(c) requires testing to be conducted 16 hours of recovery, whereas the standard recommends 24 hours (but it is only a default recommendation).

When visually assessing the exposed areas, the relevant standard for the scoring system is ISO 4628-1, as shown in the table below.

TABLE 7. RATING SCHEMES FOR DESIGNATING VISUAL CHANGES IN EXPOSED FILM SURFACES.

Rating	Quantity of defect	Size of defect	Intensity of change
0	None, i.e. no detectable defects	Not visible under x10 magnification	Unchanged, i.e. no perceptible change
1	Very few, i.e. small, barely significant number of defects	Only visible under magnification up to x10	Very slight, i.e. just perceptible change
2	Few, i.e. small but significant number of defects	Just visible with normal corrected vision (up to 0,2 mm)	Slight, i.e. clearly perceptible change
3	Moderate number of defects	Clearly visible with normal corrected vision (0,2 to 0,5 mm)	Moderate, i.e. very clearly perceptible change
4	Considerable number of defects	Larger than 0,5 mm, up to 5 mm	Considerable, i.e. pronounced change
5	Dense pattern of defects	Larger than 5 mm	Very marked change

⚠ *The assessment and verification text of sub-criterion 2(c) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the resistance to water requirement. A suitable non-justification shall be considered as the selection of any subcategory that is NOT part of the (e) or (f) options in column B of the PRODUCT_INFO worksheet.*

⚠ *If selecting subcategory (f) in column B of the PRODUCT_INFO worksheet, this must also be supported by a test report on film thickness being < 5µm according to the relevant standard ISO 2808, method 5A.*

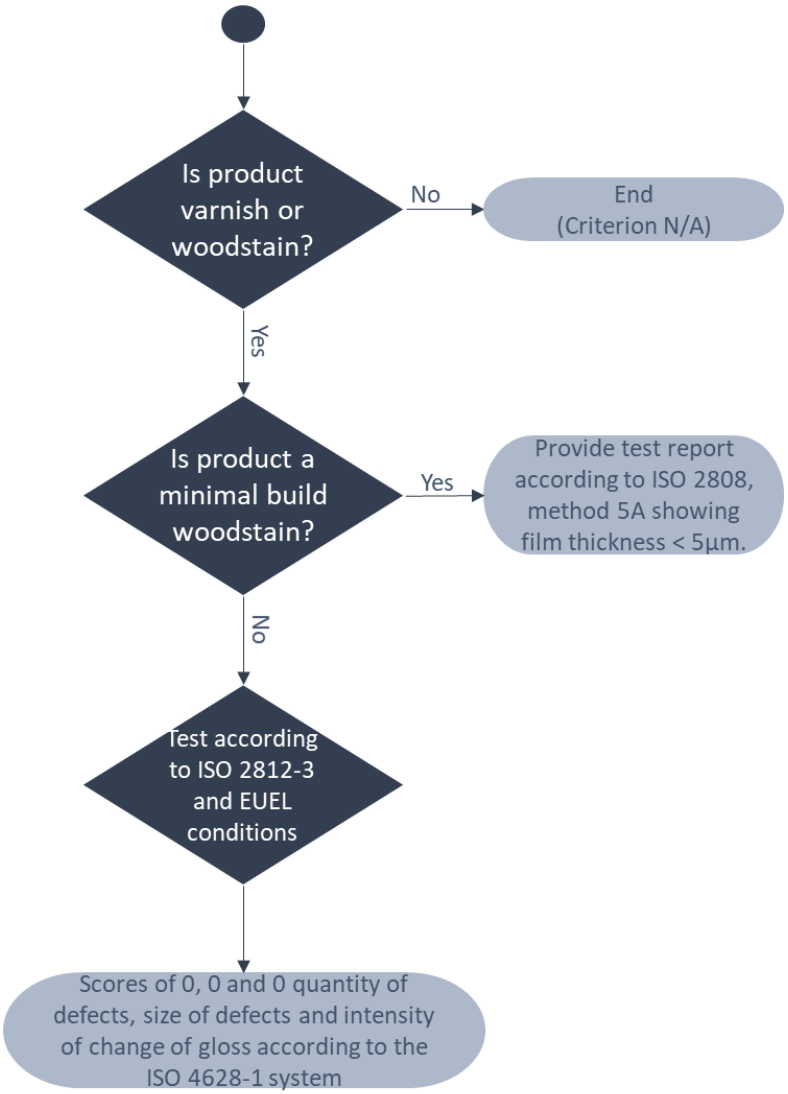


FIGURE 5. LOGIC FOR DETERMINING WHAT THE APPLICABLE REQUIREMENTS ARE IN SUB-CRITERION 2(C).

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for resistance to water and/or adhesion should be automatically populated in the C2 worksheet, starting at row 66.
2. For any minimal-build woodstains, conduct testing according to ISO 2808. Method 5A.
3. Conduct testing for all relevant products according to the ISO 2812-3 method and the specific conditions cited in criterion 2c).
4. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
5. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 64.
6. Enter results into columns F, G and H of the C2 worksheet of the Excel form (starting from row 66).
7. If any results are not "0", this should be considered as a fail.

Required documentation:

- Test reports for water resistance (subcategory e) or for proving minimal-build woodstain (subcategory f).
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns F, G and H of the C2 worksheet, in the block starting at row 64.

Sub-criterion 2(d) Adhesion

‘adhesion’ means, according to ISO 4618, the phenomenon of attachment at the interface between a solid surface and another material caused by molecular forces;

‘opaque’ means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness.

Context: This requirement is important for coatings that come into contact with surfaces where substrate adhesion may be an issue. Therefore, it is dedicated to undercoats and primers, as per the logic below.

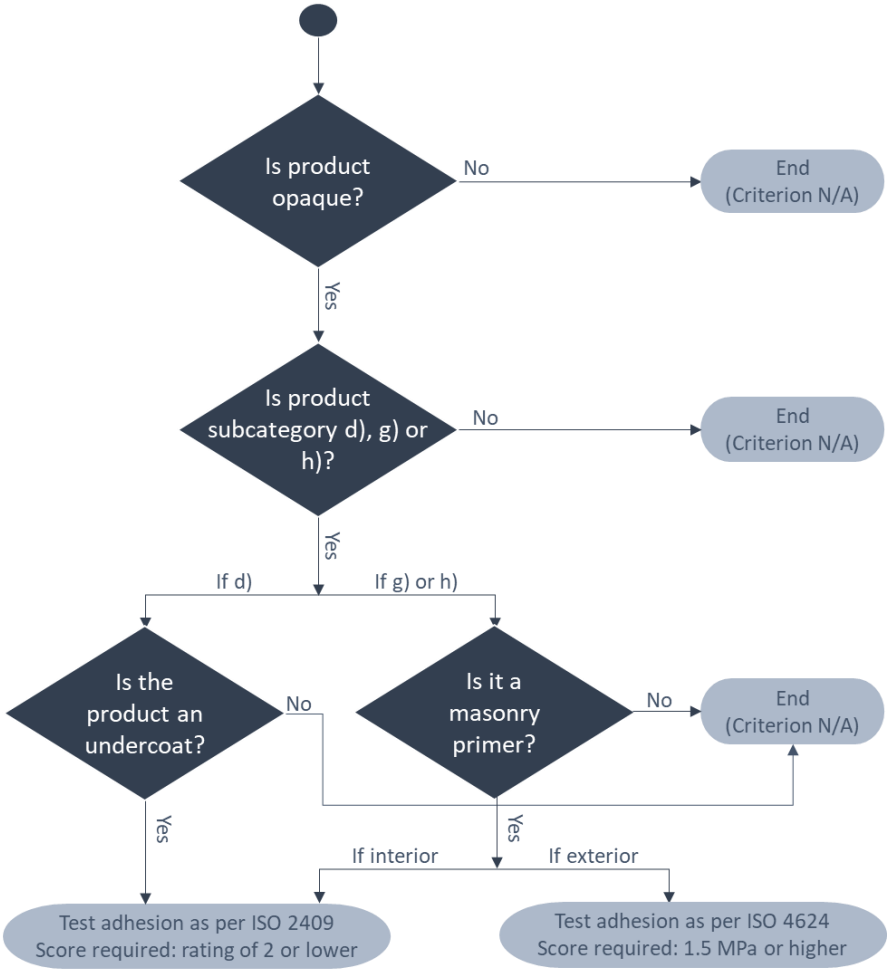


FIGURE 6. LOGIC FOR DETERMINING APPLICABLE REQUIREMENTS IN SUB-CRITERION 2(D).

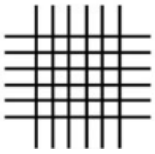
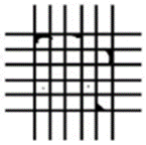
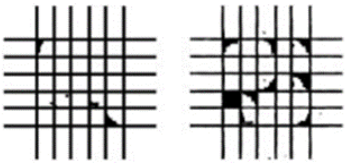
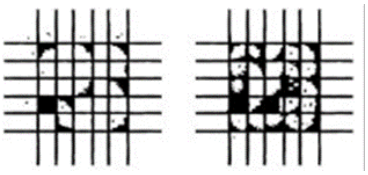
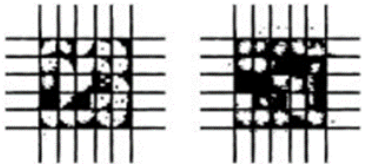
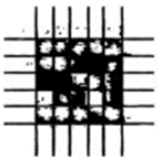
⚠ *The assessment and verification text of sub-criterion 2(d) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the adhesion requirement. A suitable non-justification shall be considered as the selection of “No” in response to the question about opacity in column J of the PRODUCT_INFO worksheet, or the selection of any product category in column B of the PRODUCT_INFO worksheet that is NOT d), g) or h).*

The result of the ISO 4624 is a direct number based on the force required to detach the test dolly, regardless of whether it might be an adhesive or cohesive failure.

With the cross-cut test under ISO 2409, results are visually rated. The table below explains the differences between the ratings from this result and what they would more or less look like[5].

[5] Images from: https://polymerinnovationblog.com/testing-adhesion-of-coatings-methods-benefits-and-standards/

TABLE 8. RATING SCHEMES FOR ADHESION IN LINE WITH ISO 2409.

Rating	Visual example
0: No detachment; edges of cuts are smooth.	
1: Small flakes detached at intersections; affected area <5%.	
2: Flaking along edges/intersections; affected area 5–15%.	
3: Partial/complete flaking along edges; affected area 15–35%.	
4: Significant flaking and detachment; affected area 35–65%.	
5: Severe flaking; coating removed beyond 65% of grid area.	

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for adhesion and/or resistance to water should be automatically populated in the C2 worksheet, starting at row 66.
2. Conduct testing for all relevant products according to the ISO 2409 or ISO 4624, as appropriate and obtain test reports.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 64.
5. If cell is green, select an option from the dropdown menu in columns J and K of the C2 worksheet. The options available will depend on whether the product is an exterior masonry primer or an undercoat (or single coat product).

6. Choose the appropriate option from the dropdown list in column M of the C2 worksheet (starting at row 64). If results are not within the acceptable limits set in column L, select “other”.
7. A “PASS” or “FAIL” status is flagged for adhesion results in column P of the C2 worksheet.

Required documentation:

- Test reports for adhesion.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns J, K, M and N of the C2 worksheet, in the block starting at row 64.

Sub-criterion 2(e): Weathering

Context: This requirement applies to coating products that will be exposed to weathering elements. For this reason, it only applies to outdoor products and not to outdoor primers, since they would be covered by intermediate and/or finishing coats in a real environment.

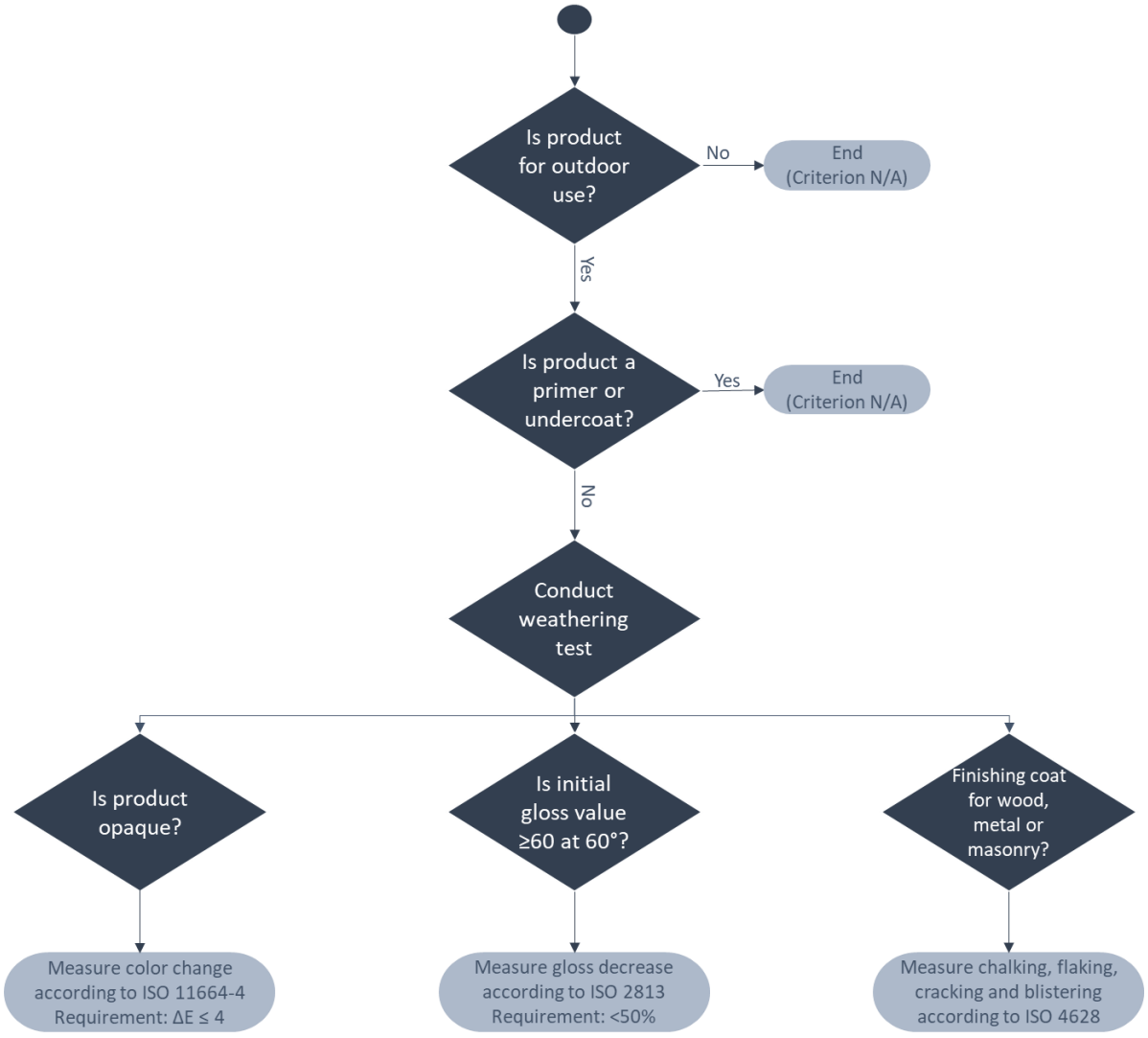


FIGURE 7. LOGIC FOR DETERMINING APPLICABLE REQUIREMENTS IN SUB-CRITERION 2(E).

For clarity, an individual product could be required to be tested for all three categories in the diagram above (i.e. being opaque, sufficiently glossy and being used as a finishing coat for one of the abovementioned materials).

⚠ *The assessment and verification text of sub-criterion 2(e) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the weathering requirement. A suitable justification shall be considered as the selection of any subcategory in column B of the PRODUCT_INFO worksheet that does not contain the term "exterior".*

⚠ *When "Yes" is selected in column J of the PRODUCT_INFO worksheet in response to the question: "is the product opaque?", this shall trigger the colour change testing for relevant products.*

⚠ *When an initial gloss value of ≥60 is manually inserted in column H of the C2 worksheet (starting at row 114) then this shall trigger gloss decrease testing for relevant products.*

'blistering' means, according to ISO 4618, the convex deformation of a film, arising from local detachment of one or more of the constituent coats;

'chalking' means, according to ISO 4618, the appearance of a loosely adherent powder on the surface of a film or coat arising from the degradation of one or more of its constituents;

'colour' means, according to ISO 4618, the sensation resulting from the perception of light of a given spectral composition by the human eye;

'cracking' means, according to ISO 4618, the rupturing of a dry film or coat;

'flaking' means, according to ISO 4618, the detachment of small parts of a coating due to a loss of adhesion;

'gloss' means, according to ISO 4618, an optical property of a surface, characterised by its ability to reflect light specularly;

'opaque' means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness.

Context about the weathering test: this part of the testing protocol refers to the simulated weathering cycles that are used to simulate real-life weathering under accelerated and/or harsher conditions. There are two possible methods according to the following relevant standards:

- For wood finishes and outdoor wood varnishes: the relevant standard is EN 927-6 and the conditions are 1000 hours in the QUV accelerated weathering apparatus with cyclic exposure with UV(A) radiation and spraying defined in that standard.
- For all outdoor paints or varnishes: the relevant standard is ISO 16474-3 and conditions are 1000 hours with cycling conditions of: UVA 4 h/60 °C + humidity 4 h/50 °C.

Context about colour measurement: The relevant standard is ISO 11664, which provides the standardized framework for measuring and quantifying colour in a scientifically consistent way, making it essential for evaluating colour changes in paints before and after weathering tests. The process begins with the use of a spectrophotometer to measure the spectral reflectance of the painted surface under controlled lighting and viewing conditions. These spectral data are then converted into colour coordinates (typically in the CIE 1976 L\a\b* colour space) using a defined standard observer (usually 10°) and illuminant (commonly D65, representing daylight). This initial measurement captures the baseline colour of the paint prior to exposure.

After the paint undergoes artificial weathering, the same measurement process is repeated. The colour change is then quantified by calculating the colour difference (ΔE), using either the basic ΔE*ab formula or the more perceptually accurate CIEDE2000 method, both of which are defined within ISO 11664. The resulting ΔE value indicates how much the colour has shifted, with higher values signifying more noticeable changes. This standardized approach allows manufacturers and quality control teams to assess the durability and visual stability of coatings under environmental stress, ensuring product performance and customer satisfaction.

As a general rule:

- ΔE < 1: Not perceptible to the human eye
- ΔE 1–2: Slight, barely noticeable
- ΔE 2–5: Noticeable but acceptable in many applications
- ΔE > 5: Clearly visible, often unacceptable

Context about gloss measurement: The relevant standard is ISO 2813, which provides the standardized method for measuring the specular gloss of coatings, which is a key indicator of surface appearance and

quality. Gloss is measured using a glossmeter at one of three specified angles (20°, 60°, or 85°) depending on the gloss level of the coating.

TABLE 9. CLASSIFICATION SYSTEM IN EN ISO 1062-1 FOR SPECULAR GLOSS.

Class		Angle of incidence measured	Requirement (GU)
G1	Gloss (or high sheen)	60°	> 60
G2	Mid-sheen (or semi-gloss, semi-matt, satin)	60° 85°	≤ 60 > 10
G3	Matt	85°	≤ 10

The EU Ecolabel definitions, in Articles 4(12), 4(21), 4(31), 4(32) and 4(33) line up with the table above with the exception of the "dead matt" category, which would be an even less glossy (more matt) version of G3: Matt.

The instrument quantifies the amount of light reflected from the surface in gloss units (GU), using a calibrated black glass standard as reference. Before weathering, the coating's initial gloss value is recorded under controlled conditions, establishing a baseline for comparison.

After the coating undergoes artificial weathering, the gloss measurement is repeated using the same geometry and instrument settings. The change in gloss can then calculated either as an absolute difference in GU or as a percentage loss relative to the initial value. This quantification helps assess the coating's resistance to environmental degradation and its ability to maintain visual appeal over time.

Context about blistering, chalking, cracking and flaking: Graphical illustrations are provided in each of the relevant standards to give a visual indication of which rating applies to a tested coating. The test methods to use here are all parts of the relevant standard ISO 4628 and a common rating system of 0 to 5 is used, with 0 being the best result and 5 the worst. Exactly what each rating means varies slightly depending on the aspect being measured. In general:

- Rating 0: No visible defect — the surface is intact and shows no signs of deterioration.
- Rating 1: Very slight defect — barely perceptible; only a few small defects visible under close inspection.
- Rating 2: Slight defect — minor but noticeable; defects are limited in size or number.
- Rating 3: Moderate defect — clearly visible; defects are more frequent or larger but still not severe.
- Rating 4: Severe defect — extensive or large defects; significant impact on appearance or integrity.
- Rating 5: Very severe defect — widespread or very large defects; coating is heavily compromised.

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for weathering should be automatically populated in the C2 worksheet, starting at row 114.
2. Conduct testing for all relevant products according to the relevant requirements (i.e. ISO 11664 for colour, ISO 2813 for gloss and ISO 4628 (various parts) for blistering (part 2), chalking (part 6), cracking (part 4) and flaking (part 5)).
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.

4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 114.
5. Enter results into column F to I and K to Q of the C2 worksheet of the Excel form (starting from row 114). Results that fail will turn red.

Required documentation:

- Test reports for weathering (including details of the weathering cycles used), and before and after results of the relevant properties.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns F to I and K to Q of the C2 worksheet (in the block starting at row 114).

Sub-criterion 2(f): Water vapour permeability

Context: The "breathable" property of a coating film equates to the ability for air and moisture to pass through the film at some minimum rate. This is a desirable property in coatings in the sense that it prevents moisture build-up, which in turn:

- Reduces the risk of blistering, peeling and flaking caused by trapped moisture building up behind an impermeable coating.
- Reduces the risk of freeze-thaw cycle damage to the underlying substrate.
- Reduces the likelihood of mold and mildrew growth.

The relevant standard is ISO 7783, which outlines the procedure for determining the water vapor transmission properties of coatings using the cup method, which is essential for evaluating the breathability of materials like masonry paints. In this test, a coated specimen is sealed over the opening of a test cup that contains either a desiccant (dry cup method) or water (wet cup method). The cup is then placed in a controlled climate chamber, typically at 23 °C and 50% relative humidity. Over time, the mass change of the cup is measured to determine how much water vapor passes through the coating. This setup simulates real-world conditions where moisture moves through building materials and coatings.

From the measured vapor flow, key parameters are calculated, including the water vapor transmission rate (WVTR), the water vapor diffusion resistance factor (μ), and the equivalent air layer thickness (Sd). These values indicate how easily moisture can escape through the coating. A low μ or Sd value signifies high breathability. Results from the relevant standard ISO 7783-2 are related to different performance classes as defined in the relevant complementary standard EN ISO 1062-1.

TABLE 10. CLASSIFICATION SYSTEM IN EN ISO 1062-1 FOR WATER VAPOUR PERMEABILITY.

Class		Transmission rate ($g/m^2.d$)	Equivalent air layer thickness (Sd)
V0		No requirement	
V1	High	> 150	< 0.14
V2	Medium	15 < X ≤ 150	0.14 ≤ X < 1.4
V3	Low	≤ 15	≥ 1.4

⚠ *The assessment and verification text of sub-criterion 2(f) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the water vapour permeability requirement. A suitable justification shall be considered as the selection of any subcategory that is not c) in column B of the PRODUCT_INFO worksheet and/or the selection of "No" in response to the question about water vapour permeability claims in column P of the PRODUCT_INFO worksheet.*

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for water vapour permeability should be automatically flagged in columns E and F in the C2 worksheet, starting at row 161.

⚠ *Make sure that all of column P in PRODUCT_INFO has been filled out in order for the correct cells to be highlighted in the correct way.*

2. Conduct testing for all relevant products according to ISO 7783-2 and also make sure that the test report states what EN ISO 1062-1 class applies.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 161.
5. Enter results (just the class is enough, not the underlying numerical data) into column G of the C2 worksheet of the Excel form (starting from row 161).

Required documentation:

- Test reports for water vapour permeability according to ISO 7783-2.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in column G of the C2 worksheet (in the block starting at row 161).

Sub-criterion 2(g): Liquid water permeability

Context: Low liquid water permeability is an important property of a coating film because it presents a barrier to water from rain, splashes or spills from reaching the underlying substrate. This is a desirable property in coatings in the sense that:

- Reduces the risk of freeze-thaw cycle damage to the underlying substrate.
- Reduces the risk of accelerated carbonation and loss of alkalinity in masonry, which can accelerate the corrosion of any steel rebar present.
- Reduces the likelihood of mold, algal and mildrew growth.

The relevant standard for determining the liquid water permeability of coatings applied to porous substrates such as concrete or masonry is EN 1062-3. In this test, a defined volume of water is applied to the coated surface, typically using a ring or cell that confines the water to a specific area. The setup is maintained under controlled conditions, and the amount of water absorbed by the coating and substrate over time is measured. This allows for the calculation of the water absorption coefficient (W), expressed in kilograms per square meter per square root of hour, which quantifies how quickly water penetrates through the coating.

A low water absorption coefficient indicates that the coating provides effective resistance to liquid water ingress, which is essential for protecting building materials from moisture-related damage such as efflorescence, freeze-thaw cracking, and biological growth. This property is especially important for exterior coatings exposed to rain or high humidity. The relevant standard EN 1062-3 enables manufacturers and specifiers to assess whether a coating meets performance requirements for water resistance, and it is often used in conjunction with vapor permeability testing to ensure that a coating can block liquid water while still allowing trapped moisture to escape — a balance critical for breathable, weather-resistant systems.

TABLE 11. CLASSIFICATION SYSTEM IN EN ISO 1062-1 FOR LIQUID WATER PERMEABILITY.

Class		Transmission rate ($kg/m^2.h^{0.5}$)
W0		No requirement
W1	High	> 0.5
W2	Medium	0.1 < X ≤ 0.5
W3	Low	≤ 0.1

⚠ *The assessment and verification text of sub-criterion 2(g) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the liquid water permeability requirement. A suitable justification shall be considered as the selection of any subcategory that is not c) in column B of the PRODUCT_INFO worksheet.*

⚠ *The W3 requirement shall apply to any subcategory c) products that also have "Yes" selected in column Q of the PRODUCT_INFO worksheet, otherwise, results should at least meet the W2 class requirements.*

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for liquid water permeability should be automatically flagged in column K in the C2 worksheet, starting at row 161.

2. Conduct testing for all relevant products according to EN ISO 1062-3 and also make sure that the test report states what EN ISO 1062-1 class applies.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and I, starting at row 161.
5. From column K, select the relevant class from the dropdown menu that results correspond to the test data (starting from row 161).

Required documentation:

- Test reports for water vapour permeability according to EN ISO 1062-3.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in column K of the C2 worksheet (in the block starting at row 161).

Sub-criterion 2(h and i): Fungal and algal resistance

Context: These two properties are separate requirements in the EU Ecolabel criteria and one may apply while the other may not for any given product. However, they are presented together in this user manual due to their similarities in approach and scope.

In terms of scope, the requirements only apply to wood and masonry coatings and is most relevant when used in conditions that create biologically active environments (e.g. warmth, humidity etc.). Testing is only required if marketing claims are made for such properties.

⚠ *Coating products that meet the anti-algal and anti-fungal claims of relevant standards EN 15457 and 15458 should not be confused with products that are designed to preserve the underlying substrate (e.g. PT8 wood preservatives). Such PT8 products are excluded from the EU Ecolabel scope.*

⚠ *The EN 15457 and EN 15458 standards are intended to evaluate dry-film preservation using dry-film preservatives (i.e. PT7 preservatives, which are allowed in the EU Ecolabel scope).*

EN 15457 outlines a laboratory method for evaluating the resistance of coatings to fungal growth. In this test, coated specimens are inoculated with a mixture of fungal spores and incubated under controlled temperature and humidity conditions that promote mold development. The test typically lasts several weeks, during which the surface of the coating is monitored for visible signs of fungal colonization. At the end of the exposure period, the extent of fungal growth is assessed visually and rated using a standardized scale, allowing for objective comparison between products.

EN 15458 follows a similar approach but focuses on algal resistance. Coated samples are exposed to algal cultures under conditions that simulate outdoor environments, including light, moisture, and nutrient availability. The test chamber maintains high humidity and illumination to encourage algal growth on the coating surface. After the defined exposure period, the degree of algal colonization is evaluated visually, and the coating's effectiveness is rated accordingly. Both standards provide a reproducible way to substantiate claims of anti-fungal or anti-algal performance, helping manufacturers demonstrate the long-term biological durability of their coatings.

TABLE 12. CLASSIFICATION SYSTEM IN EN 15457 AND 15458 FOR FUNGAL AND ALGAL RESISTANCE.

Fungal			Algal			
7d	14d	21d	7d	14d	21d	35d
Rating 0 = No growth on the surface of the specimen			Rating 0 = no algal growth on the surface of the specimen and in the Petri dish			
Rating 1 = up to 10% growth on the surface of the specimen			Rating 1 = less algal growth on the test specimen compared to a control specimen without the preservatives added			
Rating 2 = 10 to 30% growth on the surface of the specimen			Rating 2 = equal or more algal growth on the test specimen compared to a control specimen without the preservatives added.			
Rating 3 = 30 to 50% growth on the surface of the specimen						
Rating 2 = 50 to 100% growth on the surface of the specimen						

⚠ *The assessment and verification text of sub-criteria 2(h) and 2(i) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the fungal and algal resistance requirement. A suitable justification shall be considered as the selection of any subcategory that is not c) or d) in column B of the PRODUCT_INFO worksheet, and/or the selection of "No" in columns M and N when asked if fungal and algal resistance claims are made.*

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for fungal or algal resistance should be automatically flagged in columns M to O (for fungal) and in columns Q to S (for algal) in the C2 worksheet, starting at row 161.
2. Conduct testing for all relevant products according to EN 15457 (for fungal resistance) and/or EN 15458 (for algal resistance).
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and M to T, starting at row 161.
5. Enter results into column O (fungal) and/or column S (for algal) of the C2 worksheet of the Excel form (starting from row 161).

Required documentation:

- Test reports for fungal and/or algal resistance according to EN 15457 and/or EN 15458.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in column O and/or S of the C2 worksheet (in the block starting at row 161).

Sub-criterion 2(j): Crack bridging

Context: EN ISO 1062-7 is the relevant standard method for determining the crack-bridging properties of coatings applied to exterior masonry and concrete. It evaluates how well a coating can span and accommodate cracks without failing, which is critical for protecting substrates from water ingress and structural degradation.

EN ISO 1062-7 outlines two main test methods, static and dynamic, to assess a coating's ability to bridge cracks:

- In the static method, a coated substrate with a pre-formed crack is subjected to a single, defined crack width. The coating is then visually examined to determine whether it remains intact or fails (e.g., by tearing or delaminating).
- In the dynamic method, the coated specimen is mounted on a test rig that cyclically opens and closes a crack at a controlled rate and amplitude. This simulates real-world conditions like thermal expansion or structural movement. The number of cycles the coating can withstand before failure is recorded.

It should be noted that the EU Ecolabel requirements apply to the static method, the main requirements for different crack-bridging classes are shown below.

TABLE 13. CLASSIFICATION SYSTEM IN EN ISO 1062-1 FOR WATER VAPOUR PERMEABILITY.

Class	Transmission rate ($g/m^2.d$)	Equivalent air layer thickness (Sd)
A0	No requirement	
A1	> 150	< 0.14
A2	15 < X ≤ 150	0.14 ≤ X < 1.4
A3	≤ 15	≥ 1.4
A4		
A5		

Testing for A1 is to be carried out at 23°C, but test temperatures for higher A classes can be altered depending on the intended product use. Since the EU Ecolabel does not require a class higher than A1, this potential variable is not an issue.

⚠ *The assessment and verification text of criterion 2(j) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the crack-bridging requirement. A suitable justification shall be considered as the selection of any subcategory that is not c) in column B of the PRODUCT_INFO worksheet and/or the selection of "No" or "N/A" in response to the question about crack bridging claims in column K of the PRODUCT_INFO worksheet.*

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for crack-bridging should be automatically flagged in columns U and V in the C2 worksheet, starting at row 161.
2. Conduct testing for all relevant products according to EN ISO 1062-7 and also make sure that the test report states what EN ISO 1062-1 class applies.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.

4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and U to W, starting at row 161.
5. From column V, select the relevant class from the dropdown menu that results correspond to the test data (starting from row 161).

Required documentation:

- Test reports for crack-bridging according to EN ISO 1062-7.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in column V of the C2 worksheet (in the block starting at row 161).

Sub-criterion 2(k): Alkali resistance

Context: In masonry coatings, alkali resistance is an important aspect due to the highly alkaline condition of fresh concrete, during to the hydrating cement it contains. Poor alkali resistance can compromise the integrity of the coating and the intended protection of the underlying substrate.

ISO 2812-4 is the relevant standard that specifies a laboratory procedure for assessing the resistance of coatings to alkaline substances, particularly those found in cementitious materials like concrete and mortar. In this test, coated panels are exposed to a saturated calcium hydroxide solution, which simulates the high-pH environment of fresh concrete (typically around pH 12–13). The panels are immersed or covered with the solution and kept under controlled conditions for a defined period, often 24 hours or longer. After exposure, the coating is examined for visible changes such as discoloration, blistering, softening, cracking, or loss of adhesion.

This test is critical for coatings intended for use on alkaline substrates, especially in exterior or industrial environments. A coating that performs well in ISO 2812-4 demonstrates its ability to withstand chemical attack from fresh concrete or cement-based materials, ensuring long-term durability and aesthetic stability. Results help manufacturers validate claims of alkali resistance and guide specifiers in selecting suitable products for new construction, renovation, or protective applications on mineral surfaces.

⚠ *Testing in the EU Ecolabel specifies the use of a 10% NaOH solution, which is significantly more aggressive than a saturated $Ca(OH)_2$ solution.*

⚠ *The assessment and verification text of sub-criterion 2(k) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the alkali resistance requirement. A suitable justification shall be considered as the selection of any subcategory that is not c) in column B of the PRODUCT_INFO.*

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for alkali resistance should be automatically flagged in column X in the C2 worksheet, starting at row 161.
2. Conduct testing for all relevant products according to ISO 2812-4 and also make sure the test report states ratings for size and quantity of blistering according to ISO 4628-2 or ISO 4628-1.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and X, starting at row 161.
5. Enter results into column Y of the C2 worksheet of the Excel form (starting from row 161).

Required documentation:

- Test reports for alkali resistance according to ISO 2812-4.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with results entered in column Y of the C2 worksheet (in the block starting at row 161).

Criterion 3: Content of Volatile and Semi-volatile Organic Compounds (VOCs, SVOCs)

Context: Limiting the content of volatile organic compounds (VOCs) in paints and varnishes is essential for protecting both human health and the environment. VOCs are chemical compounds that evaporate at room temperature and contribute to indoor air pollution, smog formation, and respiratory problems.

These concerns led to the "VOC Directive", which placed mandatory limits for different categories of coating products. These categories form the basis of the EU Ecolabel scope today although the VOC limits in the EU Ecolabel are much more ambitious. The relevant standards to measure VOC and SVOC contents are:

- ISO 11890-2 is a quantitative method that uses gas chromatography (GC) to directly measure the VOC content and is particularly suitable for low-VOC or waterborne products, where the VOC content is below 15% by mass. The method involves dissolving a known amount of the sample in a solvent, injecting it into a gas chromatograph, and quantifying the individual VOCs based on their retention times and detector response.
- ISO 17895 is a specialized test method designed to determine the very low volatile organic compound (VOC) content (less than 1.0 g/L) in paints and varnishes using headspace gas chromatography (GC). In the test, a small sample of the coating is sealed in a vial and heated to release volatile compounds into the gas phase (headspace). The vapor is then analysed by gas chromatography to identify and quantify individual VOCs.
- Manual accounting based on ingoing substances in formulation. In this approach, no laboratory testing is required. Instead, the total theoretical content of VOCs and SVOCs is calculated based on estimated quantities of ingoing substances, which in turn are based on declarations from chemical suppliers. Whether or not a substance is a VOC, an SVOC, or neither, is purely based on its boiling point at standard atmospheric pressure.

The third and last approach listed above is facilitated by the chemical suppler declaration forms, which oblige the suppliers to declare on the maximum contents of any substances which:

- Have any of the following EU Ecolabel restricted CLP hazards: H300, H310, H304, H310, H311, H317, H330, H331, H334, H340, H341, H342, H350, H351, H360, H361, H362, H370, H371, H372, H373, H400, H410, H411, H412, H413, H420, EUH380, EUH381, EUH430, EUH431, EUH440, EUH441, EUH450 or EUH451.
- That meet the definition of being a VOC or an SVOC.

For the purpose of theoretical counting based on the formulation:
A VOC is considered as any organic compounds having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101.3 kPa
An SVOC is considered as any organic compound having a boiling point greater than 250 °C and less than 370 °C measured at a standard pressure of 101.3 kPa

⚠ *All products covered by the licence need to be compliant with the limits. The applicable limits for SVOC content may differ within the same family of products depending on whether the product is tinted or not.*

⚠ *The applicable limits for SVOC content may differ within the same subcategory depending on whether the product is tinted or not.*

On this last point, the Excel application form, via column B on the PRODUCT_INFO worksheet, obliges the user to pick a subcategory that is either for indoor use or not (see the broken-down list below):

- (a) Interior (indoor) wall and ceiling paint
- (b) Interior (indoor) wall and ceiling paint
- (c) Exterior (outdoor) mineral substrate paint
- (d) Interior trim and cladding paints
- (d) Exterior trim and cladding paints
- (d) Interior AND Exterior trim and cladding paints
- (e) Interior varnishes and woodstains
- (e) Exterior varnishes and woodstains
- (e) Interior AND Exterior varnishes and woodstains
- (f) Interior minimal build woodstains
- (f) Exterior minimal build woodstains
- (f) Interior AND Exterior minimal build woodstains
- (g) Interior primers
- (g) Exterior primers
- (g) Interior AND Exterior primers
- (h) Interior binding primers
- (h) Exterior binding primers
- (h) Interior AND Exterior binding primers

Whenever the word "interior" is present in the subcategory definition, the stricter (lower) SVOC content limit is applied. Column E in the C3+INFO worksheet enables the additional nuance of whether the product(s) are tinted or not (in which case a "Yes" would trigger the higher SVOC limit, regardless of whether it is an interior product or not).

What to do?

1. Decide upon the approach to take to VOC and SVOC content. If taking the laboratory testing approach, follow steps 2 to 5. If taking the theoretical calculation approach based on the formulation, follow steps 6 to 10.
2. Conduct VOC and SVOC content testing according to ISO 11890-2 or ISO 17895 and obtain relevant test reports.
3. Using the test reports as a basis, compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Transfer the relevant information into the Excel-based application form, specifically in columns L, M and N of the C3+INFO worksheet.
5. There is only space for entering one set of data per product family. Due to the cost of testing, it is only necessary to test the worst-case product in the family, but the justification of why it was the worst-case in the family should be explained in column Q of the C3+INFO worksheet.

For theoretical calculations based on the formulation:

6. Obtain chemical supplier declarations for all ingredients used on a % w/w basis (using the standard declaration form).
7. Transfer the information into columns C to G of the C3+INFO worksheet, starting at row 59. There is a dedicated space for each of the 40 products/product families that can be declared in the Excel. Product 1 has cells C59 to G84 reserved. Product 2 has cells C89 to G114 reserved, and so on. This permits up to 26 different chemical products to be inserted per paint, varnish or primer product.
8. Define the final product density, in g/L. Cell K59 is reserved for Product 1, cell K89 is reserved for Product 2 and so on.
9. The total VOC and SVOC contents are automatically calculated (in cells K85 and L85 for Product 1, in cells K115 and L115 for Product 2 and so on. These numbers are also copied automatically into the summary table at the top of the C3+INFO worksheet (cell F13 to cell G52).

10. Similar to steps 5 and 6, the formulation chosen should represent the worst-case formulation within a given family of products should be used and why this is so, should be explained in column Q of the C3 worksheet.
11. Steps 6 to 10 need to be repeated for each formulation.

⚠ *While the theoretical calculation approach seems onerous, this information is already provided in a summarised form from the standard chemical supplier declarations. Those declarations already sum the individual VOCs and SVOCs in each chemical product supplied. So it is only necessary to repeat that data plus the amount of that chemical product that is used in the final product formulation.*

Required documentation if applying the testing approach:

- Test reports for VOC and SVOC content measurement according to ISO 11890-2 or ISO 17895.
- Laboratory test report template, with the relevant parts on VOC and SVOC content filled out and with ID numbers that link correctly to original text reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns E, K, L, M and Q of the C3+INFO worksheet.

Required documentation if applying the theoretical calculation approach:

- Obtain Chemical Supplier declarations for all chemical products used to make the formulation.
- Excel form – with information filled out in the C3+INFO worksheet under columns C to G (starting at row 59), K (on cell per product) and Q (rows 12 to 53).

Criterion 4: Restrictions of hazardous substances and mixtures

Requirements under criterion 4 are split into three main sub-criteria (4.1, 4.2 and 4.3). All of them are ultimately based on the same pieces of information, namely:

- Chemical supplier declarations about ingoing substances and known impurities in the chemical products they supply.
- Applicant declarations of the quantity of chemical products used in each formulation.

In sub-criterion 4.3, there are number of individual requirements, most of which are simple "Yes/No" in their nature. However, some others are more nuanced, and these are explained in some more detail in this User Manual.

Sub-criterion 4.1: Restrictions on Substances of Very High Concern (SVHCs)

Legal context: Certain legal requirements already exist under REACH about the communication of information on SVHCs to downstream users. The EU Ecolabel approach requires chemical suppliers to declare on the use of any SVHCs as ingoing substances, regardless of the concentration.

Due to the definition of an ingoing substance (basically a substance that is intentionally added) chemical suppliers should be aware of any such ingoing substances that are SVHCs – even if the concentration is well below 0,1% w/w in the supplied chemical product.

Candidate list: The candidate list maintained by the European Chemical Agency (ECHA) can be found in the new following link:

- https://chem.echa.europa.eu/obligation-lists/candidateList

Please note that the link included in the Decision is the following:

- https://www.echa.europa.eu/candidate-list-table

As of December 2025, the old link is still active, but it will eventually be taken offline and only the new link will be valid. There are currently around 250 SVHCs on the Candidate List.

The nomenclature of substances is a complex issue even in one language, let alone in multiple different European languages. The best way to ensure a common understanding is to refer to CAS numbers. The Candidate List entries also have such numbers and, by requiring CAS numbers (and EC numbers if CAS numbers not available) to be declared by chemical suppliers, the information on the ingoing substances can be periodically checked against the Candidate List.

What to do?

1. Obtain chemical supplier declarations for all ingredients used on a % w/w basis (using the standard declaration form).
2. Transfer the information into the C4_INFO worksheet, starting with a full profile of all of the chemical products used in the final product (in columns B to F). The sum total of the values in column E must add up to 100% for each final product. This is indicated automatically in cell C13 for Product 1, cell C113 for Product 2 and so on.
3. If a representative formulation is used to cover multiple products in a family of products, the reasoning for the choice of formulation is to be provided in cell G16 for product 1, cell G116 for product 2 and so on.

4. Continue to transfer the information into the C4_INFO worksheet, to build up information at the level of individual ingoing substances and known impurities declared by suppliers, (columns J to N, starting at row 16 for Product 1, or row 116 for Product 2, and so on).
5. Using the knowledge of the formulator, continue to enter relevant information on declared individual ingoing substances or known impurities into columns O, P and R to V.
6. Any answers in column V that are "Yes" are counted in the SVHC count cell (cell V14 for Product 1, cell V114 for Product 2 and so on).
7. The presence of any SVHCs triggers input requirements in columns G and H of the C4 worksheet. On column H, the way to confirm that the SVHC is an impurity is to check that it was declared by the chemical supplier as a known impurity (not an ingoing substance) and is present at less than 0,10% w/w in the supplied chemical product and at less than 0,010% w/w in the final product.
8. Steps 1 to 7 need to be repeated for each product or family of products.

Required documentation:

- Obtain Chemical Supplier declarations for all chemical products used to make the formulation.
- Safety data sheets shall be provided together with the chemical supplier declarations.
- Excel form – with information filled out in the C4_INFO worksheet under columns B to G and J to Y. The automatic count of SVHCs for each formulation (e.g. cell V14 for each product should be zero, and if not, then a supporting justification of why the SVHC is an impurity only needs to be clarified in columns G and H of the C4 worksheet.

Sub-criterion 4.2: General restrictions based on classifications according to specific hazard classifications defined in Regulation (EC) No 1272/2008

The requirements under sub-criterion 4.2 are based on the standard hazard classifications under the CLP Regulation. A common approach to which CLP hazards are restricted in EU Ecolabel products has been applied horizontally across all product groups. A twin restriction applies, first of all at the level of individual substances, then at the level of the final product, as shown below.

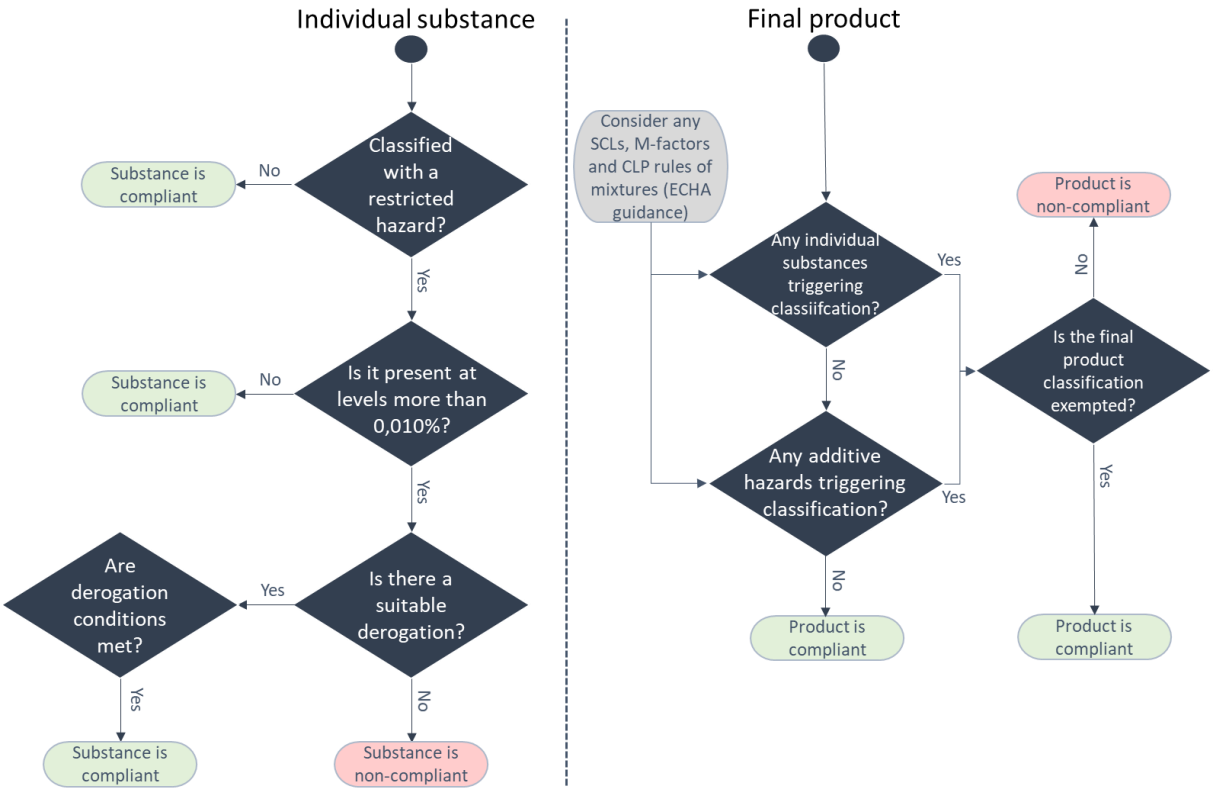


FIGURE 8. LOGIC FOR DETERMINING COMPLIANCE WITH SUB-CRITERION 4.2

⚠ *As indicated above in the light grey shape, it is essential for the applicant to be familiar with the CLP rules of mixtures in order to be able to confirm compliance with sub-criterion 4.2. The most authoritative guidance on those rules are published by ECHA:*

For guidance on CLP rules relating to health and environmental hazards, refer to the Part 3 and Part 4/5 documents available under the "Guidance on the application of the CLP criteria": https://echa.europa.eu/guidance-documents/guidance-on-clp

⚠ *Derogations to sub-criterion 4.2 are dependent on the purpose the substance is being used for. There is a space for selecting from a list of predefined substance types in the CHEMICAL_INFO worksheet. To help guide applicants and competent bodies, some definitions of the substance types/functions is included in an Appendix to this document.*

Most of the steps are in common with what is required for criterion 4.1, but the full process is explained below for the avoidance of doubt. There are three main stages to carrying out compliance, which are explained separately below.

What to do in the first stage of sub-criterion 4.2?

1. Obtain chemical supplier declarations for all ingredients used on a % w/w basis (using the standard declaration form). Also request safety data sheets.
2. In the case of a family of products, decide which specific formulation should be used to fill out the C4_INFO worksheet and add the explanation in column G for each family.
3. Define the product formulation in terms of the ingredients (chemical products) used and the proportions they are added. This entails filling out columns B, C, D and E of the C4_INFO worksheet. The total content must added up to 100% w/w

⚠ *(note: steps 1 to 3 will have already have been done as part of the sub-criterion 4.1).*

4. There is ample space for up to 89 different chemical products to be defined for a given product.

What to do in the second stage of criterion 4.2?

5. Using the same chemical supplier declarations already obtained from the step 1 in the first stage, transfer the information on individual ingoing substance and known impurities into the columns J to N.
6. When looking at the "Function" options in column L, the function should normally correspond to what is declared by the chemical supplier, but sometimes the intended function in the final product will be different, so the applicant is free to overwrite that here in column L.
7. Using the knowledge of the formulator, continue to enter relevant information on declared individual ingoing substances or known impurities into columns O, P and R to V.
8. In column N, the concentration stated for each of the ingoing substances (or known impurities) with restricted CLP hazards, as declared on the chemical supplier declaration, is added.
9. In column O, the concentration refers to the concentration of the chemical product (as a whole) that is the same value as inserted in column E for the same chemical product.
10. The retention factor in column P is always set at 1.00 and can never exceed 1.00. It can only be reduced if it is supported by adequate arguments regarding chemical reactions of physical evaporation during the mixing of the product in the factory.

⚠ *(note: steps 5 to 9 will have already have been done as part of the sub-criterion 4.1).*

11. Continue to input data in columns R to V. If a derogation is needed (i.e. the ingoing substance is present at levels exceeding 0,010% or an applicable SCL, a "Yes" in red is generated in column W. This then leads to two further conditional requirements which are: (i) there must be a derogation in place, and (ii) the derogation conditions must be complied with.
12. Check if, according to column W, any need for derogation is triggered at ingredient level. If so, the answers need to be selected for columns X and Y of the C4_INFO worksheet and both conditional requirements need to be met. Otherwise a fail condition will be triggered in cells X14 and/or Y14 for product 1 (or X114 and/or V114 for product 2, and so on).
13. If any of the ingoing substances have the function of "pigment" or "pigment, white and high RI" selected in column L, information on the content of heavy metal impurities also needs to be added in columns AA to AH of the C4_INFO worksheet. This information should be already provided in chemical supplier declarations and TiO2 pigment producer declarations.

What to do in the third stage of sub-criterion 4.2? (going to the C4 worksheet)

14. Check columns K to O in the C4 worksheet to see if there are any fail conditions.
15. Using the CLP rules of mixtures, declare what the CLP hazard classification of the final product would be in column AF.

16. If the CLP classification is one of those restricted by the EUEL, check if it is H412 or H413 and if it meets the derogation condition (i.e. being due to the use of dry-film preservatives for outdoor products). Clarify this via inputs in columns AG and AH.

Required documentation:

- Chemical Supplier declarations for all chemical products used to make the formulation.
- Safety data sheets shall be provided together with the chemical supplier declarations.
- Excel form – with information filled out accordingly in the C4_INFO worksheet under columns B to Y. The counts for derogation failures and derogation condition failures in X14 and Y14 (for product 1, cell X114 and Y114 for product 2 etc.) must be zero.
- Same Excel form – but also with information on the C4 worksheet filled out (columns AF to AH) regarding the final product classification.

Sub-criterion 4.3: Specific hazardous substance restrictions for ingoing substances

There are a total of 13 sub-criteria under this criterion and most are yes/no requirements relating to the non-use of certain substance types or groups as ingoing substances. However, some of the sub-criteria are more nuanced. Overall, the requirements can be understood as follows:

a) Non-use requirement on CMR preservatives and driers (yes/no, fully declaration based).

b) Non-use requirement on EDs (yes/no, fully declaration based). For clarity, it should be understood that this text refers to endocrine disruptors with harmonised or self-classifications, to EDs included in the candidate List of REACH Regulation, to substances with EDs properties in accordance with Regulation 528/2012 or Regulation 1107/2009.

c) Non-use requirement on PBT/vPvB (yes/no, fully declaration based). For clarity, it should be understood that this text refers to PBT or vPvB substances with harmonised or self-classifications, to PBT or vPvB substances included in the candidate List of REACH Regulation, to substances with PBT or vPvB properties in accordance with Regulation 528/2012 or Regulation 1107/2009.

d) Non-use requirement PMT/vPvM (yes/no, fully declaration based). For clarity, it should be understood that this text refers to PMT or vPvM substances with harmonised or self-classifications, to PMTor vPvM substances included in the candidate List of REACH Regulation.

e) Non-use requirement on APEOs (yes/no, fully declaration based).

f) Non-use requirement on PFAS (yes/no, fully declaration based).

g) Non-use requirement on phthalates (yes/no, fully declaration based).

h) Non-use requirement on organotin (yes/no, fully declaration based).

i) Non-use requirement on Annex II/III fragrances (yes/no, fully declaration based). For clarity, a list of specific fragrances to screen for is provided in the Appendix to the chemical supplier declaration.

j) Non-use requirement of certain bisphenols (yes/no, fully declaration based). For clarity, a list of the 34 specific bisphenols to screen for is provided in the Appendix to the chemical supplier declaration.

k) With pigments, a combination of a declaration non-use of pigments based on the restricted heavy metals and a test report of a representative sample of the pigment for restricted heavy metal impurities must be provided. When combined with the quantities of pigment(s) used in the final product, the total values for each heavy metal impurity must be less than 0,010% w/w. However, if the exemption for Antimony or Cobalt applies, this should also be noted in the chemical supplier declaration and noted in the application form.

l) With free formaldehyde, a test report is needed for each product (or worst-case example from a family of products). The applicable limit also depends on certain conditions.

m) With non-film forming SPMs, there is a conditional requirement that if they are used, an explanation of how they improve environmental performance will be required. The competent body shall receive information on why the use of synthetic polymer microparticles (SPMs, commonly known as microplastics) for non-film forming purposes are relevant for the product to be awarded the EU Ecolabel.

What to do?

1. Obtain chemical supplier declarations for all ingredients used on a % w/w basis (using the standard declaration form). Also request safety data sheets.
2. If each chemical product used has a declaration form with all of the boxes relating to criteria 4.3(a) to (j), select "Yes" in the relevant rows within column F of the C4_INFO worksheet.
3. Most of the information about heavy metal pigment contents should have been automatically generated already via information required under the step 13 for criterion 4.2. If not already entered for some reason, enter that information in this step.
4. In the C4 worksheet, review the total contents of heavy metals in each of the products. Select the answers from drop down menus in columns AK to AN. Any values exceeding 0.010% should be flagged in red.
5. In column AT of the C4 worksheet, the applicant should select which of the relevant free formaldehyde contents apply to each product.
6. In column AS of the C4 worksheet, the applicant should choose an option which corresponds with the test value(s) obtained and the relevant limit(s).
7. In column AU of the C4 worksheet, the applicant should choose the most relevant option based on the situation with non-film forming SPMs.

Required documentation:

- Chemical Supplier declarations for all chemical products used to make the formulation.
- Safety data sheets shall be provided together with the chemical supplier declarations.
- Test report for free formaldehyde content measured in the final product.
- If used, a justification of why the use of non-film-forming SPMs improves the overall environmental performance of the paint or varnish product.
- Excel form – with information filled out accordingly in the C4 worksheet under columns AS to AU.

Criterion 5: Volatile Organic Compounds (VOCs) emissions

Application of criterion

This test is applicable to all indoor products only. If a product is marketed for both indoor and outdoor use, it will need to be tested.

Only one product needs to be tested per product family, but it should be the worst-case example in that family. Normally, this would be considered as corresponding to the product in the family that has the highest VOC content.

In the case of multi-layer coating systems, measurements shall be obtained for the full system, i.e. once all the coats have been applied to the test substrate according to manufacturer instructions.

The relevant standard for testing is EN 16402 because it is specifically designed for coating products. Testing according to EN 16516 could be used, but any deviation from the default loading rates shall be described in the test reports and summary of laboratory test reports document.

Emissions will be highest at the beginning of the test, so if compliance with the 28-day values is already demonstrated in the 3-day sample, there is no need to continue the test further. Any additional sample taken between 3 and 28 days, if it is compliant with the 28-day limit values, can also trigger the conclusion of the testing protocol.

The R value limit is ≤1.0, and results from the testing are reported to one decimal place. This means that a raw result of up to 1.044 at 3 decimal places could still be deemed as compliant.

Context: Testing for VOC emissions is a new requirement for EU Ecolabel paints and varnishes. The scope is limited to indoor products because our concerns about the effect of VOC emissions on indoor air quality. The standards for testing are:

- EN 16402: Paints and varnishes – Assessment of emissions of substances from coatings into indoor air – Sampling, conditioning and testing. As the name suggests, the standard is specifically designed for coating products.
- EN 16516: Construction products: Assessment of release of dangerous substances – Determination of emissions into indoor air. This is part of a broader standard for measuring VOC emissions from all construction products covered by the Construction Products Regulation. It is commonly cited in requirements for low VOC emission products in green building assessments schemes.

Both standards use the same principles of loading in an enclosed chamber and air is passed through the chamber at a controlled rate, temperature and humidity. Although both standards define the same loading rate, there are some minor differences in terms of sample preparation and air quality conditions. Testing of samples uses gas chromatography, and it is important to be aware of the definition of the term "total VOC" in each of the standards.

- EN 16402 effectively defines total VOC as the sum of concentrations of the identified and unidentified volatile organic compounds eluting between and including n-hexane and n-hexadecane on a gas chromatographic column composed of 5% phenyl/ 95% methyl poly siloxane. (note: this approximately corresponds to VOCs with a boiling point of between 69 and 287°C).
- EN 16516 effectively defines total VOC as the sum of target and non-target, identified and unidentified concentrations of individual substances eluting between n-hexane and n-hexadecane inclusively using a 5% phenyl / 95% methyl poly siloxane column, and calculated using the TIC

response factor for toluene after subtracting blank values and excluding compounds calculated to be below 5 µg/m3 on the sample air. It shall also include a series of compounds listed in Annex G of the standard, even if the elute outside of the defined range.

The other point to be aware of is the compounds that are to be tested for calculating the R-value. These are based on substances listed on: EU LCI substance lists. Each substance on the list has an assigned EU LCI value.

$$R = \sum_{i=1}^{n} \frac{C_i}{LCI_i}$$

Where:

C_i = Measured concentration of substance i (in µg/m³) after 28 days in a test chamber

LC_i = EU-LCI value for substance i (in µg/m³)

n = Number of individual VOCs with assigned EU-LCI values

Each ratio C_i / LCI_i represents the fractional contribution of a substance to the overall health risk. The R-value aggregates these fractions to assess cumulative exposure. If the R-value exceeds 1, it suggests that the combined VOC emissions may pose a health concern under long-term indoor exposure conditions.

What to do?

1. Identify all relevant products or product families which need testing (basically all products marketed for indoor use).
2. Within families of products, select the worst-case product and note a justification for those choices (filling out column U of the C5 worksheet).
3. Send the samples to a laboratory that is certified for conducting tests according to EN 16402 or EN 16516.
4. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
5. Transfer the contents of the laboratory test report template into the C5 worksheet of the Excel form, specifically columns E to L.
6. Any results that do not comply with the limits shall trigger a "FAIL" flag and be automatically counted in column T of the C5 worksheet.

Required documentation:

- Test reports for VOC emissions.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out C5 worksheet (in columns E to L and U).

Criterion 6: Consumer information

Application of criterion
There are a total of seven types of information that are to be provided to consumers. The first three shall be available directly on the packaging. The last four shall be provided directly on the packaging or indirectly via a web-link or QR code that is available on the packaging. Evidence for information on packaging should involve the provision of graphics of the packaging. In cases of families of products, only one example needs to be provided. Any QR codes or web links that provide the information under 6b) indirectly should be clear so that competent bodies can independently access the content for verification purposes.

Context: The precise wording of the messages on each of the seven points is to be decided by the applicant and tailored to what is most appropriate for the individual product/product family in question.

What to do?

1. Gather graphical evidence of packaging information.
2. Cross-check for confirmation of each of the three messages that must be on the packaging directly (criterion 6a).
3. Check the packaging, or the links/QR code for the remaining four messages under criterion 6b. If necessary, provide screenshots of relevant links under QR codes/web links.
4. Share graphical information with competent body.
5. Fill out the C6 worksheet in the Excel application form (columns E to K).

Required documentation:

- Graphical evidence of packaging.
- Excel form – with information filled out C6 worksheet (in columns E to K).

Criterion 7: Information appearing on the EU Ecolabel

Application of criterion
There are a total of six possible messages that can appear on the EU Ecolabel. Due to space restrictions, only three can be used. From the first three messages, at least two need to be used. From the last three messages, a maximum of one can be used because it depends on the nature of the intended product use (indoor, outdoor or both).

Context: When a label with messages is chosen for a given product, which three of the six possible messages that are most appropriate will be determined by the properties of the product in question.

What to do?

1. Consult the guidelines for the EU Ecolabel here: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf
2. Provide to the competent body an example of the EU Ecolabel image proposed for the packaging and indicate which products or product families it would be applied to. Also, simply provide an example of the EU Ecolabel on the whole packaging image.
3. Fill out the C7 worksheet in the Excel application form (columns E to K and N).

Required documentation:

- Graphical evidence of packaging.
- Excel form – with information filled out C7 worksheet (in columns E to K and N).

4.4 Annex II criteria: performance coatings and related products

A summary of all criteria is listed below. Most criteria are identical to those in Annex I and the same instructions therefore apply. Only parts that are unique to Annex II are explained in more detail.

- Criterion 1. Titanium dioxide production: identical to Annex I (see page 13).
- Sub-criterion 2(a). Spreading rate: identical to Annex I (see page 17).
- Sub-criterion 2(b). White pigment content: similar to Annex I, but limits are less nuanced, so the process logic is different (explained again for Annex II in a dedicated section below).
- Sub-criterion 2(c). Resistance to water: identical to Annex I (see page 23).
- Sub-criterion 2(d). Adhesion: almost identical to Annex I (see page 26).
- Sub-criterion 2(e). Abrasion: unique to Annex II (explained in a dedicated section below).
- Sub-criterion 2(f). Weathering: almost identical to Annex I, only difference is in permitted gloss decrease, instructions are the same as Annex I though (see page 29).
- Sub-criterion 2(g). Corrosion resistance: unique to Annex II (explained in a dedicated section below).
- Sub-criterion 2(h). Ecotoxicity: unique to Annex II (explained in a dedicated section below).
- Criterion 3. Content of Volatile and Semi-volatile Organic Compounds (VOCs, SVOCs): identical to Annex I, only differences are the applicable limits (see page 42).
- Sub-criterion 4.1. Restrictions on Substances of Very High Concern (SVHCs): identical to Annex I (see page 45).
- Sub-criterion 4.2. General restrictions based on classifications according to specific hazard classifications defined in Regulation (EC) No 1272/2008: identical to Annex I (see page 47).
- Sub-criterion 4.3 (parts a to m). Specific hazardous substance restrictions for ingoing substances identical to Annex I (see page 50).
- Criterion 5. Volatile Organic Compounds (VOCs) emissions: identical to Annex I (see page 52).
- Criterion 6. Consumer information: identical to Annex I (see page 54).
- Criterion 7. Information appearing on the EU Ecolabel: identical to Annex I (see page 55).

Sub-criterion 2(b): Wet Scrub Resistance (WSR) and White Pigment Content (WPC)

Context for WPC: The counting of "white pigment content" here only considers white pigments with a high refractive index (RI). Sub-criterion 2(b) specifically cites that the RI must be at least 1.8, although there is not an accepted method that could be used to measure RI. The most appropriate method is the application of the diffuse reflectance principle of a pigment-coated surface using the Kubelka-Munk theory.

As a general rule of thumb, the following RI values can be assumed:

- Titanium dioxide (TiO_2): RI = 2.6 to 2.7.
- Zinc sulphide (ZnS): RI = 2.4.
- Zinc oxide (ZnO): RI = 2.0 to 2.1.
- Lithopone ($BaSO_4$/ZnS): RI = 1.8 to 2.1.
- Calcium carbonate ($CaCO_3$): RI = 1.65.
- Barium sulphate ($BaSO_4$): RI = 1.64.

Such pigments (RI > 1.8) tend to have a higher environmental impact than calcium carbonate and barium sulphate, despite also being more expensive than lower refractive index pigments. However, they are used in

paints due to the desirable technical properties that they impart. The most commercially used high RI white pigment for paints is TiO_2. Other pigments such as ZnS, ZnO or $BaSO_4$/ZnS could be used if their RI is >1.8.

'opaque' means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness.

The logic for deciding which WPC limit applies is shown below.

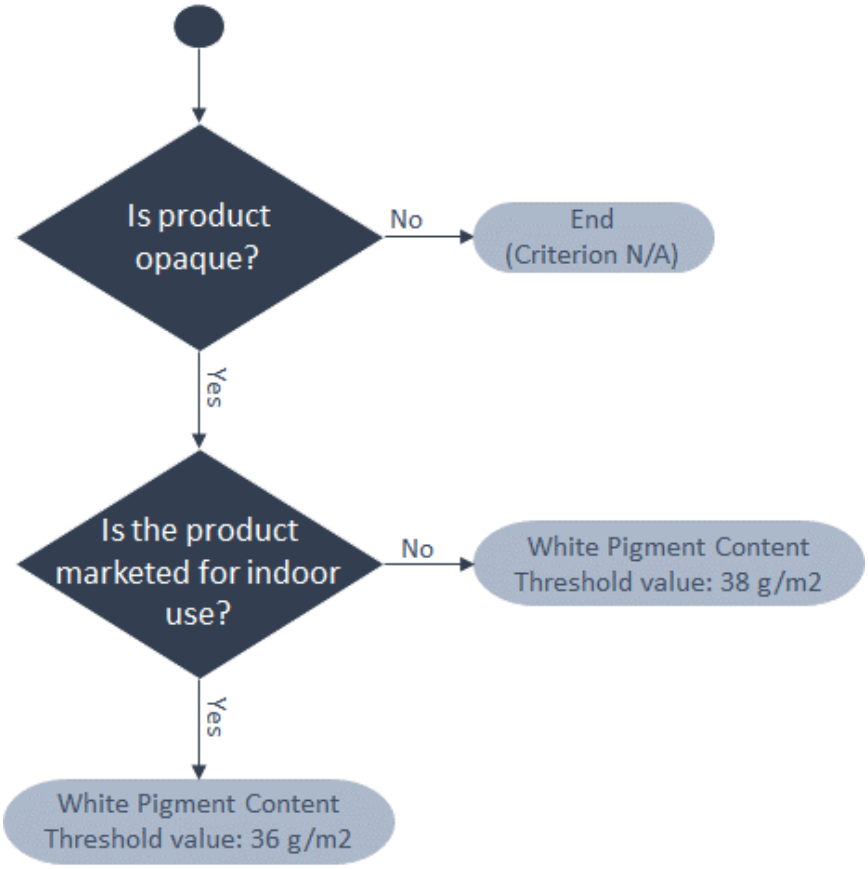


FIGURE 9. LOGIC FOR DETERMINING WHAT THE APPLICABLE REQUIREMENTS ARE IN SUB-CRITERION 2(B) IN ANNEX II.

⚠ *The assessment and verification text of sub-criterion 2(b) state that, for products with no test data, the applicant must provide a justification of the non-applicability of the specific WPC content requirement. As with sub-criterion 2(a), a suitable justification shall be considered as the selection of "No" in column J of the PRODUCT_INFO worksheet in response to the question: "Is the product opaque?"*

⚠ *The same products that are tested for spreading rate should also be checked for actual high RI WPC. This is an important synergy and prevents the need for additional spreading rate tests.*

What to do?

1. If in doubt about whether some pigments are high RI or not, ask pigment suppliers.
2. Check the C2 worksheet, of the Excel form, which should have automatically flagged which products need to declare on WPC and what the limits are (column K therein, in the block starting at row 17).
3. Data for spreading rate should already be there in column G of the same block of the C2 worksheet after checking compliance with sub-criterion 2(a).
4. Manually insert data on high RI pigment content in column I of the C2 worksheet. The value should be in units of g/l. If only known in terms of % w/w, it can be converted by multiplying that value (as a decimal) by the density of the paint in units of g/L (see equation below).

5. The specific WPC content, in units of g/m^2, will be automatically calculated in column J of the C2 worksheet.
6. If the specific WPC content (column J) is higher than the limit (column K), the text will turn red, indicating non-compliance, which is also flagged in column M as "FAIL".

$$\frac{WPC\ content\ (\%\ w/w, as\ a\ decimal)\ x\ paint\ density\ (g/L)}{spreading\ rate\ (m^2/L)} = specific\ WPC\ (g/m^2)$$

Required documentation:

- Excel form – with information filled out columns G and I of the C2 worksheet and the corresponding results in column J of the C2 worksheet, in the block starting at row 17 (column G on spreading rate is already presumed to have been filled out under sub-criterion 2(a)).
- Declarations from chemical suppliers about any high RI white pigment content, if not already known.

Sub-criterion 2(e): Abrasion resistance

Context for Abrasion: Resistance to abrasion is relevant to all types of floor coatings (paints or varnishes). The relevant standard is ISO 7784-2. The abrasion resistance test defined in ISO 7784-2 is important because it evaluates how well a paint or varnish coating can withstand mechanical wear, scratches, and surface damage caused by friction. This property is critical for floor coatings, where durability and long-term appearance are key performance indicators.

The principle of the abrasion resistance test is to assess how well a paint or varnish coating resists mechanical wear when subjected to controlled rubbing or grinding action. In this method, the coated test panel is placed under rotating abrasive wheels made of rubber or similar material, which apply a defined load while moving across the surface. The degree of abrasion is then evaluated by measuring the loss in mass of the specimen.

The test standard permits the test to be conducted under different variables, namely wheel type, load and number of cycles. Each of these variables will have a direct impact on the amount of material lost. Specific variables are already defined directly in criterion 2(e) of Annex II:

- Wheel type: CS10.
- Load: 1000 g.
- Number of cycles: 1000.

The maximum amount of material that is permitted to be lost is 70 mg.

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for abrasion should be automatically flagged in the C2 worksheet, starting at row 115.
2. Conduct testing for all relevant products according to ISO 7784-2 and obtain test reports.
3. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
4. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C and D, starting at row 115.
5. If cell is green, select an option from the dropdown menu in column E of the C2 worksheet.
6. Manually insert data on abrasion results in all green cells in column F of the C2 worksheet (between rows 115 and 154). The numerical value should be in units of mg.
7. If the measured weight loss exceeds the threshold limit set on the criterion (cell F112) the text will turn red, indicating non-compliance.
8. A "PASS" or "FAIL" status is flagged for abrasion results in column G of the C2 worksheet.

Required documentation:

- Test reports for abrasion.
- Laboratory test report template, with the relevant parts filled out and with ID numbers that link correctly to both original test reports and to the PRODUCT_INFO worksheet.
- Excel form – with information filled out in columns E and F of the C2 worksheet, starting at row 115.

Sub-criterion 2(g): Corrosion resistance

Context for corrosion resistance: Anti-corrosion testing for coatings involves exposing painted or coated panels to controlled environments that accelerate corrosion, then evaluating how well the coating protects the substrate. The relevant standards are: (1) EN ISO 12944-6 which defines laboratory performance test methods for protective paint systems on steel, (2) ISO 9227 that specifies salt spray (fog) tests to simulate aggressive atmospheres, and (3) the ISO 4628 series which provides a standardised way to evaluate and rate coating degradation (e.g. blistering and rusting).

> 'blistering' means, according to ISO 4618, the convex deformation of a film, arising from local detachment of one or more of the constituent coats;
>
> 'corrosion' means, according to ISO 4618, a process of deterioration by chemical, electrochemical or microbiological reactions resulting from exposure to the environment or a medium;
>
> 'degree of rusting' means, a rating characterising the degree of rust formation (rust broken through and visible underrust) on a coating.

The degree of blistering is determined visually and based on the scoring framework defined in ISO 4628-1 (and summarised in Table 7). The degree of rusting uses a different scale, which is summarised below for context.

TABLE 14. APPROXIMATE RELATIONSHIP BETWEEN RUSTED AREA AND "DEGREE OF RUSTING" RATING.

Degree of rusting	Rusted area
Ri0	0 %
Ri1	0,05 - 0,5 %
Ri2	0,5 - 1,0 %
Ri3	1,0 - 8,0 %
Ri4	8,0 - 40 %
Ri5	40 - 50 %

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for corrosion resistance should be automatically flagged in the C2 worksheet, starting at row 215.
2. In cases of a family of products, explain in column P why this is the worst-case product for corrosion resistance.
3. Conduct testing for all relevant products according to EN 12944-6 and the associated standards, and obtain test reports.
4. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
5. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 215.
6. If cells are green, MANUALLY INSERT results into columns F to I. There are drop-down menus in these columns to remind uses of the answer options.

7. Manually insert data on abrasion results in all green cells in column F of the C2 worksheet (between rows 115 and 154). The numerical value should be in units of mg.
8. If the results are compliant, a "PASS" output is generated in column J.

Required documentation:

- Excel form – with information filled out columns F to I of the C2 worksheet, in the block starting at row 215.
- Test reports defining the test protocol, the corresponding recommended use environment.
- Test reports for the measurement of blistering and degree of rust after exposure.

Sub-criterion 2(h): Ecotoxicity

Context for ecotoxicity: This requirement is limited to outdoor coatings and aims to simulate the generation of rainfall runoff that has passed over the coated surfaces (CEN/TS 16637-2). The resulting eluate is collected and assessed according to different relevant standards for bioassays:

- EN ISO 11348-1 (Luminescent bacteria test): Uses *Vibrio fischeri*, a marine bacterium that emits light. If toxic substances are present in the eluate, the bacteria's luminescence is inhibited. The degree of inhibition is quantified to assess acute toxicity.
- ISO 8692 (Algal growth inhibition test): Exposes freshwater algae (e.g., *Pseudokirchneriella subcapitata*) to the eluate. Growth rate reduction indicates toxicity, making this test sensitive to substances that interfere with photosynthesis or nutrient uptake.
- ISO 13829 (Daphnia immobilization test): Uses *Daphnia magna*, a small freshwater crustacean. Immobilization or death after exposure to the eluate reflects acute toxicity to aquatic invertebrates, which are key indicators of ecosystem health.

Specific limits are defined for testing according to the three bioassays listed above. All three requirements must be met in order to pass. These requirements apply to anti-corrosion pigments (potentially high levels of ecotoxic Zn-pigments) and waterproofing coatings (potentially high levels of ecotoxic plasticisers).

What to do?

1. Fill out the PRODUCT_INFO worksheet. Products that need to be tested for ecotoxicity should be automatically flagged in the C2 worksheet, starting at row 215.
2. For waterproofing coatings, confirm if the product is intended for outdoor use as well in column K of the C2 worksheet.
3. In cases of a family of products, explain in column P why this is the worst-case product for ecotoxicity (in addition to the earlier explanation for corrosion resistance, if both are relevant)..
4. Generate the eluate according to CEN/TS 16637-2.
5. Test the eluate according to the EN ISO 11348-1, ISO 8692 and EN 13289 standards, and obtain test reports.
6. Compile results into the laboratory test report template, taking care to match up all product IDs to what is defined in PRODUCT_INFO.
7. Make sure all relevant products and basic details appear in the C2 worksheet under columns B, C, D and E, starting at row 215.
8. MANUALLY INSERT numerical results into columns L to N.
9. Check for result in column O of the C2 worksheet.

Required documentation:

- Excel form – with information filled out columns K to N of the C2 worksheet, in the block starting at row 215.
- Test reports defining the test protocol to generate the eluate.
- Test reports for the measurement of bioluminescence, algal growth and daphna immobilisation.

4.5 Annex III criteria: water-based aerosol spray paints

A summary of all criteria is listed below. Most criteria are identical to those in Annex I and/or Annex II and the same instructions therefore apply. Only parts that are unique to Annex III are explained in more detail.

- Criterion 1. Titanium dioxide production: identical to Annex I (see page 13).
- Sub-criterion 2(a). Spreading rate: identical to Annex I (see page 17).
- Sub-criterion 2(b). Efficiency in spraying: unique to Annex III (explained in a dedicated section below).
- Sub-criterion 2(c). Adhesion: almost identical to Annex I (see page 26).
- Sub-criterion 2(d). Corrosion resistance: almost identical to Annex II, only difference is that delamination and adhesion have to be measured in addition to blistering and degree of rust see page 60).
- Criterion 3. Content of Volatile Organic Compounds (VOCs): identical to Annex I and Annex II, only differences are the applicable limits and that SVOCs do not need to be measured here (see page 42).
- Sub-criterion 4.1. Restrictions on Substances of Very High Concern (SVHCs): identical to Annex I and Annex II (see page 45).
- Sub-criterion 4.2. General restrictions based on classifications according to specific hazard classifications defined in Regulation (EC) No 1272/2008: identical to Annex I and Annex II (see page 47).
- Sub-criterion 4.3 (parts a to m). Specific hazardous substance restrictions for ingoing substances identical to Annex I and II, only difference is an additional exclusion of nanoformTiO_2 (4.3n) (see page 50).
- Criterion 5. Consumer information: effectively identical to Annex I and Annex II (see page 54).
- Criterion 6. Information appearing on the EU Ecolabel: effectively identical to Annex I and Annex II (see page 55).

Sub-criterion 2(b): Efficiency in spraying

Context for efficiency in spraying: This metric is not the same as spreading rate, but also does contribute to the overall efficiency of use of the product. While spreading rate deals with how much product is needed to deliver an opaque coating on a substrate, efficiency in spraying focuses on how much of the paint product in the aerosol can is able to be effectively used. Effective use corresponds to a defined minimum discharge rate at a given load on the spray valve and point in time.

There is no official EN or ISO test standard for this metric. However, the principle of the test is very straightforward.

What to do?

1. Fill out the PRODUCT_INFO worksheet. All products need to be tested for efficiency in spraying.
2. Conduct the efficiency in spraying test, making sure to record the time, discharge rate and weight of substrate, before and after spraying.
3. Manually enter the initial weight of product in the test can in column E of the C2 worksheet.
4. Manually enter the weight of product discharged to the substrate in column F of the C2 worksheet.
5. Check results generated in column G and compare against the single threshold defined in cell H2.
6. A pass or fail indication is provided in column I.

5 Appendix

Definitions

For the purposes of the Commission Decision for the EU Ecolabel for decorative paints, varnishes, and related products, performance coatings and related products, and water-based aerosol spray paints (Commission Decision 2025/2607), the following definitions shall apply:

(1) 'aerosol spray paints' means aerosol dispensers which are non-refillable receptacles made of metal and containing a gas that is compressed, liquefied or dissolved under pressure, with a paint formulation, and fitted with a release device allowing the contents to be ejected as solid or liquid particles in suspension in a gas, as a paste or in a liquid state;

(2) 'alkylphenols and alkylphenol ethoxylates' means organic compounds obtained by the alkylation of phenols and the ethoxylation of alkylphenols, including all the compounds listed in entry 43 of Annex XIV or entry 46 of Annex XVII of Regulation (EC) No 1907/2006 of the European Parliament and of the Council[6];

(3) 'anti-algal' means coating products to prevent or reduce deterioration of the coating film due to algal growth;

(4) 'anti-fouling coating' means coating materials applied to the underwater sections of a ship´s hull or to other underwater structures to discourage the growth of organisms;

(5) 'anti-fungal' means coating products to prevent or reduce the growth of mould or deterioration of the coating film due to fungal growth;

(6) 'anti-microbial' or 'anti-bacterial' means the property of a coating product to inhibit or prevent the growth and proliferation of microorganisms or bacteria on its surface under conditions conducive to microbial colonisation, encompassing both preservative and disinfectant product types as defined in Annex V to Regulation (EU) No 528/2012;

(7) 'anti-corrosion coatings' means coating products designed to prevent corrosion in metal substrates in the presence of oxygen and moisture, through the application of a protective coating;

(8) 'binding primers', as defined in subcategory 1.1(h) of Annex I of Directive 2004/42/EC;

(9) 'cement-based paints' means powdered paints containing significant amounts of Portland cement or other cement in the formulation and which need to be carefully mixed with water prior to application;

(10) 'coatings for exterior walls of mineral substrate' as defined in subcategory 1.1(c) of Annex I of Directive 2004/42/EC;

(11) 'cross-linking agents' means substances that facilitate the establishment of covalent or non-covalent (supramolecular) bonds between separate polymer chains or between non-neighbour parts of the same polymer chain and thus change the properties of the coating (for example drying, mechanical resistance, chemical resistance, adhesion);

[6] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1, ELI: http://data.europa.eu/eli/reg/2006/1907/oj).

(12) 'dead matt paints' are paints which, at an angle of incidence of 85°, give a reflectance of < 5;

(13) 'decorative purpose' means a treatment whose primary objective is to change or restore the appearance of a substrate;

(14) 'dry-film preservatives' means biocidal products within the meaning of Article 3(1), point (a), of Regulation (EU) No 528/2012 for use in product type 7 as described in Annex V to that Regulation, used to preserve films or coatings by controlling microbial deterioration or algal growth to protect the initial properties of the surface of materials or objects;

(15) 'elastomeric paints' means paints designed to provide a high-quality decorative and protective finish for masonry surfaces by bridging and sealing cracks in the substrate and which, thanks to their elastic properties and the use of thicker applied films, can stretch and shrink with thermally driven building movement, thus improving the durability of the underlying masonry material;

(16) 'family of products' means a group of coating products made by the same manufacturer with the same base formulation and product subcategory, but which only differ in terms of the shade and/or packaging format;

(17) 'filler' means a coating material with a high proportion of extender, intended primarily to even out irregularities in substrates to be painted and to improve surface appearance;

(18) 'film-forming synthetic polymer microparticles' means synthetic polymer microparticles that are added to the paint or varnish formulation, or its ingredients, and the physical properties of which are permanently modified during the application and curing of the paint or varnish formulation to form a film;

(19) 'final products' means decorative paints, varnishes, and related products; performance coatings and related products; and water-based aerosol spray paints, that are awarded the EU Ecolabel, in the form in which they are sold to customers;

(20) 'floor coatings and floor paints' means coatings and paints specifically formulated to be applied to flooring, for the purpose of protecting or colouring the flooring substrate;

(21) 'gloss paints' means paints which, at an angle of incidence of 60°, give a reflectance of ≥ 60;

(22) 'impurities' means unintended constituents (residuals, pollutants, contaminants, by-products, etc.) that remain in the EU Ecolabel product in concentrations less than 100 ppm (0.0100 % w/w, 100 mg/kg) or that remain in the supplied ingredient or raw material in concentrations less than 1 000 ppm (0.100 % w/w, 1 000 mg/kg). Any unintended constituents present above these respective limits for the EU Ecolabel product or the supplied ingredient or raw material shall instead be considered as ingoing substances;

(23) 'in-can preservatives' means biocidal products within the meaning of Article 3(1), point (a), of Regulation (EU) No 528/2012 for use in product type 6 as described in Annex V to that Regulation, in particular to preserve manufactured products during storage by controlling microbial deterioration to protect their shelf life, and used to preserve tints that will be dispensed from machines;

(24) 'ingoing substances' means constituents (as pure substances or as part of a mixture, and regardless of the amount) that are intentionally added to the final product or its ingredients to achieve or influence certain properties of the final product or its ingredients; substances known to be released from ingoing substances after they have been added (for example formaldehyde from preservatives and arylamine from azodyes and azopigments) shall also be regarded as ingoing substances; unintended constituents present in the final

product or its ingredients in concentrations which exceed the permitted concentrations for impurities, shall be considered as ingoing substances;

(25) 'interior/exterior trim and cladding paints for wood, metal or plastic', as defined in subcategory 1.1(d) of Annex I of Directive 2004/42/EC,

(26) 'interior/exterior trim varnishes and woodstains', as defined in subcategory 1.1(e) of Annex I of Directive 2004/42/EC;

(27) 'just add water decorative paints or varnishes' means paints or varnishes that are supplied in powder form, which do not use cement binders, and which simply need to be mixed with water before use as any one of the categories defined in subcategories 1.1(a) to 1.1(h) of Annex I of Directive 2004/42/EC;

(28) 'lasure (woodstain)' means a coating material containing small amounts of a suitable pigment and/or extender and used to form a transparent or semi-transparent film to decorate and/or protect the substrate;

(29) 'light-coloured coating' means a coating with tristimulus values Y and Y10 greater than 25, measured with a spectrophotometer on a black and white substrate;

(30) 'masonry coating' means a coating that produces a decorative and protective film for use on concrete, paintable brickwork, blockwork, rendering, calcium silicate board or fibre-reinforced cement;

(31) 'matt or glossy coatings for interior walls and ceilings' means coatings designed for application to indoor walls and ceilings, which deliver a dead matt, matt, semi-matt, satin, semi-gloss or gloss finish;

(32) 'matt paints' means paints which, at an angle of incidence of 85°, give a reflectance of < 10 and ≥ 5;

(33) 'mid-sheen paints' (also referred to as semi-gloss, satin, semi-matt) are paints which, at an angle of incidence of 60° or of 85°, give a reflectance of < 60 and ≥ 10;

(34) 'minimal build woodstains', as defined in subcategory 1.1(f) of Annex I of Directive 2004/42/EC;

(35) 'mixture', as defined in Article 3(2) of Regulation (EC) No 1907/2006;

(36) 'multi-pack performance coatings' means coatings with the same use as one-performance coatings, but with a second component for example tertiary amines) added prior to application;

(37) 'neutralising agent' means a chemical substance or material added to coating formulations that acts as a Bronsted base, Bronsted acid, Lewis base or Lewis acid in order to stabilise the pH of the coating formulation and prevent unwanted reactions or degradations during production, storage and application that would adversely affect the properties of the coating product and the resulting dry film;

(38) 'one-pack performance coatings', as defined in subcategory 1.1(i) of Annex I of Directive 2004/42/EC;

(39) 'opaque' means a film with a contrast ratio of ≥ 98 % at 120 µm wet film thickness;

(40) 'organotin compounds' means any organometallic compound with at least one Sn-C covalent bond;

(41) 'paint' means a pigmented coating material, supplied in a liquid, paste or powder form, which, when applied to a substrate, forms an opaque film having protective, decorative or specific technical properties, which after application dries to a solid, adherent and protective coating;

(42) 'PFAS' means any substance that contains at least one fully fluorinated methyl (CF_3-) or methylene (-CF_2-) carbon atom (without any H/Cl/Br/I attached to it), except a substance that only contains the following structural elements: CF_3-X or X-CF_2-X', where X = -OR or -NRR' and X' = methyl (-CH_3), methylene (-CH_2-), an aromatic group, a carbonyl group (-C(O)-), -OR'', -SR'' or –NR''R''', and where R/R'/R''/R''' is a hydrogen (-H), methyl (-CH_3), methylene (-CH_2-), an aromatic group or a carbonyl group (-C(O)-);

(43) 'phthalates' means esters of phthalic acid / orthophthalic acid / 1,2- benzene dicarboxylic acid;

(44) 'plasters' means premixed materials designed for plastering interior or exterior walls and ceilings, including gypsum plasters, solvent-free pasty plasters, masonry mortars and structural wall paints designed for use indoors as internal plaster with a thickness of > 400 µm and/or a minimum coverage of < 2 m^2/l;

(45) 'powder coating' means protective or decorative coating formed by the application of a coating powder to a substrate and fusion to create a continuous film;

(46) 'primers', as defined in subcategory 1.1(g) of Annex I of Directive 2004/42/EC;

(47) 'road-marking paints' means, paints that form part of the means for horizontal signage and require a functional component to provide road safety;

(48) 'subcategory of products' means a defined purpose of use for which a coating product has been formulated and which aligns with the subcategories defined in section 1.1 under the scope of Annex I to Directive 2004/42/EC. For clarity, aerosol spray paints shall always be considered as a separate subcategory from conventional paints even if they share the same final purpose of use;

(49) 'substance', as defined in Article 3(1) of Regulation (EC) No 1907/2006;

(50) 'transparent' and 'semi-transparent' means a film with a contrast ratio of < 98 % at 120 µm wet film thickness;

(51) 'tinting system' means a method for preparing coloured paints by mixing a 'tinting base' with colour tint;

(52) 'TiO_2 nanoform' means a form of TiO_2 meeting the requirements of nanoform in accordance with the Regulation (EC) No 1907/2006, irrespective of whether it is actually required to be registered pursuant to that Regulation;

(53) 'trim and cladding' are building elements with functional and aesthetic roles. Trim refers to finishing materials around edges or openings, such as doors and windows, that are used to conceal joints, protect surfaces and enhance design. Cladding is the application of one material over another in a building in order to protect the underlying material, improve building envelope insulation and/or contribute to visual appeal;

(54) 'tristimulus values' means the amount of reference colour stimuli, in a given trichromatic system, required to match the colour of the stimulus considered. In the CIE standard colorimetric systems (for example CIE 1931 and CIE 1964) the tristimulus values are represented, for example, by the symbols R, G, B; X, Y, Z; R10, G10, B10, or X10, Y10, Z10;

(55) 'undercoat' is a preparatory layer applied before the final coat of paint or varnish, designed to improve adhesion, level the surface, seal porosities, enhance colour perception for darker shades and/or provide additional protection to the substrate;

(56) 'UV curable paint system' means the hardening of coating materials by exposure to artificial ultra-violet radiation;

(57) 'varnish' means a clear coating material which, when applied to a substrate, forms a solid transparent film having protective, decorative or specific technical properties, which after application dries to a solid, adherent and protective coating;

(58) 'waterproofing coatings' means coating products and systems (including any primers and undercoats) applied in liquid form to seal roof surfaces (including green roofs), interior or exterior floor surfaces in a building and building elements in contact with soil;

(59) 'waxes' means a group of organic compounds that are typically solid at room temperature and become malleable or liquid when heated;

(60) 'wood oils' means oils used to care for and protect wood (for example pearling effect) without any cleaning action;

(61) 'wood preservative' are biocidal products within the meaning of Article 3(1)(a) of Regulation (EU) No 528/2012 for use in product type 8 as described in Annex V to that Regulation, they are used for the preservation of wood, from and including the saw-mill stage, or wood products by the control of wood-destroying or wood-disfiguring organisms, including insects.

Other relevant definitions as flagged during the revision process:

Ingredient type definitions:

- (1) 'Anti-corrosion pigment' means, adapted from ISO 4618, a type of functional pigment which, based on its chemical or physical properties, fulfils the additional function of corrosion protection in addition to its colour;
- (2) 'Anti-foaming agents' (also known as defoaming agents) mean, according to ISO 4618, additives that prevent foaming or reduce the foaming tendency of a coating material;
- (3) 'Anti-skinning substances' mean additives that are added to the coating materials to prevent skinning during production or storage of the coating material;
- (4) 'Binder' means a synthetically produced polymer that is used as the main non-volatile component of the coating, is responsible for the formation of the film and determines its weather, chemical and mechanical resistance;
- (5) 'Driers', also referred to as 'siccatives', means additives that accelerate the oxidative cross-linking of drying oils and alkyd resins [can go in UM instead because it is just an ingredient];
- (6) 'Mineral raw material' means naturally occurring inorganic substances that are mined and processed for use in the production of paints and coatings, including pigments, fillers, and extenders;
- (7) 'Optical brightener' means a fluorescent chemical compound used to enhance the appearance of whiteness and brightness by absorbing ultraviolet light and re-emitting it as visible blue light;
- (8) 'Rheological modifier' means, according to ISO 4618, additives used to adjust the flow properties of a coating material. Examples of rheological modifiers are flow agents, thickening agents and thixotropic agents;
- (9) 'Surfactants' means additives that influence the surface tension of phases, which have an interface in common. They are employed as wetting agents, emulsifiers, levelling agents, defoamers, anti-floating agents, etc.;
- (10) 'UV stabiliser' means an additive that protects the coating film and/or the substrate against the negative effects of UV-beams contained in sunlight;

— (11) 'Water repellent agents' also referred to as 'hydrophobic agents' mean, according to ISO 4618, additives that confers water-repellent properties on a dry-film by increasing the interfacial tension between the dry-film and the incident moisture.

Technical property definitions:

— (1) 'Abrasion' means, according to ISO 4618, the process of wearing away or deformation of a surface by friction as a result of rubbing;

— (2) 'Adhesion' means, according to ISO 4618, the phenomenon of attachment at the interface between a solid surface and another material caused by molecular forces;

— (3) 'Gloss' means, according to ISO 4618, an optical property of a surface, characterised by its ability to reflect light specularly;

— (4) 'Hiding power' means, according to ISO 4618, the ability of a coating to obliterate the colour or colour differences of the substrate;

— (5) 'Sheen' means, according to ISO 4618, gloss observed on an apparently matt surface at glancing angles of incidence;

— (6) 'Spreading rate' means the ability of a dry coating film to sustain less than a specific loss of film thickness, averaged over a defined area, when exposed to 200 wet-scrub cycles.