

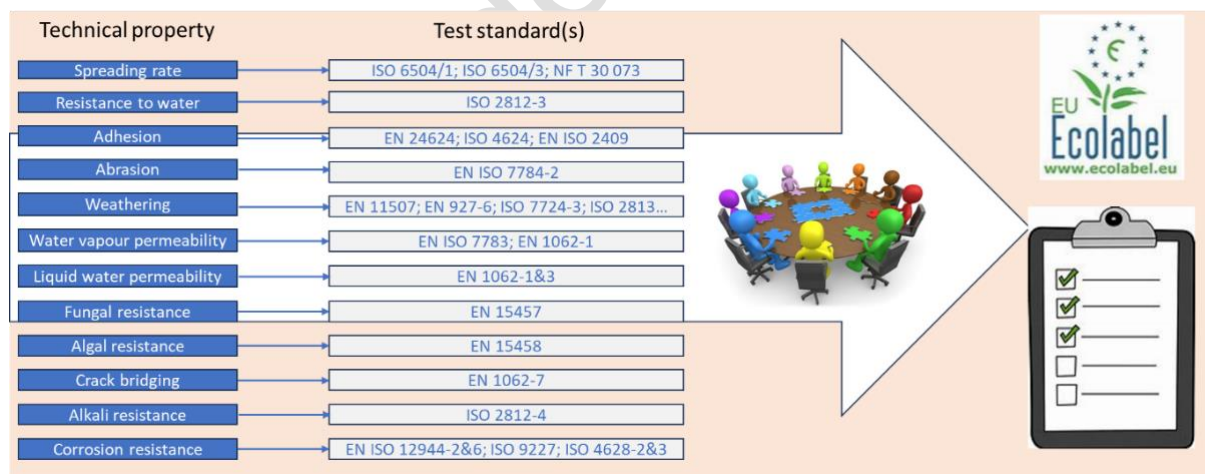
Working sub-group 3: Explaining technical performance requirements

Preparatory material relating to the revision of EU Ecolabel (EUEL) criteria for Indoor and Outdoor Paints and Varnishes (P&V)

Working document (version 2)

July 2024

Visual overview of the main objective of WSG3





Contents

Introduction	3
Problems with criterion 3 on “efficiency in use”:	3
Lack of extra explanation in User Manual	3
Minutes from WSG3 meeting	5
New proposal for criterion 3	9
Criterion 3 for Annex I	9
3(a) Spreading rate.....	9
3(b) Wet scrub resistance and white pigment content	10
3(c) Resistance to water	11
3(d) Adhesion	11
3(e) Weathering	12
3(f) Water vapour permeability	12
3(g) Liquid water permeability.....	13
3(h) Fungal resistance	13
3(i) Algal resistance	14
3(j) Crack bridging	14
3(k) Alkali resistance.....	14
Criterion 3 for Annex II	15
3(a) Spreading rate.....	15
3(b) Resistance to water.....	16
3(c) Adhesion	16
3(d) Abrasion	16
3(e) Weathering.....	16
3(f) Corrosion resistance	17
Next steps	19
Annex I: Synopsis of comments from AHWG meeting.....	20
Annex I: a copy of criterion 3 presented at the 1 st AHWG meeting	21



Introduction

When assessing the current EU Ecolabel (EU Ecolabel) criteria set out in Decision 2014/312/EU for **indoor and outdoor paints and varnishes**, and in particular looking at the requirements set in criterion 3 on “efficiency in use”, it is evident that there are many different technical requirements linked to different EN, EN ISO or ISO standards that apply to some categories of paint or varnish product but not others.

Part of the criticism from stakeholders about the general complexity of the EU Ecolabel criteria was due to difficulties in understanding the technical testing requirements that need to be complied with and the associated costs of testing.

A group of stakeholders have volunteered to look into criterion 3 in more detail and try to improve the correctness and clarity of the requirements laid out therein. A number of good points were raised during the WSG3 meeting held on 21 June 2024.

In parallel, another Working Subgroup (WSG1) has been considering possible restructuring and expansion of the scope of EU Ecolabel paints and varnishes.

Problems with criterion 3 on “efficiency in use”:

Some of the difficulties that the project team encountered were:

- Some of the references to technical standards were incorrect or related to now-expired standards.
- There were many nuances to some of the requirements, which make it more difficult to understand what is required. For example, the spreading rate only applying to white and light-coloured paints (what are light coloured paints exactly?). Or different spreading rates for primers depending on whether they impart specific blocking, sealing, penetrating, binding or special adhesion properties or not (how to describe these specific properties more clearly?).
- Some requirements simply stated quantitative numbers or scores, without saying that if the score was not equal to this, then did it have to be at higher or lower than this.
- Some requirements mentioned more than one technical standard. Often the difference in test standards was clearly explained (i.e. one standard used to refer to the classification system of the product based on the test score, while another standard provided details of the test method), but this was not always the case.
- The weathering requirement mentioned lots of different standards and merits more explanation about how the test should be done in reality (e.g. in what order and what reports should result from this process).

Lack of extra explanation in User Manual

The User Manual does not include extra details about how testing should be carried out, and what type of information should be generated and used to demonstrate compliance. The User Manual just provides the criteria text with a small list of green tick boxes for documentation to send and links to templates, but the templates do not add any further clarifications about the test conducted, often simply just leaving a space to insert a result. One template would be needed to cover one licensed product or **family of products**.

The aim of this working sub-group is therefore to try to and find a way to explain the requirements of criterion 3 in such a way that future applicants, existing licensed holders, Competent Bodies and testing laboratories can easily and consistently understand what is necessary in order to demonstrate compliance with the requirements.

Some **basic principles** should also be understood when considering testing needs:

- In cases where multiple products share the same base formulation and colour, but differ only in the packaging used, these shall be considered as being part of the same “**product family**” and there should be no need for additional tests.

- In cases where multiple products share the same base formulation and packaging but differ in the shades used, it should be possible to test only the worst-case shade for compliance, or the base paint, one intermediate shade and one of the darkest shades, without needing to test all the other colour variations in the same product family. However, the choice of worst-case product must be well justified and this may vary depending on the property being measured.
- In many cases there can be hundreds of individual products in a single EUEL license. Information on compliance with criterion 3 (and other criteria) should be **summarised in an excel format**, with one summary row per individual product which can also clearly show how different families of products can be grouped together with common pieces of supporting documentation. Such an excel format should be finally agreed once the scope and criteria structure have been broadly agreed (i.e. after AHWG2).

Considering the information presented above, the main tasks for Working Sub-Group 3 (WSG3) are set out as follows:

Problem	Useful input sought from WSG3
1. To make sure that all the references and cross-references to EN, ISO and EN ISO standards are correct in criterion 3.	This can be quickly cross-checked by WSG3. Once we are sure about what the correct standards are, we can then look at them in more detail to explain what exactly needs to be done to correctly define a requirement in the criterion and then demonstrate compliance.
2. Discuss ways to better write the requirements in the EUEL criteria for criterion 3 and to clarify questions from the project team.	In the updated WSG3 document, a full proposal for criterion 3 has been made. Feedback to this proposal in general, and to any specific elements of it, is especially sought. Responses to targeted questions will help the project team better understand how to revise the criteria and help with the definition of several terms may be requested.
3. Explain the testing requirements in more detail for inclusion in the User Manual.	To discuss any important practical details that might need to be clarified when dealing with testing requirements. For example: <ul style="list-style-type: none"> • A list of suitable accredited test laboratories. • Roughly how much do the tests cost? • A walk through of the more complex criteria (e.g. weathering and anti-corrosion) • What should test reports contain?

The content of this document is mainly focused on problem 2, since this is the most important problem that needs to be dealt with prior to the publication of TR2.

In the first version of the WSG3 working document, a track change version of the criterion 3 proposal from TR1 was included. The TR1 proposal is maintained in this second version of the WSG3 working document, but just in an Annex and for reference.

In this second version of the WSG3 working document, we start by presenting the main points discussed during the WSG3 meeting and make a new criterion 3 proposal, together with new questions for WSG3.

Minutes from WSG3 meeting

Viegand Maagøe welcomed all participants, and a short presentation of the participant were held. The purpose of the meeting was to look at the requirements set in criterion 3 on “efficiency in use”, because it evident that there are many different technical requirements linked to different EN, EN ISO or ISO standards that apply to some categories of paint or varnish product but not others.

The following organisations were represented:

- Viegand Maagøe
- JRC
- Titanium Dioxide Manufacturers Association (TDMA)
- Cromology
- Kerakoll-Italy
- EEB
- BEUC
- Vitex s.a.
- PPG AC France
- Arxada / Troy Chemie GmbH, Germany
- CHROTEX S.A., GREECE
- Eurofins
- Chemours

Most of the discussion centred around the working questions that were embedded throughout the version 1 working document. Consequently, the minutes of the WSG3 meeting are largely structured around these questions.

The meeting discussion started with the project team raising the question of whether the current title in Criteria 3 is appropriate to describe the criteria or if a new title should be applied.

(v.1) Working question 1: “Efficiency in use” seems like an odd name for the whole of criterion 3. It makes sense for the spreading rate, but seems strange for the rest. One idea from the project team is: “Technical performance of coating products/films”. Any opinions?

No responses were received during or after the WSG3 meeting.

(v.1) Working question 2: How best to define “light-coloured paints” in the context of when spreading rate testing should be used or not. In other words, how dark is too dark for spreading rate testing? Is RAL 9010 the threshold?

The second question was asked because the first requirement on spreading rate is supposed to only apply to white or “light coloured” paints. But how to define light coloured exactly, the EU Ecolabel simply referred to it as meaning a paint with a tri-stimulus (Y value of >70%). No conclusive response was received about this point during the meeting but it was not considered as a problem with interpretation amongst the industry representatives present.

(v.1) Working question 3: How can we explain in simple terms what are the “specific blocking, sealing, penetrating, binding or special adhesion properties” that allow primers to have a lower spreading rate than conventional primers (6 m²/L versus 8 m²/L).

This third question was also asked because it triggered different spreading rate requirements. Again, no conclusive answer was provided at the meeting, but at least all of the products classified as subcategory 1.1(h) “binding primers” can be considered as meeting these conditions to trigger a lower spreading rate. Further clarification on this

matter is needed still, but again, as with the definition of “light coloured”, industry representatives were not overly concerned about the lack of clarity here.

(v.1) Working question 4: Do you think the large table in criterion 3 is actually helpful? The project team does not think so and we are not sure if it can be easily fixed to make it more accurate and nuanced without making the table too big.

Most participants actively agreed that the current table was not helpful and was potentially confusing. The project team pointed out a number of inconsistencies in the table and emphasised that it was not possible to capture all the nuances of the efficiency in use criteria in a simple table. It was proposed to either take away the table altogether and just keep the full criteria text (like has been done in the Nordic Swan ecolabel) or to keep the table, but just to have it as a sort of matrix with Yes/No/Sometimes entries that indicate when a particular criterion applies to a particular category of coating product.

(v.1) Working question 5: Should the spreading rate requirement also apply to opaque woodstains? If so, what should the value(s) be for indoor and outdoor opaque woodstains?

In this question, some members of WSG3 argued that the spreading rate should not apply to opaque woodstains due to the fact that one of the main differences between a woodstain and a wood paint is that part of the woodstain is expected to seep into the wood surface. This point is generally accepted by the project team.

(v.1) Working question 6: For clarity, are woodstains supposed to comply with criterion 3(b) on water resistance? The term is not used explicitly in the criterion. If woodstains are included, is this also the case for minimal-build woodstains?

Clarity was sought about the applicability of the requirement on water resistance to woodstains – they are not explicitly mentioned in the criterion text, but are indirectly indicated to be included thanks to the large table at the start of criterion 3 in Decision 2014/312/EU. It was agreed that this requirement should definitely not apply to minimal build woodstains.

(v.1) Working question 7: For clarity, in criterion 3(c), since transparent primers are not to be tested, is it fair to assume that interior masonry primers must also be pigmented? Is there such a thing as “semi-transparent primers”? And are those exempted too? Is there a good reason for distinguishing between the terms “undercoats” and “primers” here?

Does it make sense to have the pull-off test? Which substrate(s) are used for the test? And what is the reason for one test standard for exterior masonry primers (pull-off method of ISO 4624) and another for the rest (cross-cut method of EN ISO 2409)?

The members of WSG3 agreed that there was some confusion about how the terms “undercoats” and “primers” had been used. However, no definitive solutions about how to amend the criteria and references to these terms were discussed at the meeting. Regarding the second part of the question, some members of the WSG3 explained that the two different tests for adhesion were necessary and that the ISO 4624 testing was due to the specific situation of outdoor masonry walls.

(v.1) Working question 8: Are the abrasion resistance requirements in criterion 3(d) only for performance coatings (and only for floor coatings)? What about furniture coatings or performance coatings on metal substrates? What about the link between abrasion and corrosion?

No clear conclusions were agreed upon at the WSG3 meeting. It was understood in a general sense that these types of coating (furniture and radiator) were included in the scope simply due to reference to Directive 2004/42/EC. However, it was not clear which subcategory these products would belong to. For example, the trim and cladding paints for wood, metal and plastic (subcategory 1.1(d)) is the most likely category. However, they could also fall under performance coatings (subcategory 1.1(i,j)) depending on whether their primary purpose is the technical performance they impart or if it is for aesthetic reasons. If splitting the criteria into “decorative” and “performance” coatings, this distinction becomes even more important. It was proposed by the project team that any radiator

paints should always be considered as performance paints since they will always have to demonstrate a certain heat resistance and transmission of heat. For furniture coatings, both decorative and technical performance could predominate. In the [Nordic Swan criteria](#) (criterion O29), technical performance requirements were developed for a number of properties for varnishes applied to different furniture products and components.

(v.1) Working question 9: What is the reason for choosing 1000 hours for the weathering test in criterion 3(e) when, for example, the EN 927-6 test for artificial weathering of wood coatings states 2016 hours?

Some members of WSG3 explained that this timing was chosen based on previous experience and that the details of these tests and many conditions that would affect results are subject to agreement between the coating manufacturer and the testing laboratory. A cycle of 1000 hours was still considered relevant.

(v.1) Working question 10: Still focussing on criterion 3(e), the requirements are complex and it might be better to have a smaller table just for criterion 3(e) what are your opinions on this?

Without any specific proposal on the table, the WSG3 were generally supportive of this and the project team proposed to have a go at doing this in a full draft of a new criterion 3 proposal.

In criterion 3, some discussion took place about whether this was the point where requirements on testing for microplastic release could be inserted. The project team were not sure if any EN, ISO or EN ISO test standards were yet in place to measure microplastic release from coatings. It was generally confirmed that the active addition of microplastics was a non-issue, especially now that road marking paints are definitely out of the scope. The secondary release of microplastics would generally refer to the physical degradation of the film over time and the parts of the film that consist of organic binders would end up, sooner or later, being counted as microplastic releases. However, even if such a test existed for measuring secondary microplastic release, in the real world to release will be completely dependent on user behaviour.

(v.1) Working question 11: The scope of products for criteria 3(f) and 3(g) are limited to exterior masonry coatings. Why is this? Are there not other exterior coatings that should have these properties, such as performance coatings or exterior decorative coatings on substrates susceptible to damage by water contact (e.g. wood and metal)?

One member of WSG3 explained that these tests are linked to the EN 1062 series of standards which are specific for coatings for exterior masonry. A separate standard is justified because of the unique requirements for this type of coating. The requirement on water vapour permeability (a.k.a water vapour transmission rate) is actually a minimum amount of permeability that must be met in order to support any “breathable” claims that go with the coating product. The breathability of exterior masonry coatings is important in order to prevent the build-up of humidity and subsequently increased risks of mould or corrosion.

In the opposite manner, the liquid water permeability was considered as a maximum amount of liquid water that should be able to penetrate the coating. The main reason for this test is to check how the coating would manage in preventing moisture ingress during exposure to driving rain.

(v.1) Working question 12: Are there any EUEL products on the market that deliver fungal and/or algal resistance specified in criterion 3(h)? Are these products classified as biocidal products? Do these products not require significant amounts of dry-film preservatives that would be beyond the allowed derogations? It seems strange that preservation products for wood impregnation are excluded from the scope but that fungal and algal-resistant coatings are in the scope. Opinions?

None of the WSG3 members were aware of any products that deliver algal or fungal resistance having been awarded the EU Ecolabel. It was generally agreed that products with such claims would struggle to meet the limits set for dry film preservatives in criterion 5. This question will also be asked to Competent Bodies for confirmation either way. If there are no licensed products, the project team believes it would make sense to remove these products from the scope, since wood preservatives are already banned, why not “masonry preservatives” too?

(v.1) Working question 13: Regarding alkali resistance in criterion 3(j) could this requirement also be linked to per-formance coatings that have alkali resistance claims (especially thinking about floor coatings)?

One member of the WSG3 stated that this requirement was very specific to outdoor masonry coatings and that it was due to the high pH pore solutions that can come into contact with masonry coatings that make alkali resistance an important requirement for this type of product. No other inputs were received regarding the potential applicability of this type of resistance to performance coatings, especially floor coatings, where a minimum type of chemical resistance might be needed – either due to exposure to aggressive fluids and/or the need for cleaning with aggressive cleaning agents.

(v.1) Working question 14: There are a number of standards and results stated for criterion 3(k) on corrosion resistance. Would you support a small table just for criterion 3(k) to help better explain the requirements. Does this requirement automatically apply to any radiator paints and paints for metal furniture?

Members of the WSG3 were generally supportive of a table to better explain the requirements for corrosion resistance and the project team have done this now in the updated criterion 3 proposal. However, during the update of the criterion on corrosion resistance, a look at the EN 12944-6 and the updated [Nordic Swan](#) ecolabel criteria (specifically criterion O33) implied that more details were definitely needed in the EU Ecolabel criteria.

(v.1) Working question 15: Should there be specific performance requirements for radiator paints (e.g. heat stress resistance?) or furniture paints (e.g. resistance to hot liquids etc.)?

No conclusive agreement was reached on this in the WSG3 meeting. On the one hand, it was accepted that these types of coating product could be considered to already be in the scope, since the trim and cladding paints and varnishes (subcategories 1.1(d) and (e)) of Directive 2004/42/EC apply to coatings for wood, metal or plastic materials. However, on the other hand it was also accepted that these coatings should have some specific technical performance requirements under criterion 3 due to the different performance that is expected of them. For example, radiator paints may need to meet specific requirements on heat resistance and transmission, while furniture coatings may need to meet requirements on resistance to hot liquids and scratches so on. Perhaps the updated criteria for [Nordic Swan](#) ecolabel paints and varnishes could be a useful point of reference (see criterion O29 for furniture).

(v.1) Working question 16: Even with this relatively straightforward test (ISO 4624 pull-off test), there are a number of degrees of freedom that could affect results (such as choice of substrate, curing conditions, choice of coating thickness, choice of adhesive and choice of pull-off method) but which are not clearly specified in the User Manual. Could you help contribute to better instructions for this test? And/or for the other technical performance tests?

The industrial representatives explained that they normally send the full laboratory test report to Competent Bodies as part of the license application procedure. Any requirements for reducing the complexity or room for different interpretations by different Competent Bodies would be welcomed. But the degrees of freedom in the laboratory test method should normally be kept open since it allows for different types of product to be developed and the optimum performance conditions can then be communicated to customers.

Other points

The project team noted that some standards had been revised during the period the EU Ecolabel is in place, necessitating an update in the EU Ecolabel reference to the standard. They then asked if any participants had access to the standard to assist in verifying the differences between the previous and current versions. Three industry representatives confirmed that they have access to the standards and could potentially help the study team.

It was also suggested that the criterion 1 on wet scrub resistance should be incorporated into criterion 3. Other WSG3 members and the project team generally agreed.

New proposal for criterion 3

It has been proposed to split the paints and varnishes product group into the following two annexes:

- Annex I: Decorative paints and varnishes and related products.
- Annex II: Performance coatings and related products.

This has a direct impact on the structure of criterion 3, as does the decision to remove thick decorative coatings.

Criterion 3 for Annex I

“In order to demonstrate the efficiency in use of decorative paints and varnishes and related products, the following tests per type of product, as indicated in Table X and detailed in the criterion text later, shall be undertaken.

Criteria	Paints and Varnishes (with their subcategories identified according to the Directive 2004/42/EC)						“Just add water” decorative paints for use on buildings, their trim, fittings or associated structures
	Indoor wall and ceiling paint (a,b)	Outdoor mineral substrate paint (c)	Trim and cladding paints (d)	Varnishes and wood-stains (e, f)	Primers (g)	Binding primers (h)	
3(a) Spreading rate	Yes	Yes	Yes	No	Sometimes	Sometimes	Yes
3(b) Wet scrub resistance and white pigment content	Yes	Yes	Yes	No	No	No	Yes
3(c) Resistance to water	No	No	No	Yes	No	No	No
3(d) Adhesion	No	No	Sometimes	No	Sometimes	Sometimes	Sometimes
3(d) Abrasion	No	No	No	No	No	No	No
3(e) Weathering	No	Yes	Sometimes	Sometimes	No	No	Sometimes
3(f) Water vapour permeability	No	Sometimes	No	No	No	No	No
3(g) Liquid water permeability	No	Yes	No	No	No	No	No
3(h) Fungal resistance	No	Sometimes	Sometimes	No	No	No	Sometimes?
3(i) Algal resistance	No	Sometimes	Sometimes	No	No	No	Sometimes?
3(j) Crack bridging	No	Sometimes	No	No	No	No	Sometimes?
3(k) Alkali resistance	Sometimes	Yes	No	No	Sometimes	Sometimes	Sometimes

(New v.2) Working question 1: What requirements for the “just add water” paints should apply?

3(a) Spreading rate

Note: This requirement does not apply to varnishes, lasures, transparent adhesion primers or any other transparent or semi-transparent coatings.

Spreading rate requirements shall apply to white and light-coloured paint products. For paints that are available in more colours in the same family of products, the spreading rate shall apply to the lightest colour.

White paints and light-coloured paints, including finishing-coats and intermediate coats, shall have a spreading rate of at least 8 m² per litre of product for indoor paints and 6 m² for outdoor paints while ensuring a hiding power of at least 98 % according to ISO 6504-1 or ISO 6504-3. Products marketed for both indoor and outdoor application shall meet the higher spreading rate requirement of at least 8 m² per litre.



For tinting systems, this criterion applies only to the white base (the base containing the most TiO₂). In cases where the white base is unable to achieve this requirement, the criterion shall be met after tinting the white base to produce the standard colour RAL 9010.

For paints that are a part of a tinting system, the applicant must advise the end-user on the product packaging and POS which shade or primer/undercoat (if possible, bearing the EU Eco-label) should be used as a basecoat before applying the darker shade.

Opaque primers and undercoats shall have a spreading rate of at least 8 m² per litre of product. **A lower spreading rate of 6 m² per litre of product applies to opaque primers with specific blocking, sealing, penetrating, binding or special adhesion properties.**

Opaque elastomeric paints shall have a spreading rate of at least 4 m² per litre of product.

Assessment and verification: the applicant shall provide a test report using the method ISO 6504-1 (Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints) or 6504-3 (Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate).

For bases used to produce tinted products not evaluated according to the abovementioned requirements, the applicant shall produce evidence of how the end-user will be advised to use a primer and/or grey (or other relevant shade) of undercoat before application of the product.

(New v.2) Working question 3: Opinions about the two methods to determine spreading rate (i.e. ISO 6504-1 and 6504-3)? It has been communicated that the ISO 6504-3 method leaves room for variations in extrapolations (and thus inaccuracies in spreading rate calculations). Should the EU Ecolabel only permit calculations according to ISO 6504-1?

3(b) Wet scrub resistance and white pigment content

Note: This criterion only applies to paint products and, in the case of families of paints products with multiple shades, only to the base paints. For the purposes of this criterion, the term “white pigment”, shall be considered to refer only to pigments with a refractive index higher than 1.8.

Any EU Ecolabel paint products that claim wet scrub resistance must meet the requirements for class 1 or class 2 according to the procedure defined in ISO 11998 and the classification system of EN 13300 and comply with the respective upper limits for white pigment content.

Table X+1. Requirements for wet scrub resistance and white pigment content for paint products

Wet scrub resistance claim?	Wet scrub resistance	White pigment content
Yes (indoor paints)	Class 1	≤ 40 g/m ² *
Yes (outdoor paints)	Class 1 or 2	≤ 38 g/m ² *
Yes (indoor paints)	Class 2	≤ 36 g/m ² *
No (indoor or outdoor)	n/a	≤ 25 g/m ² *

* The m² refers to 1m² of dry film with an opacity of at least 98% according to ISO 6504.

Assessment and verification:

The applicant shall declare the total content of white pigments with a refractive index >1,8 in the final product or base paint formulations that are subject to the EU Ecolabel license application. This information shall be provided in terms of the chemical name and CAS number of the white pigment, its declared refractive index, its concentration in g/L of paint product and the density of the paint, in g/L. The spreading rate of the paint product, in L/m² for a dry-film of at least 98% opacity according to ISO 6504, shall also be stated. Multiplying the white pigment concentration (in g/L) by the spreading rate (in L/m²) will produce white pigment levels in units of g/m² that can be compared to the limits in the table above.



Except in cases where the content of white pigments is $< 25,0 \text{ g/m}^2$ and no claims of wet scrub resistance are made, the applicant shall also provide results of wet scrub resistance testing according to ISO 11998 that show that the products meet the applicable class 1 or class 2 resistance requirements defined in EN 13300.

3(c) Resistance to water

Note: This requirement applies to all varnish products (what about woodstains, and minimal build woodstains?).

All varnish products shall have resistance to water, as determined by ISO 2812-3 such that after 24 hours of exposure and 16 hours of recovery, no change of gloss or of colour occurs.

No change of gloss shall be considered as the gloss value of the exposed sample not being more than 5% different to the control sample when measured according to ISO 2813.

No change of colour shall be considered as a visual rating of exposed samples and control samples, with the exposed sample obtaining a rating of 0 when measured for quantity of defects and a rating of 0 when measured for size of defects according to the classification system of EN ISO 4628-1.

Assessment and verification:

The applicant shall provide a declaration of compliance with the requirement for any varnish products included in their license application. The declaration shall be supported by copies of ISO 2812-3 test report(s) that cover the licensed product or family of products, including reported results for change of colour and change of gloss according to EN ISO 4628-1 and ISO 2813, respectively.

Extra text has been proposed in the criteria text (highlighted in yellow)

(New v.2) Working question 4a: The term “no change of gloss” should refer to a report that is more specific than ISO 2812-3 no? For example, what about [ISO 2813](#)? And we should try to define a % change that is considered as “no change”, e.g. 5% or something similar? Opinions?

(New v.2) Working question 4b: The term “no change of colour” should refer to a report that is more specific than ISO 2812-3 as well no? For example, what about [EN ISO 4628-1](#)? And if so, we should try to define a specific rating, e.g. rating 0 for the “quantity of defect” and rating 0 for the “size of the defect”? In this case, the defect being colour change. Opinions?

3(d) Adhesion

Note: This criterion applies to non-transparent primers and binding primers for masonry coatings and to undercoats for wood or metal trim and cladding paints. In cases of multiple shades in a family of products, the base paint, an intermediate shade and one of the darkest shades need to be tested.

Pigmented masonry primers for exterior uses shall score a pass in the ISO 4624 pull-off test where the cohesive strength of the substrate is less than the adhesive strength of the paint, otherwise the adhesion of the paint must be in excess of a pass value of 1,5 MPa.

Interior masonry primers, metal and wood undercoats shall score 2 or less in the EN ISO 2409 test for adhesion.

The applicant shall evaluate the primer and/or finish alone or both applied together. When testing the finish alone, this shall be considered the worst-case scenario concerning adhesion.

Assessment and verification:

The applicant shall provide a declaration of compliance with the requirement for any masonry primer, binding primer, wood undercoat or metal undercoat products included in their license application. The declaration shall be supported by copies of EN ISO 2409 or ISO 4624 test reports, as applicable.

3(e) Weathering

Note: This criterion applies to outdoor paints and varnishes.

All outdoor paints or varnishes shall be exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray according to ISO 16474-1. They shall be exposed to test conditions for 1000 hours.

Test conditions are: UVA 4 h/60 °C + humidity 4 h/50 °C.

Alternatively, wood finishes and wood varnishes shall be exposed to weathering for 1000 hours in the QUV accelerated weathering apparatus with cyclic exposure with UV(A) radiation and spraying according to EN 927-6.

After weathering, the exposed films shall comply with the requirements specified in the table below.

Table X+2. Requirements for wet scrub resistance and white pigment content for paint products

Property	Requirement	Scope of products covered/not covered
Colour change according to ISO 11664-6	Colour change, $\Delta E \leq 4$	Not applicable to varnishes and base paints.
Gloss decrease according to ISO 2813	$\leq 30\%$ decrease compared to initial value	Not applicable to mid-sheen or matt finishing coats with initial gloss value of $<60\%$ at 60° angle of incidence Only applicable to outdoor masonry, wood and metal finishing coats.
Chalking according to EN ISO 4628-6	A score of ≤ 2	
Flaking according to EN ISO 4628-5	Flake density: ≤ 2 Flake size: ≤ 2	
Cracking according to EN ISO 4628-4	Crack quantity: ≤ 2 Crack size: ≤ 3	
Blistering according to EN ISO 4628-2	Blister density: ≤ 3 Blister size: ≤ 3	

Assessment and verification:

The applicant shall provide a declaration of compliance with the relevant requirements for any outdoor paint or varnish products included in their license application. The declaration shall be supported by copies of test reports that detail the weathering test method used (being in compliance with ISO 16474-1 or EN 927-6) and provide results of changes in properties after weathering, as applicable.

(New v.2) Working question 5a: Should a worst-case product be used for colour change? If so, how to justify it?

The Nordic Swan suggests (in O24): *"If an entire paint system is Nordic Swan Ecolabelled, all bases and colours must fulfil the requirements. This can be documented by testing at least three representative products – at least one white, one intermediate colour and one dark colour – to show fulfilment of the quality requirement."*

(New v.2) Working question 5b: Can you help to provide a more detailed description of the weathering test cycle? (from ISO 16474-1, and maybe from EN 927-6). How exactly is this matched to 1000h? For example, the EN 927-6 cycles are in blocks of 168h, so would this mean doing 6 blocks, totalling 1008 hours?)

3(f) Water vapour permeability

Note: This criterion only applies to outdoor masonry paints that make "breathable" or "water vapour permeable" claims in their marketing material. In cases of multiple shades within the same family of products, only the base paint needs to be tested.

The paint product(s) shall be tested for water vapour permeability according to EN ISO 7783-2 and generate results that correspond to a medium (class V2) or high (class V1) water vapour permeability as defined in EN 1062-1.



Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant products included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN ISO 7783-2, with results expressed according to the classification system defined in EN 1062-1.

(New v.2) Working question 6: Opinions about a possible alternative method to 3(f)? Nordic Swan has introduced this but unless there is a very good reason for doing it, we will not follow.

The Nordic Swan suggests (in O25): *“classified as Class II, i.e., with average water vapour permeability or better according to test method EN ISO 7783-2 and classified according to EN 1062-1 or EN 1504-2*. Due to large numbers of possible tinting colours, this criterion will be restricted to testing of the base paint. This method is not applicable for transparent primers. Alternative test method such as ISO 12572 is also accepted. * Masonry paints tested according to EN1504-2 must fulfil class I.”*

3(g) Liquid water permeability

Note: This criterion only applies to outdoor masonry paints. In cases of multiple shades within the same family of products, only the base paint needs to be tested.

The paint product(s) shall be tested for liquid water permeability according to EN 1062-3 and meet the following requirements, as appropriate:

- For outdoor masonry paints that make claims about being water repellent or hydrophobic or similar: Low liquid water permeability (Class W3) according to the classification system of EN 1062-1.
- For all other outdoor masonry paints: medium liquid water permeability (Class W2) according to the classification system of EN 1062-1.

Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant products included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN 1062-3, with results expressed according to the classification system defined in EN 1062-1.

3(h) Fungal resistance

Note: This criterion only applies to outdoor masonry paints or wood paints that have anti-fungal marketing claims. In cases of multiple shades in a family of products, only the base paint needs to be tested.

In accordance with Product Type 7 (PT7) requirements of Regulation (EU) No 528/2012 of the European Parliament and of the Council(1), the following requirements shall be met, as appropriate:

- For outdoor masonry paints: A score of class 1 or lower (class 0) according to EN 15457.
- For wood paints: A score of class 0 according to EN 15457.

Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant products included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN 15457.

(New v.2) Working question 7: Opinions about a possible alternative method to 3(h)? Nordic Swan appears to distinguish the test method between wood paints and masonry paints.

The Nordic Swan suggests (in O27): *“If the product contains dry film preservatives which have anti-fungal and/or anti-algal properties, methods mentioned in EN 15457 and EN 15458 or EN 927-3 (with reading method according to EN 16492 and assessment according to ISO 4628-1) shall be used to show this.*



Products intended for mineral substrates (with subcategory denotation c or d according to Directive 2004/EC) must achieve a rating of 2 or lower (1 or 0) (under 10% fungal growth), as established in BS 3900:G6 or EN 15457 and EN 15458 or equivalent.

Products intended for wood are to be tested according to EN-927-3 or equivalent. No detectable defects (rating 0, table 1) and no defects visible under 10 times magnification (rating 0, table 2) according to EN ISO 4628-1.”

3(i) Algal resistance

Note: This criterion only applies to outdoor masonry paints or wood paints that have anti-algal marketing claims. In cases of multiple shades in a family of products, only the base paint needs to be tested.

In accordance with Product Type 7 (PT7) requirements of Regulation (EU) No 528/2012 of the European Parliament and of the Council, the following requirements shall be met, as appropriate:

- For outdoor masonry paints: A score of class 1 or lower (class 0) according to EN 15458.
- For wood paints: A score of class 0 according to EN 15458.

Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant products included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN 15457.

3(j) Crack bridging

Note: This criterion only applies to outdoor masonry paints that have elastomeric marketing claims. In cases of multiple shades in a family of products, only the base paint needs to be tested.

The coating shall meet the requirements for crack-bridging performance of class A1 or better (i.e. A2, A3 etc.) according to EN 1062-7.

Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant products included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN 1062-7.

3(k) Alkali resistance

Note: This criterion only applies to masonry paints and masonry primers. In cases of multiple shades in a family of products, the base paint, an intermediate shade and one of the darkest shades need to be tested.

The coating shall show no noticeable damage when the coating is spotted for 24 hours with 10 % NaOH solution according to method ISO 2812-4. The evaluation shall be done after 24 hours drying-recovery.

Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant product(s) included in their license application. Any declaration of compliance shall be supported by copies of test reports according to ISO 2812-4.

Criterion 3 for Annex II

“In order to demonstrate the efficiency in use of [performance coatings and related products](#), the following tests per type of [product](#), as indicated in [Table X](#) and detailed in the criterion text later, shall be undertaken.

Criteria	Paints and Varnishes (with their subcategories identified according to the Directive 2004/42/EC)				Waterproofing coatings ??
	Floor covering paints (i,j)	Floor covering varnishes (i,j)	Anti-corrosion finishing coats (i,j)	Anti-graffiti finishing coats (i,j)	
3(a) Spreading rate	Yes	No	Sometimes	Sometimes	??
3(b) Resistance to water	Yes	Yes	Yes	Yes	No!?*
3(c) Adhesion	Yes	No	Sometimes	??	??
3(d) Abrasion	Yes	Yes	No	No	??
3(e) Weathering	Sometimes	Sometimes	Yes	Yes	Yes?
3(f) Corrosion resistance	No	No	Yes	Sometimes	??

(New v.2) Working question 8: Opinions on how best to split up performance coatings into different sub-categories.

Remember that Directive 2004/42/CE says:

“i) ‘one-pack performance coatings’ means performance coatings based on film-forming material. They are designed for applications requiring a special performance, such as primer and topcoats for plastics, primer coat for ferrous substrates, primer coat for reactive metals such as zinc and aluminium, anticorrosion finishes, floor coatings, including for wood and cement floors, graffiti resistance, flame retardant, and hygiene standards in the food or drink industry or health services;

j) ‘two-pack performance coatings’ means coatings with the same use as one-performance coatings, but with a second component (e.g. tertiary amines) added prior to application;”

3(a) Spreading rate

Note: This requirement does not apply to any transparent or semi-transparent performance coatings or related products.

Spreading rate requirements shall apply to white and light-coloured paint products. For paints that are available in more colours in the same family of products, the spreading rate shall apply to the lightest colour.

White paints and light-coloured paints, including finishing-coats and intermediate coats, shall have a spreading rate of at least 8 m² per litre of product for indoor paints and 6 m² for outdoor paints while ensuring a hiding power of at least 98 % according to ISO 6504-1 or ISO 6504-3. Products marketed for both indoor and outdoor application shall meet the higher spreading rate requirement of at least 8 m² per litre.

For tinting systems, this criterion applies only to the white base (the base containing the most TiO₂). In cases where the white base is unable to achieve this requirement, the criterion shall be met after tinting the white base to produce the standard colour RAL 9010.

For paints that are a part of a tinting system, the applicant must advise the end-user on the product packaging and POS which shade or primer/undercoat (if possible, bearing the EU Community-Eco-label) should be used as a base-coat before applying the darker shade.

Assessment and verification:

The applicant shall provide a test report using the method ISO 6504-1 (Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints) or 6504-3 (Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate).



For bases used to produce tinted products not evaluated according to the abovementioned requirements, the applicant shall produce evidence of how the end-user will be advised to use a primer and/or grey (or other relevant shade) of undercoat before application of the product.

(New v.2) Working question 9: Are tinting systems applicable for performance coatings in general? If not, then the text in red above could probably be deleted – opinions on that?

3(b) Resistance to water

Note: This requirement applies to all performance coatings.

All performance coatings shall have resistance to water, as determined by ISO 2812-3 such that after 24 hours of exposure and 16 hours of recovery, no change of gloss or of colour occurs.

No change of gloss shall be considered as the gloss value of the exposed sample not being more than 5% different to the control sample when measured according to ISO 2813.

No change of colour shall be considered as a visual rating of exposed samples and control samples, with the exposed sample obtaining a rating of 0 when measured for quantity of defects and a rating of 0 when measured for size of defects according to the classification system of EN ISO 4628-1.

Assessment and verification:

The applicant shall provide a declaration of compliance with the requirement for any varnish products included in their license application. The declaration shall be supported by copies of ISO 2812-3 test report(s) that cover the licensed product or family of products, including reported results for change of colour and change of gloss according to EN ISO 4628-1 and ISO 2813, respectively.

3(c) Adhesion

Note: This criterion applies to performance coatings that are non-transparent. In cases of multiple shades in a family of products, the base paint, an intermediate shade and one of the darkest shades need to be tested.

Floor covering paints and anti-corrosion paints and any primers or undercoats in such coating systems shall score 2 or better (i.e. 0 or 1) in the EN ISO 2409 cross-cut test for adhesion.

The applicant shall evaluate the primer and/or finish alone or both applied together. When testing the finish alone, this shall be considered the worst-case scenario concerning adhesion.

Assessment and verification:

The applicant shall provide a declaration of compliance with the requirement for any masonry primer, binding primer, wood undercoat or metal undercoat products included in their license application. The declaration shall be supported by copies of EN ISO 2409 test reports.

3(d) Abrasion

Note: This criterion applies to floor covering paints and varnishes. In cases of multiple shades in a family of floor covering paints, the base paint, an intermediate shade and one of the darkest shades need to be tested.

A weight loss of ≤ 70 mg shall be observed when floor coatings are exposed to 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2.

Assessment and verification:

The applicant shall provide a declaration of compliance with the requirement for floor coating products included in their license application. The declaration shall be supported by copies of EN ISO 7784-2 test reports.

3(e) Weathering

Note: This criterion only applies to outdoor performance coatings and related products.

All outdoor performance coatings shall be exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray according to ISO 16474-1. They shall be exposed to test conditions for 1000 hours. **Test conditions are: UVA 4 h/60 °C + humidity 4 h/50 °C.**

After weathering, the exposed films shall comply with the requirements specified in the table below.

Table X+3. Requirements for wet scrub resistance and white pigment content for paint products

Property	Requirement	Scope of products covered/not covered
Colour change according to ISO 11664-6	Colour change, $\Delta E \leq 4$	Not applicable to varnishes and base paints.
Gloss decrease according to ISO 2813	$\leq 30\%$ decrease compared to initial value	Not applicable to mid-sheen or matt finishing coats with initial gloss value of $<60\%$ at 60° angle of incidence
Chalking according to EN ISO 4628-6	A score of ≤ 2	Applicable to all outdoor performance coatings.
Flaking according to EN ISO 4628-5	Flake density: ≤ 2 Flake size: ≤ 2	
Cracking according to EN ISO 4628-4	Crack quantity: ≤ 2 Crack size: ≤ 3	
Blistering according to EN ISO 4628-2	Blister density: ≤ 3 Blister size: ≤ 3	

Assessment and verification:

The applicant shall provide a declaration of compliance with the relevant requirements for any outdoor performance coatings included in their license application. The declaration shall be supported by copies of test reports that detail the weathering test method used (being in compliance with ISO 16474-1) and provide results of changes in properties after weathering, as applicable.

3(f) Corrosion resistance

Note: This criterion only applies to anti-corrosion performance coatings and related products.

Anti-corrosion paints and coating systems shall be exposed to simulated corrosion stresses on the metallic substrates and use environment (e.g. C2, C3, C4 or C5 as per EN 12944-6) for which their use is recommended. Corrosion stresses applied in testing shall correspond to the “high” level for each category, which is as follows:

Table X+4. Requirements for corrosion resistance testing for anti-corrosion paints and coating systems

Corrosivity category	Test regime 1		Test regime 2
	ISO 6270-1 (water condensation, hours)	ISO 9227 (neutral salt spray, hours)	Annex B (cyclic ageing test, hours)
C2 (high)	120	-	-
C3 (high)	240	480	-
C4 (high)	480	720	-
C5 (high)	720	1440	1680

After exposure, the coated surfaces shall be examined and be found to comply with the following requirements:

- A rating of 3 or better (i.e. 0, 1 or 2) for size of blisters according to EN ISO 4628-2.
- A rating of 3 or better (i.e. 0, 1 or 2) for quantity of blisters according to EN ISO 4628-2.
- A rating of Ri2 or better (i.e. Ri0 or Ri1) for degree of rusting according to EN ISO 4628-3.



Assessment and verification:

The applicant shall provide a declaration of non-applicability or of compliance with the relevant requirements for any relevant product(s) included in their license application. Any declaration of compliance shall be supported by copies of test reports according to EN 12944-6, EN ISO 4628-2 and EN ISO 4628-3.

(New v.2) Working question 10a: The new proposal for anti-corrosion testing is quite different to the previous requirement, which was quite vague and seemingly not really in line with EN 12944-6. Opinions?

(New v.2) Working question 10b: There is currently no requirement for alkali resistance for performance coatings. Should this remain the case or should it be included – considered floor coatings for concrete floors?

Draft under discussion



Next steps

No clear conclusions have been made yet on criterion 3 although some progress has been made and some areas clarified. However, there is still much work to be done on this criterion and written feedback is requested from the WSG3 within the next 7 calendar days of this document being published. The exact structure and content of criterion 3 is also very sensitive to how the product group scope will be agreed in the end. A more fragmented scope (i.e. more annexes, will make each version of criterion 3 simpler to read, but also increases the risk of missing some requirement in one annex or accidentally copying over one requirement that should not be in the destination annex).

Any later feedback to the project team is also welcome during the summer and in the autumn, it is expected that a TR2 will be published with updates to criterion 3 and supporting rationale.

Draft under discussion

Annex I: Synopsis of comments from AHWG meeting

The AHWG meeting was held on May 7th, and comments from stakeholders were collected until May 22nd. A summary of the comments in an aggregated and anonymised form is as follows:

Criterion 3 proposal: The feedback from stakeholders regarding this criterion highlighted several areas of concern and suggestions for improvement. A recurring request was to maintain the existing exception for opaque primers. Stakeholders also noted a lack of clarity in the definition of key terms, such as ‘light coloured paints’, ‘opaque primers’, ‘undercoats’, ‘trim and cladding’ and requested more detailed definitions. In addition, stakeholders pointed out that applications mostly focus on tables and seldom read text. To address this issue, they recommend moving the table to an Annex so that readers would focus more on the criterion text.

Testing requirements in User Manual: Most, but not all stakeholders expressed support about the addition of a detailed explanation of testing requirements in the user manual. While some stakeholders strongly support the inclusion of detailed explanations concerning key terms, citing the lack of such details in existing standards, others opposed this addition. The proponents argue that enhanced explanations would provide clearer guidance, while opponents prefer to keep the manual concise.

Alkali resistance: Stakeholders requested clarification on what constitutes a rating equivalent to “no noticeable damage” and noted that the current standard relies on visual observations rather than numerical ratings and provided specific feedback on specific values to be used in this context.

Spreading rate: Questions were raised about the rationale behind changing the spreading rate for primers and undercoats with “specific properties”, with a recommendation to rephrase the criterion for better clarity.

Weathering: Requirements for weathering were recommended to be limited to outdoor products, with stakeholders pointing out that incorrect values had been used for some properties. They emphasised the need to adhere to standards that specify the use of integral numbers for weathering and chalking values and argued that UV artificial weathering is according to a different standard than the one used.

Fungal resistance: The inclusion of fungal resistance characteristics was contested, with some stakeholders asserting that such characteristics are inappropriate for an ecolabel. They also argue that paints containing dry film preservatives should be excluded from the scope of the Ecolabel.

Water vapour permeability: Stakeholders asked for clearer wording to improve understanding. Similarly, the assessment and verification section prompted requests for clarification, particularly on the term “appropriate”.

Claims on licensed products: Feedback indicated that while claims of high/low liquid water vapour permeability are common, claims related to anti-fungal/anti-algal properties and crack-bridging or elastomeric characteristics are rare. Stakeholders provided insights on the frequency and nature of these claims, suggesting a need for further review and potential adjustments in the criteria.

Annex I: a copy of criterion 3 presented at the 1st AHWG meeting

In order to demonstrate the efficiency in use of paints and varnishes the following tests per type of paint and/or varnish, as indicated in Table 2, shall be undertaken:

Table 2. Performance requirements for different kinds of paints and varnishes

Criteria	Paints and Varnishes (with their subcategories identified according to the Directive 2004/42/EC)								
	Indoor paint (a,b)	Outdoor paint (c)	Trim and cladding (d)	Thick decorative coating indoor and outdoor (†)	Varnish and wood-stain (e, f)	One pack performance and floor covering paint (i)	Primer (g)	Undercoat and primer (h)	
3(a) Spreading rate (only for white and light coloured paints, including the white base paints used in tinting systems) – ISO 6504-1. Not applicable to varnishes, lacures, transparent adhesion primers or any other transparent coatings.	8 m ² /L	4 m ² /L (elastomeric paint) 6 m ² /L (masonry paint)	Outdoor products 6m ² /L (outdoor products) Indoor products 8m ² /L (indoor products)	1 m ² /kg L	-	Outdoor products 6 m ² /L (outdoor products) Indoor products 8 m ² /L (indoor products)	6 m ² /L (without having specific blocking, sealing, penetrating, binding or special adhesion properties and opacity) 8 m ² /L (with opacity but no specific properties mentioned above)		
3(b) Resistance to water – ISO 2812-3	-	-	-	-	Resistant to water	Resistant to water	-	-	
3(c) Adhesion – EN 24624 ISO 4624 or ISO 2409	-	-	-	-	-	Score of 2 or lower (ISO 2409)	>1,5 MPa (for masonry paint, and according to ISO 4624)		
3(d) Abrasion – EN ISO 7784-2	-	-	-	-	-	≤ 70 mg weight loss	-	-	
3(e) Weathering – (cycles as per EN 16474-1 and 16474-6 or 11507 EN 927-6, for 1000 hours)	-	± 000 h	Colour change ΔE* ≤ 4 (EN ISO 11664-6); Gloss decrease ⁽²⁾ < 30% (EN ISO 2813); Chalking ⁽³⁾ of ≤ 1.5 (EN ISO 4628-6); Flaking density ≤ 2 and flake size ≤ 2 (EN ISO 4628-5); Crack quantity ≤ 2 and crack size ≤ 3 (EN ISO 4628-4); Blister density ≤ 3 and blister size ≤ 3 (EN ISO 4628-2)					-	-
3(f) Water vapour permeability ⁽¹⁾ – EN ISO 7783	-	Class II or better	-	Class II or better (outdoor)	-	-	-	-	

3(g) Liquid water permeability ⁽¹⁾ – EN 1062-3	-	Where claims are made: Class III All other products: Class II or better	-	Class II or better (outdoor)	-	-	-	-
3(h) Fungal resistance ⁽¹⁾ – EN 15457	-	Class 1 or lower (masonry or wood paints)	Class 0 (outdoor wood products)	Class 1 or lower (outdoor)	-	-	-	-
3(h) Algal resistance ⁽¹⁾ – EN 15458	-	Class 1 or lower (masonry or wood paints)	Class 0 (outdoor wood products)	Class 1 or lower (outdoor)	-	-	-	-
3(i) Crack bridging ⁽¹⁾ – EN 1062-7	-	A1 or better (elastomeric paint only)	-	-	-	-	-	-
3(j) Alkali resistance – ISO 2812-4	-	No noticeable damage (masonry paint)	-	-	-	-	No noticeable damage (outdoor masonry paint)	
3(k) Corrosion resistance ⁽¹⁾ – EN ISO 12944-2 and 12944-6, ISO 9227, ISO 4628-2 and 4628-3.	-	Anti-rust paint Blistering ≥ size 3/ density 3 Rusting ≥ Ri2	-	-	-	Anti-rust paint Blistering ≥ size 3/ density 3 Rusting ≥ Ri2		
(1) Only required when marketing claims are made.								
(2) Gloss maintenance requirement not applicable to mid-sheen and matt-finishes which have an initial gloss value less than 60% at 60° angle of incidence								

(3) Chalking assessment is applicable to masonry finish coats and wood and metal finishes (where applicable) after the samples have been exposed to weathering.

Further details of the efficiency in use criteria and their assessment and verification shall be followed as defined below:

3(a) Spreading rate:

This requirement does not apply to varnishes, lacures, transparent adhesion primers or any other transparent coatings. For paints, the spreading rate requirement shall apply to white and light-coloured paint products. For paints that are available in more colours, the spreading rate shall apply to the lightest colour.

Spreading rate requirements shall apply to white and light-coloured paint products. For paints that are available in more colours the spreading rate shall apply to the lightest colour.

- White paints and light-coloured paints, (including finishes and intermediates,) shall have a spreading rate of at least 8 m² per litre of product for indoor paints and 6 m² for outdoor paints while ensuring a hiding power of at least 98 % according to ISO 6504-3. Products marketed for both indoor and outdoor application shall meet the ~~have a higher~~ spreading rate requirement (at a hiding power of 98 %) of at least 8 m² per litre.
- For tinting systems, this criterion applies only to the white base (the base containing the most TiO₂). In cases where the white base is unable to achieve this requirement, the criterion shall be met after tinting the white base to produce the standard colour RAL 9010.
- For paints that are a part of a tinting system, the applicant must advise the end-user on the product packaging and POS which shade or primer/ undercoat (if possible, bearing the Community Eco-label) should be used as a basecoat before applying the darker shade.
- Opaque primers and undercoats shall have a spreading rate of at least 8 m² per litre of product. A lower spreading rate of 6 m² per litre of product applies to opaque primers with specific blocking, sealing, penetrating, binding or properties and primers with special adhesion properties. These special properties shall be considered as shall have a spreading rate of at least 6 m² per litre of product.

Thick decorative coatings (paints that are specially designed to give a three-dimensional decorative effect and are therefore characterised by a very thick coat) shall alternatively have a spreading rate of 1 m² per kg of product.

~~Opaque elastomeric paints shall have a spreading rate of at least 4 m² per litre of product.~~

~~This requirement does not apply to varnishes, lacures, transparent adhesion primers or any other transparent coatings.~~

Assessment and verification: the applicant shall provide a test report using the method ISO 6504-1 (Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints) or 6504-3 (Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate) or, for paints specially designed to give a three-dimensional decorative effect and characterised by a very thick coat, results in m₂/kg according to the method NF T 30 073. For bases used to produce tinted products not evaluated according to the abovementioned requirements, the applicant shall produce evidence of how the end-user will be advised to use a primer and/or grey (or other relevant shade) of undercoat before application of the product.

3(b) Resistance to water:

All varnishes, floor coatings and floor paints shall have resistance to water, as determined by ISO 2812-3 such that after 24 hours' exposure and 16 hours' recovery no change of gloss or of colour occurs.

Assessment and verification: the applicant shall provide a test report using the method ISO 2812-3.

3(c) Adhesion:

Pigmented masonry primers for exterior uses shall score a pass in the ~~EN 24624~~ (ISO 4624) pull-off test where the cohesive strength of the substrate is less than the adhesive strength of the paint, otherwise the adhesion of the paint must be in excess of a pass value of 1,5 MPa.



Floor coatings, floor paints, floor undercoats, interior masonry primers, metal and wood undercoats shall score 2 or less in the EN ISO 2409 test for adhesion.

Transparent primers are not included in this requirement.

The applicant shall evaluate the primer and/or finish alone or both applied together. When testing the finish alone, this shall be considered the worst-case scenario concerning adhesion.

Assessment and verification: the applicant shall provide a test report using the method defined in EN ISO 2409 or EN 24624 (ISO 4624), as applicable.

3(d) Abrasion:

Floor coatings and floor paints shall have an abrasion resistance not exceeding 70 mg weight loss after 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2.

Assessment and verification: the applicant shall provide a test report showing compliance with this criterion using the method EN ISO 7784-2.

3(e) Weathering (for outdoor paints and varnishes):

Masonry finish paints and wood and metal finishes including varnishes shall be exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray according to ISO 11507-16474-1. They shall be exposed to test conditions for 1000 hours. Test conditions are: UVA 4 h/60 °C + humidity 4 h/50 °C.

Alternatively, outdoor wood finishes and wood varnishes shall be exposed to weathering for 1000 hours in the QUV accelerated weathering apparatus with cyclic exposure with UV(A) radiation and spraying according to EN 927-6.

According to ISO 11664-67724-3, the colour change of samples exposed to weathering shall not be greater than $\Delta E^* = 4$. It is not applicable to varnishes and bases.

Decrease of gloss for gloss paints and varnishes exposed to weathering shall not be greater than 30 % of its initial value and shall be measured using ISO 2813. This requirement is not applicable to mid sheen and matt finishes (1) which have an initial gloss value less than 60 % at 60° angle of incidence.

Chalking shall be tested using method EN ISO 4628-6 on masonry finish coats and wood and metal finishes (where applicable) after the samples have been exposed to weathering. Coatings shall achieve a score of 1,5 or better (0,5 or 1,0) in this test. In the standard there are illustrated references.

The following parameters shall also be evaluated on masonry finish coats and wood and metal finishes after the samples have been exposed to weathering:

- Flaking according to ISO 4628-5; flake density 2 or less, flake size 2 or less
- Cracking according to ISO 4628-4; crack quantity 2 or less, crack size 3 or less
- Blistering according to ISO 4628-2; blister density 3 or less, blister size 3 or less.

Tests should be performed on the tinting base.

Assessment and verification: the applicant shall provide test reports using either ISO 11507-16474-1 according to the specified parameters or EN 927-6, or both. The applicant shall provide test reports using EN ISO 4628-2, 4, 5, 6 and a test report in conformance ISO 11664-67724-3 where applicable.

3(f) Water vapour permeability:

Where claims are made that exterior masonry and concrete paints are breathable the paint shall be classified according to EN 1062-1 as class II (medium vapour permeability) or better according to the test method EN ISO 7783.

Due to the large number of potential tinting colours, this criterion will be restricted to testing of the base paint.

Assessment and verification: the applicant shall provide a test report using methodology EN ISO 7783 and classification according EN 1062-1.

3(g) Liquid water permeability



Where claims are made that exterior masonry and concrete paints are water repellent or elastomeric, the coating shall be classified according to EN1062-1 as class III (low liquid permeability) according to method EN 1062-3.

Due to the large number of potential tinting colours, this criterion will be restricted to the testing of the base paint.

All other masonry paints shall be classified according to EN 1062-1 as class II (medium liquid permeability) or better according to the test method EN 1062-3.

Assessment and verification: the applicant shall provide a test report using methodology EN 1062-3 and classification according to EN 1062-1.

3(h) Fungal and algal resistance

Where claims are made that exterior masonry finish and wood paints have anti-fungal and anti-algal properties, and in accordance with PT7 of the Biocide Regulation (EU) No 528/2012 of the European Parliament and of the Council ⁽¹⁾, the following requirements shall be determined using EN 15457 and EN 15458.

Masonry paints shall have a score of class 1 or lower (1 or 0) for fungal resistance, (i.e. less than 10 % fungal coverage) and a score of class 1 or lower for algal resistance.

Wood paints shall have a score of 0 for fungal resistance and 0 for algal resistance.

Due to the large number of possible tinting colours, this criterion will be restricted to the testing of the base paint.

Assessment and verification: the applicant shall provide a test report using the methodology in EN 15457 and/or EN 15458, as appropriate.

3(i) Crack bridging

Where claims are made that masonry (or concrete) paint has elastomeric properties, the paint shall be at least classified as A1 at 23 °C according to EN 1062-7.

Due to the large number of potential tinting colours, this criterion will be restricted to the testing of the base paint.

Assessment and verification: the applicant shall provide a test report using methodology DIN EN 1062-7.

3(j) Alkali resistance

Masonry paints and primers shall show no noticeable damage when the coating is spotted for 24 hours with 10 % NaOH solution according to method ISO 2812-4. The evaluation is shall be done after 24 hours drying-recovery.

Assessment and verification: the applicant shall provide a test report using methodology ISO 2812-4.

3(k) Corrosion resistance

Simulated corrosion stresses shall be applied to a substrate for the purpose of rating according to the appropriate atmospheric corrosivity category or categories in EN ISO 12944-2 and the accompanying test procedures specified in EN ISO 12944-6. Anti-rust paints for steel substrates shall be tested after 240 h salt spray following ISO 9227. The results shall be rated using ISO 4628-2 for blistering and ISO 4628-3 for rusting. The paint shall achieve a result not worse than size 3 and density 3 in blistering and not worse than Ri2 in rusting-test.

Assessment and verification: the applicant shall provide testing and rating reports to confirm compliance with this criterion.