

STATEMENT OF COMPLIANCE AND DECISION RULE

What is a statement of compliance?

A statement of compliance is a document or a group of documents declaring that goods, such as products, comply with the requirements of technical standards and/or the law.

Declaring the compliance of something means ensuring in writing that our products meet the minimum characteristics defined by these applicable standards.

The Performance Lab, in addition to performing accredited tests, can therefore check that the results meet the requirements defined by applicable technical standards, specifications and laws, and can add a statement of compliance to the test report for the tested product.

How is it expressed?

Let's consider for example the test which assesses a surface's tendency to retain dirt. For the “countertops” class of UNI 11216, this test is passed with a value ≥ 4 (limit). If the result obtained by the laboratory is 4 with an uncertainty of ± 1 , the statement of compliance would be:

*“The tested sample has been found to have an **alleged compliance** for assessment of the determination of the tendency of surfaces to retain dirt according to the “**countertops**” class of UNI 11216 with a **probability of 50%**, according to the **relaxed acceptance rule for numerical assessments**, with a **confidence level of 95%**”*

Let's see how this sentence should be interpreted.

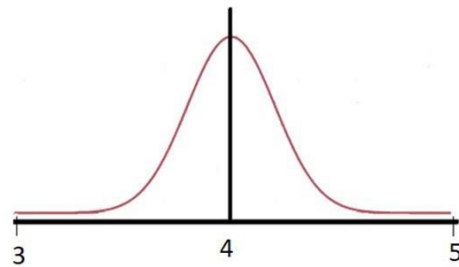
In order to issue a statement of compliance, the laboratory must:

- indicate the **standard or the specifications** on the basis of which it is determined.
The laboratory must check whether the test results exceed the limits imposed by the standard or by the specifications requested by the customer.
- indicate the test results accompanied by the **measurement uncertainty**:
*Nobody is perfect, not even an accredited laboratory! Although it performs tests analytically and accurately, it will always be subject to system-based and random errors that produce uncertainty. The result provided will therefore not be a single value, but a **range of values**.*

In the case of a result of 4 with an uncertainty of ± 1 :



value without uncertainty



value with uncertainty

- indicate the **decision rule** applied:

When the laboratory must state the compliance of a product, it must compare the result obtained with the limit to be exceeded, but in order to do so it must take into account the measurement uncertainty.

*In the example above, the result with ± 1 uncertainty will have an equal probability of exceeding the limit or not exceeding it. If the result is 4, as in the example provided, there will be only a 50% probability that it complies with the standard, that's why there is only an **alleged compliance**.*

To make these considerations, the laboratory relies on the **relaxed acceptance/stringent rejection decision rule**, which consists in judging the result as non-compliant only if it does not exceed the limit with the whole range of uncertainty. If, on the other hand, it exceeds the limit with the whole range, it would certainly be compliant, while if the range of uncertainty lies across the limit, as in the example, compliance is only alleged.

This rule is used for all NUMERICAL ASSESSMENTS (e.g. abrasion resistance, scratch resistance) and for DIMENSIONLESS ASSESSMENTS as the one in the example (e.g. dry heat, humid heat).

In the case of multi-line assessments (chemical resistance, thermal shocks, cross-cut), the **simple acceptance/rejection decision rule is applied**: measurement uncertainty is not taken into account; only the result obtained is considered.

- indicate the **confidence level** applied.

This factor is not related to the truthfulness of the statement of compliance, but to the quality of the result, because it depends on the accuracy with which the laboratory has determined the measurement uncertainty. For the uncertainty associated with the tests performed, the Performance Lab always has a confidence level of 95%, which means that in 5% of cases the measurement uncertainty may be greater than stated.

For the example provided above, theoretically, out of 100 tests, 5 may have greater uncertainty and give a result of 2.

The following page includes a table summarizing the decision rules adopted by the Performance Lab.

Table summarizing the decision rules adopted by the Performance Lab

| Standard title | Standard code | Decision rule adopted | Use of measurement uncertainty | Risk levels |
|--|--|--|--------------------------------|--|
| Assessment of surface resistance to cold liquids | UNI EN 12720:2013 | 1 chemical agent: Relaxed acceptance/stringent rejection Multiple chemical agents: Simple acceptance and simple rejection | Yes No | Compliant/non-compliant product: 0% risk Product with presumed conformity: Maximum risk 50% |
| Assessment of surface resistance to dry heat | UNI EN 12722:2013 | Relaxed acceptance/stringent rejection | Yes | |
| Assessment of surface resistance to humid heat | UNI EN 12721:2013 | Relaxed acceptance/stringent rejection | Yes | |
| Determination of hardness -pencil test | UNI 10782:1999 | Relaxed acceptance/stringent rejection | Yes | |
| Surface abrasion resistance assessment | UNI EN 15185:2015/EC 1:2011 | Relaxed acceptance/stringent rejection | Yes | |
| Pendulum damping test | ISO 1522:2022, UNI EN ISO 1522:2023 | Relaxed acceptance/stringent rejection | Yes | |
| Determination of the specular gloss of the non-metallic paint film at 20°, 60° and 85° | UNI EN ISO 2813:2016 | Relaxed acceptance/stringent rejection | Yes | |
| Assessment of the surface resistance to scratching | UNI EN 15186:2012 – Only method B | Relaxed acceptance/stringent rejection | Yes | |
| Behavior with S42 abrasion | DIN 68861-2:2020 | Relaxed acceptance/stringent rejection | Yes | |
| Determination of the film thickness | UNI EN ISO 2808:2019 method 10 | Relaxed acceptance/stringent rejection | Yes | |
| Assessment of the surface resistance to microscratching - Martindale | UNI EN 16611:2023 | Relaxed acceptance/stringent rejection | Yes | |
| Corrosion tests in artificial atmospheres - Salt-spray tests | UNI EN ISO 9227:2023 – excluding para. 5.2.3 and 5.2.4 | Relaxed acceptance/stringent rejection | Yes | |
| Determination of surface resistance to temperature changes | UNI 9429:2022 | Simple acceptance and simple rejection | No | |
| Assessment of the effects of light exposure | UNI EN 15187:2007 | Relaxed acceptance/stringent rejection | Yes | |

| Standard title | Standard code | Decision rule adopted | Use of measurement uncertainty | Risk levels |
|--|---------------------------|--|--------------------------------|--|
| Standard test method for film hardness by pencil test | ASTM D3363-22 | Relaxed acceptance/stringent rejection | Yes | Compliant/non-compliant product: 0% risk Product with presumed conformity: Maximum risk 50% |
| Cross-cut test | UNI EN ISO 2409:2020 | Simple acceptance and simple rejection | Yes | |
| Determination of the tendency of surfaces to retain dirt | UNI 9300:2020 | Relaxed acceptance/stringent rejection | Yes | |
| Abrasion resistance for HPL laminates | UNI EN 438-2: 2019 par 10 | Relaxed acceptance/stringent rejection | Yes | |
| Resistance to abrasion for flooring grade laminates | UNI EN 438-2: 2019 par 11 | Relaxed acceptance/stringent rejection | Yes | |
| Resistance to dry heat for HPL laminates | UNI EN 438-2: 2019 par 16 | Relaxed acceptance/stringent rejection | Yes | |
| Resistance to wet heat for HPL laminates | UNI EN 438-2: 2019 par 18 | Relaxed acceptance/stringent rejection | Yes | |
| Resistance to staining for HPL laminates | UNI EN 438-2: 2019 par 26 | Simple acceptance and simple rejection | Yes | |
| Light fastness for HPL laminates | UNI EN 438-2: 2019 par 27 | Relaxed acceptance/stringent rejection | Yes | |
| Microscratch resistance for HPL laminates | UNI EN 438-2 par 30 | Relaxed acceptance/stringent rejection | Yes | |
| Resistance to hot humid climates | PRLAB162 | Simple acceptance and simple rejection | No | |
| Determination of the adhesion of the finishes to the support by means of a tear test | UNI 9240:2015 | Relaxed acceptance/stringent rejection | Yes | |

Civitanova Marche, 15/02/2024