



16th Edition of the QUALICOAT Specifications – Update Sheet – SPEC-US10

Subject: Clarification on Cupping test

Specifications WG (April 2020)

Proposal/Request:

As the cupping test has been removed from in-house control since 1st January 2020, the respective device is no longer prescribed.

In addition, it is not required anymore from the laboratories to perform the cupping test on test panels processed concurrently with a production lot.

QUALICOAT Resolutions: Resolution No. 2/TC 14.05.20

Valid from: 1 JULY 2020

Amendments to the Specifications:

- Title of Section 2.6 Cupping test
- Section 3.8
- Section 5.1.6
- Appendix A5 – Inspection of test panels
- Appendix A9 - ISO 1520 (right-hand column)

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2.6 Cupping test (only for the approval of organic coatings)

All organic coatings except class 1.5, 2 and 3 powder coatings: **ISO 1520**

Class 1.5, 2 and 3 powder coatings:

ISO 1520 followed by a tape pull adhesion test as specified below:

Apply an adhesive tape (see § 2.4) to the significant surface of the test panel following the mechanical deformation. Cover the area by pressing down firmly against the coating to eliminate voids or air pockets. Pull the tape off sharply at right angles to the plane of the panel after 1 minute.

REQUIREMENTS:

Minimum 5 mm for powder coatings (classes 1, 1.5, 2 and 3)

Minimum 5 mm for liquid coatings except

- two-component liquid coatings: minimum 3 mm
- water-thinnable liquid coatings: minimum 3 mm

Minimum 5 mm for electrophoretic coatings

The test shall be performed on an organic coating with a thickness approximating the minimum required.

In case of a negative result, the test shall be repeated on a panel coated with a thickness of

- Classes 1, 1.5 and 2: 60 to 70 µm
- Class 3: 50 to 60 µm

Using normal corrected vision, the organic coating shall not show any sign of cracking or detachment, except for class 1.5, 2 and 3 powder coatings.

Class 1.5, 2 and 3 powders coatings:

Using normal corrected vision, the organic coating shall not show any sign of detachment following the tape pull adhesion test.

3.8 Laboratory

The coating plant installation shall have laboratory facilities which are separate from the production facilities. The laboratory shall have the apparatus and chemicals necessary for testing and controlling the process solutions and finished products. The laboratory shall at least be equipped with the following apparatus:

- 1) Specular glossmeter
- 2) 2 instruments for measuring coating thickness
- 3) 1 analytical balance (precision 0.1 mg)
- 4) Cutting tools and instruments necessary for performing the adhesion test
- ~~5) Apparatus for testing adhesion and elasticity (cupping test)~~
- 5) Impact tester
- 6) Recorder for stoving temperature and time with four different measuring points, three on the parts and one to measure the air temperature.
- 7) Conductivity meter
- 8) Apparatus for testing resistance to cracking on bending

- 9) Test solutions for the polymerisation test
- 10) pH-meter

5.1.6 Inspection of the test panels

The following tests shall be performed on test panels processed concurrently with a production lot:

- Gloss ([2.2](#))
- Thickness ([2.3](#))
- Dry adhesion ([2.4.1](#)) and wet adhesion ([2.4.2](#))
- ~~Cupping ([2.6](#))~~
- Bend ([2.7](#))
- Impact ([2.8](#))

A5 – Special specifications for coatings on aluminium accessories for architectural applications under the QUALICOAT quality label

[...]

Inspection of test panels

The full range of tests shall be performed on test panels processed concurrently with a production lot.

- Gloss (Specifications § [2.2](#))
- Coating thickness (Specifications § [2.3](#))
- Adhesion (Specifications § [2.4](#))
- ~~Cupping test (Specifications § [2.6](#))~~
- Bend test (Specifications § [2.7](#))
- Impact test (Specifications § [2.8](#))

A9 – List of relevant standards

| Nº | YEAR | TITLE | SPECIFICATIONS |
|----------|------|--------------------------------------|--------------------------------------|
| ISO 1520 | 2006 | Paints and varnishes -- Cupping test | Cupping test 2.6-6.3.6 |