



# Update of QUALICOAT Specifications 2023

## Update Sheet No. 07

applicable from 01.01.2024

**Subject:** **Combination of wet adhesion and boiling water Test**

**Proposals/Requests:** **Laboratories WG / 2022.10.04**  
The Laboratories WG unanimously agreed to propose to the TC to remove Method 2 of the boiling water test with 1-hours duration using a pressure cooker (§2.16) and to remove the pressure cooker from the list of required instruments for chemical manufacturers in section 3 of Annex A6.

**QUALICOAT Resolution:** **Resolution No. 14 / TC 2022.11.16**  
The TC approved the Laboratories WG's proposal to remove method 2 (pressure cooker) and to combine the wet adhesion and resistance to boiling water. The Specifications WG will prepare an update sheet.

**Resolution No. 7/TC 16.05.23**  
The TC approved update sheet No.7 'Combination of wet adhesion and boiling water Test'. The implementation date will be 1st January 2024.

- Amendment to the Specifications:**
- Resistance to boiling water test (2.16) removed and combined with the wet adhesion test (2.4.2)
  - New Numbering of paragraphs in Chapter 2
  - Reference of new numbering all across the specification, where applicable.
  - Reference of Resistance to boiling water removed from anodic pretreatment (3.4)
  - Adjustments in the Appendix A6 and Appendix A7

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## 2. Test Methods and Requirements

[...]

### 2.4.2 Wet adhesion

#### ~~Boiling water~~

~~Immerse a sample in boiling demineralised water using method 1 or 2 as described in § 2.16. Remove the sample and allow it to cool down to room temperature. Carry out the test as detailed in § 2.4.1. The cross-hatch shall be made after one hour but within two hours.~~

Immerse a sample for two hours in boiling demineralised water (maximum 10 µS/cm at 25°C). Remove the test sample and allow it to cool down to room temperature. After one hour but within a two hours timeframe, a cross-cut shall be made according to § 2.4.1

#### REQUIREMENTS:

~~On visual inspection, there shall be no sign of detachment or blistering. Colour change is acceptable.~~

No sign of detachment or blistering. Cross-cut value 0. Colour change is acceptable.

[...]

### ~~2.16~~ — ~~Resistance to boiling water~~

#### ~~Method 1 with boiling water:~~

~~2 hours immersion in boiling demineralised water (maximum 10 µS at 20°C). Remove the test sample and allow it to cool down to room temperature. Apply an adhesive tape (see § 2.4) to the surface, ensuring that no air is trapped. After one minute, remove the tape at an angle of 45° with a sharp even pull.~~

#### ~~Method 2 with a pressure cooker: (to be used for powder and electrophoretic coatings only)~~

~~Add demineralised water (maximum 10 µS at 20°C) to a pressure cooker with an internal diameter of about 200 mm to a depth of 25 mm and place a test panel measuring 50 mm in it.~~

~~Place the lid in position and heat the pressure cooker until steam escapes from the valve. The weighted needle valve shall be adjusted to produce an internal pressure of 100 +/- 10 kPA (1 bar). Continue heating for 1 hour, timing from the moment when steam first escapes from the valve. Cool the pressure cooker, remove the sample and allow it to cool down to room temperature.~~

~~Apply an adhesive tape (see § 2.4) to the surface, ensuring that no air is trapped. After one minute, remove the tape at any angle of 45° with a sharp even pull.~~

### ~~2.17~~ **2.16 Constant climate condensation water test**

[...]

**2.182.17 Sawing, milling and drilling**

[...]

**2.192.18 Filiform corrosion test**

[...]

**2.202.19 Water spot test**

[...]

**2.212.20 Scratch and mar resistance test (Martindale)<sup>7</sup>**

[...]

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**3.4 Anodic pretreatment (automatic SEASIDE endorsement)**

[...]

- **Testing of the coated finished products**

- Before application, the wet adhesion test (see § 2.4.2) shall be carried out for each coating material (i.e., each colour shade, gloss category, and manufacturer). ~~shall be tested for resistance to boiling water, followed by an adhesion test (see § 2.4).~~
- During application, ~~resistance to boiling water shall be tested, followed by an~~ the wet adhesion test shall be performed every 4 hours.

Coating applicators using anodic pretreatment, as specified above, shall ask their coating suppliers to confirm in writing the compatibility of their coating system with this type of pretreatment.

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**A6 – Approval of chemical pretreatments**

[...]

**3. PRELIMINARY CONDITIONS (minimum equipment)**

**THE CHEMICAL MANUFACTURER SHALL HAVE THE FOLLOWING MINIMUM EQUIPMENT AVAILABLE AT LEAST AT ONE LOCATION** (main production site and/or technical service centre):

- analytical instruments for testing the quality of the conversion coating;
- cutting tools and instruments necessary for performing the adhesion test;
- apparatus for testing dry ~~and wet~~ adhesion and elasticity (cupping test);

- impact tester (ISO 6272);
- apparatus for testing resistance to cracking on bending;
- analytical balance for determining weight loss (precision 0.1 mg)
- apparatus to carry out the following corrosion tests:
  - constant climate condensation water
  - resistance to humid atmospheres containing sulphur dioxide
  - acetic acid salt spray resistance
  - ~~resistance to boiling water~~ wet adhesion test
  - filiform corrosion test<sup>1</sup>

**AT ALL OTHER LOCATIONS (NOT BEING THE MAIN PRODUCTION SITE AND/OR TECHNICAL SERVICE CENTRE), THE FOLLOWING REQUIREMENTS SHALL BE MET:**

- A method for testing the quality of the conversion coating shall be available.
- Tests that cannot be carried out on-site shall be performed by the laboratory at the main production site and/or technical service centre or outsourced to any QUALICOAT approved laboratory.

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## A7 – Specifications for batch treatment

[...]

### 3. Testing method to evaluate contact mark areas

Use a piece of a pretreated aluminium extrusion that has been marked by a separator. The area on the bar with the marks shall be identified.

~~The boiling water test (2.16 of the Specifications—Resistance to Boiling Water) shall be carried out on the coated samples.~~

The wet adhesion test shall be carried out according to § 2.4.2 on the coated samples.

Allow the test piece to cool after the test and examine it for any blistering on the identified area.

Requirements:

~~No blistering in excess of 2 (S2) according to ISO 4628-2.~~

~~Colour change is acceptable but there shall not be any defect or loss of adhesion.~~

~~This testing method shall be used by the inspectors whenever a licence is to be granted.~~

No sign of detachment or blistering. Cross-cut value 0. Colour change is acceptable.

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<sup>1</sup> This test may be outsourced and carried out by a QUALICOAT approved laboratory or another laboratory accredited for this specific test according to ISO 17025.