



# Update of QUALICOAT Specifications 2023

## Update Sheet No. 03

applicable from 01.07.2023

**Subject: Cross-cut (wording and evaluation)**

**Proposals/Requests:**

**Laboratories WG / 2022.10.04**

- In order to avoid confusion the term “cross-cut incision” should be replaced by “X-shape scribe mark”.
- The following sentence should be written in the requirements of § 2.9, 2.10, 2.11 and 2.17 :“The crossing point of the X-shape scribe mark, has to be included in the evaluation”.

**QUALICOAT Resolutions:**

**Resolution No. 13 / TC 2022.11.16**

The TC agreed with proposals A and B submitted by the Laboratories WG for the wording and evaluation of crosscuts. The Specifications WG will prepare an update sheet.

**Resolution No. 3/TC 16.05.23**

The TC approved update sheet No.3 “Cross-cut (wording and evaluation)”. The implementation date will be 1st July 2023.

**Amendment to the Specifications:**

- Wording “cross-cut incision” replaced by “X-shape scribe mark” in sections 2.9, 2.10, 2.11 and 2.17.
- Additional text in sections 2.9, 2.10, 2.11 and 2.17.

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## 2.9 Resistance to humid atmospheres containing sulphur dioxide

**ISO 22479** Method B (0,2 l SO<sub>2</sub> - 24 cycles). A ~~cross-cut incision~~ X-shape scribe mark with a width of 1 mm shall be made to cut the organic coating down to the metal.

### REQUIREMENTS:

No infiltration exceeding 1 mm on both sides of the scratch, and no change in colour<sup>1</sup> or blisters in excess of 2 (S2) according to ISO 4628-2.

The crossing point of the X-shape scribe mark, has to be included in the evaluation.

## 2.10 Acetic acid salt spray resistance

**ISO 9227**. A ~~cross-cut incision~~ X-shape scribe mark with a width of 1 mm shall be made to cut the organic coating down to the metal. The test shall be carried out on three test pieces of AA 6060 or AA 6063.

For all organic coatings except class 3 powder coatings: testing time: 1000 hours

For class 3 powder coatings: testing time: 2000 hours

### REQUIREMENTS:

No blistering in excess of 2 (S2) according to ISO 4628-2. An infiltration of maximum 16 mm<sup>2</sup> is allowed over a scratch length of 10 cm but the length of any single infiltration shall not exceed 4 mm.

The crossing point of the X-shape scribe mark, has to be included in the evaluation.

The inspector takes three test pieces from different lots. The results are classified according to the scale below:

- A. 3 samples satisfactory = 0 sample unsatisfactory
- B. 2 samples satisfactory = 1 sample unsatisfactory
- C. 1 sample satisfactory = 2 samples unsatisfactory
- D. 0 sample satisfactory = 3 samples unsatisfactory

### Final assessment of the AASS test:

RATING	CORRECTIVE ACTION	
	APPROVAL (GRANTING/RENEWAL)	LICENCE (GRANTING/RENEWAL)
<b>A</b> satisfactory	No action	No action
<b>B</b> satisfactory	No action	► Notification to the coater

<sup>1</sup> If there is any colour change, the samples shall be heated at 105°C for 30 minutes and a new assessment of the colour change shall be made.

Dark / brown spots shall be cleaned by polishing (e.g., pumice flour sludge with melamine pad) and a new assessment of the colour shall be made.

<b>C unsatisfactory</b>	<ul style="list-style-type: none"> <li>▶ Repetition of the acetic acid salt spray resistance test.</li> <li>▶ If the result of this second test is C or D, all tests shall be repeated.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Repetition of the AASS test. If the result of this second test is C or D, the inspection shall be repeated.</li> </ul>
<b>D unsatisfactory</b>	<ul style="list-style-type: none"> <li>▶ All laboratory tests shall be repeated.</li> </ul>	<ul style="list-style-type: none"> <li>▶ The inspection shall be repeated</li> </ul>

## 2.11 Machu test

### (Accelerated corrosion test, on extruded sections of AA 6060 or AA 6063 only)

Before immersion, a ~~cross-cut incision~~ X-shape scribe mark with a width of 1 mm shall be made on the significant surface with a special tool to cut the coating down to the metal. If the dimensions of the sample are smaller than 70 x 70 mm, one scratch will be made lengthwise.

#### Test solution:

NaCl	:	50 ± 1 g/l
CH <sub>3</sub> COOH (Glacial)	:	10 ± 1 ml/l
H <sub>2</sub> O <sub>2</sub> (30%)	:	5 ± 1 ml/l
Temperature	:	37 ± 1 °C
Testing time	:	48 ± 0.5 hours

The pH of this solution is 3.0 - 3.3. After 24 hours, another 5 ml/l of hydrogen peroxide (H<sub>2</sub>O<sub>2</sub> 30%) shall be added, and the pH adjusted with glacial acetic acid or caustic soda. A new solution shall be prepared for each test.

#### REQUIREMENTS:

No infiltration exceeding 0.5 mm on both sides of the scratch.

The crossing point of the X-shape scribe mark, has to be included in the evaluation.

The inspector takes three test pieces from different lots. The results are classified according to the scale below:

<b>A.</b>	3 samples satisfactory	=	0 sample unsatisfactory
<b>B.</b>	2 samples satisfactory	=	1 sample unsatisfactory
<b>C.</b>	1 sample satisfactory	=	2 samples unsatisfactory
<b>D.</b>	0 sample satisfactory	=	3 samples unsatisfactory

#### Final assessment of the Machu test:

RATING	ASSESSMENT
A	satisfactory
B	satisfactory
C	unsatisfactory
D	unsatisfactory

## 2.17 Constant climate condensation water test

### ISO 6270-2

A ~~cross-cut incision~~ X-shape scribe mark with a width of at least 1 mm shall be made to score the organic coating down to the metal.

The test duration is 1000 hours for all organic coatings except class 3 and 2000 hours for class 3 organic coatings.

#### REQUIREMENTS:

No blistering in excess of 2 (S2) according to ISO 4628-2; the maximum infiltration at the cross is 1 mm.

The crossing point of the X-shape scribe mark, has to be included in the evaluation.