



# Procedure for testing and approving coating materials - P-TAC

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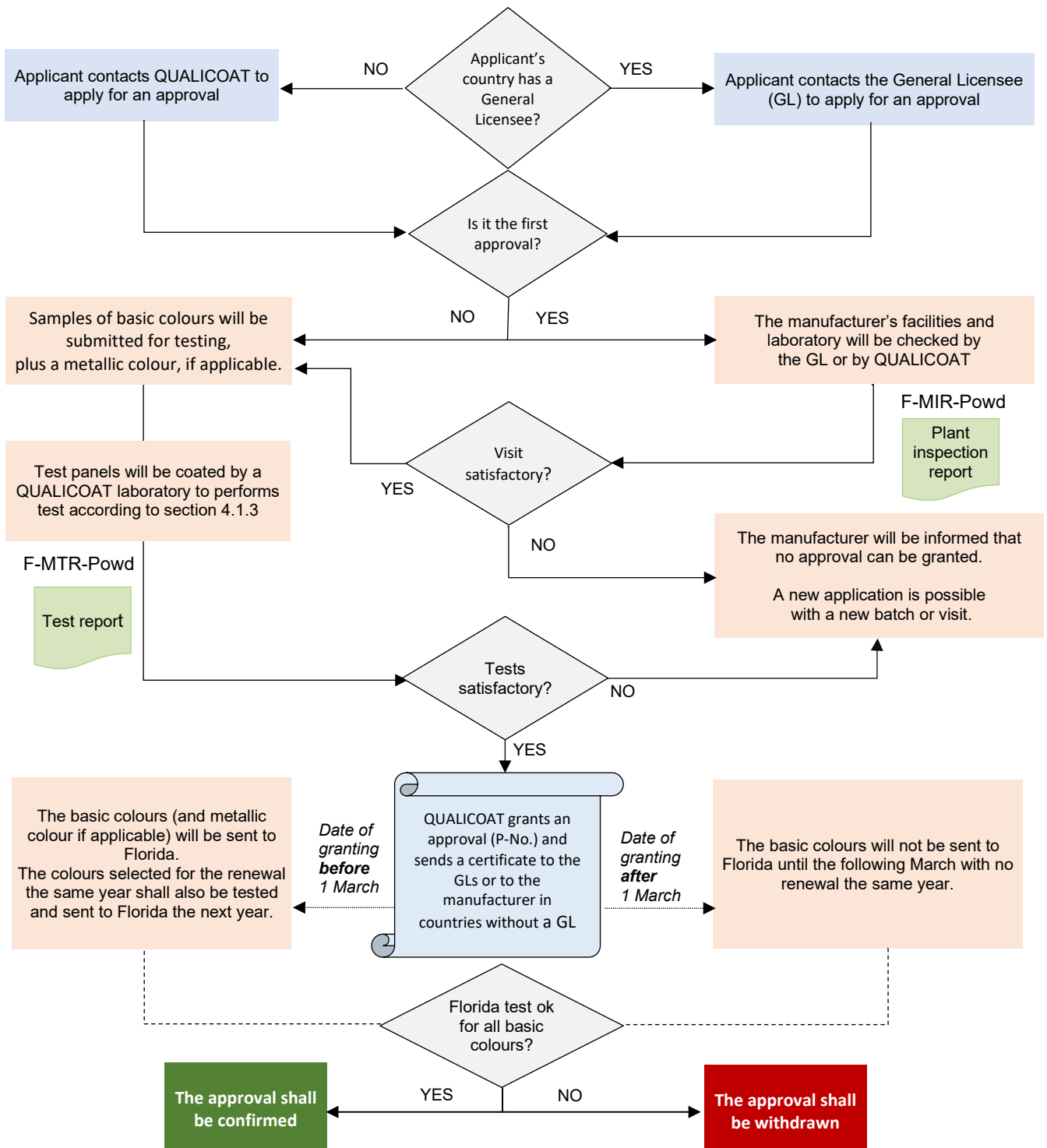
## I. INTRODUCTION

This procedure defines and visualises the different steps for granting and renewal approvals with a special focus on the Florida test procedure according to the QUALICOAT (QCT) Specifications section 4. The intention of this procedure is to provide the testing laboratory guidance and for the powder manufacturer the big picture.

## II. GRANTING AND RENEWALS OF APPROVALS

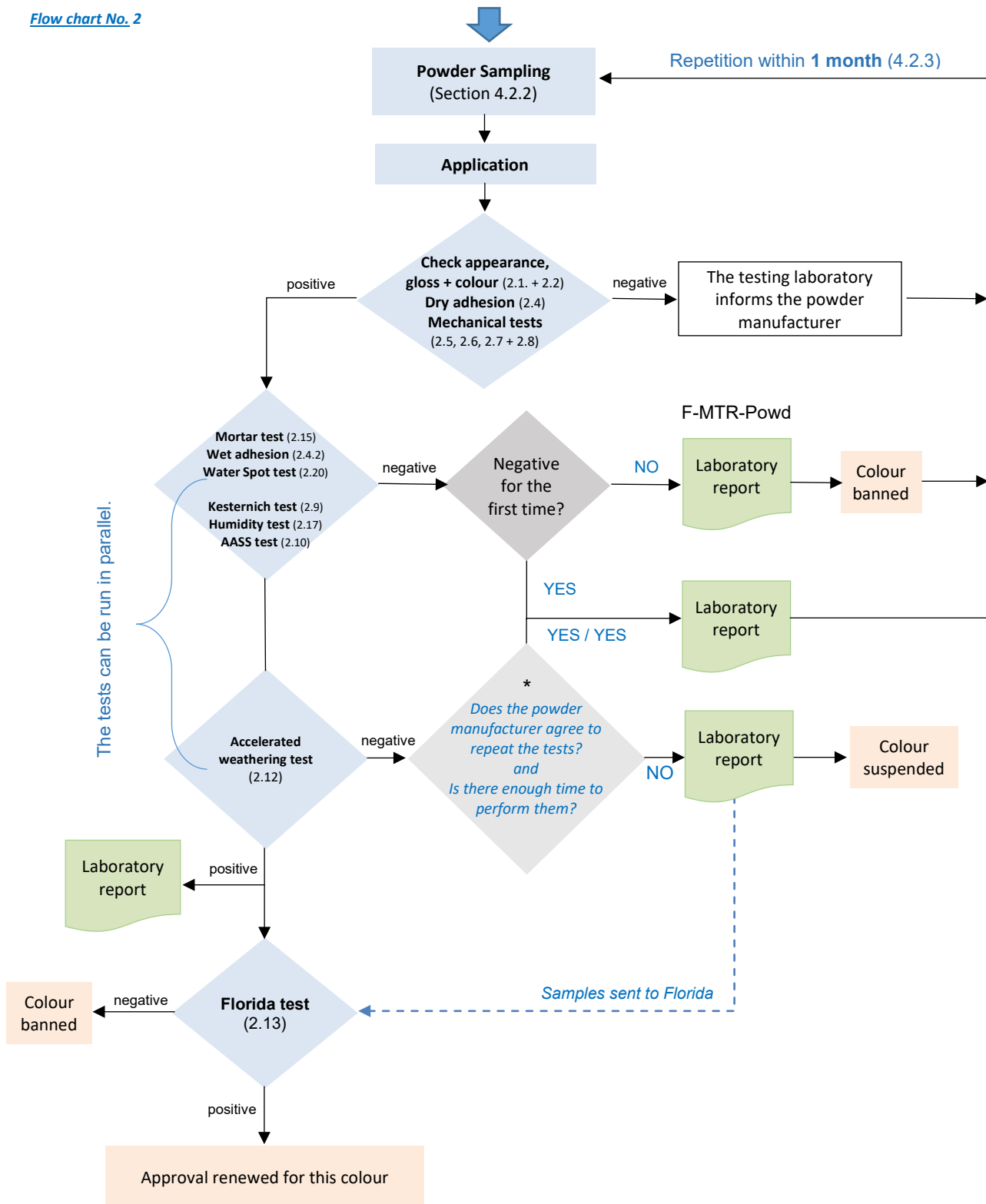
### A. Granting of approvals (Section 4.1 of the QCT Specifications) – Excluding class 3

Flow chart No. 1



### B. Renewal of approvals (Section 4.2 of the QCT Specifications) – Excluding class 3

Flow chart No. 2



\* Procedure confirmed by the TC on 15 May 2019



### III. SUMMARY OF REQUIREMENTS for the approval of organic coating materials (all classes)

See Appendix A10 of the QCT Specifications published on [www.qualicoat.net/main/specifications.html](http://www.qualicoat.net/main/specifications.html)

### IV. NATURAL WEATHERING TEST IN FLORIDA – ISO 2810 (Section 2.13 of the QCT Specifications)<sup>1</sup>

#### A. Test panels for Florida

The panels sent for the Florida test shall meet the following requirements:

##### Dimensions

100 x 305 mm with a tolerance of 10 mm and a thickness of 0.8 to 1.0 mm.

##### Number of panels

| CLASS 1 | CLASS 1.5 | CLASS 2 | CLASS 3 |
|---------|-----------|---------|---------|
| 4       | 7         | 10      | 13      |

##### State of the panels

The panels shall be free from any kind of dirt, such as dust, grease and fingerprints, and must not have a damaged surface, for example scratches, machining marks, etc., that could affect the measurements.

##### Application of the coating material on the panels

The test panels shall be prepared following the QCT Specifications.

The laboratories shall make sure that the panels used for the Florida test have a consistent coating thickness.

The laboratories shall control that

- the gloss category of the coating corresponds to the category of the approval;
- the colour deviation from the original RAL colour satisfies the requirements specified in the [QCT Specifications appendix A8](#)

If these requirements are not satisfied, the laboratory will immediately inform the General Licensee and/or QUALICOAT and or the powder manufacturer that the testing programme described in Chapter 2 of the QUALICOAT Specifications cannot be started and the powder manufacturer should send a new powder batch of the colour which is not satisfactory.

When granted an approval, powder manufacturers of clear coat systems shall inform the laboratories with which base coat the clear coat should be applied.<sup>2</sup>

<sup>1</sup> See Appendix VI (flow chart)

<sup>2</sup> Approved by the TC on 03.11.10

### Marking of the panels

The panels shall be identified as follows by each laboratory:

- system code allocated by QUALICOAT (E.g. XY5), in the upper right corner of the panels;
- panel number in the lower left corner;
- RAL colour;
- Unexposed side marked with a cross.

## B. Colours to be sent

### New approval

Panels shall only be sent to Florida after the approval has been granted, i.e. with a P-No and a code allocated by QUALICOAT.

In the case of class 3 systems for which an approval is only granted after 3 years<sup>3</sup>, the panels shall be sent with a code allocated by QUALICOAT after receipt of the laboratory report.

The colours are defined for each class in section 4.1.4 of the QCT Specifications.

If a manufacturer wishes to have an approval extended for metallic colours extended for metallic colours, tests shall be carried out on RAL 9006.

### Renewal

For systems approved during the first two months of a calendar year, renewal tests shall be carried out in the same year.

For all other systems, the renewal procedure starts in the calendar year after an approval has been granted.

For **classes 1 and 1.5**, the Florida WG shall select three colours every year, from which each powder manufacturer shall select two.

For **class 2**, the colours shall be selected applying the concept of families.

For **class 3**, a special selection shall be made by the Florida WG since not all colours are suitable for this class.

For all classes, one metallic colour (RAL 9006 or RAL 9007 alternately) shall also be selected for the extension to metallic colours.

A table summarising the colours to be sent to Florida is published on the QUALICOAT [website](#). This table is updated after every Florida WG's meeting.

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<sup>3</sup> Rules for class 3 systems introduced on 1.7.14

### C. Packaging and shipment of the panels

#### Deadlines

The various QUALICOAT testing laboratories shall send the panels to the QUALICOAT laboratory responsible for coordination **before 1 March** of the year in which exposure of the panels begins.

#### Preliminary information

Every testing laboratory shall deliver beforehand to the laboratory responsible for coordination an EXCEL file providing at least the following information:

- QUALICOAT code for the system
- new approval or renewal
  - special approvals or extensions
  - colour
  - class
  - category
- Two more columns shall be provided for adding the Delta E and gloss retention when the accelerated weathering test has been completed. These data shall be used to compile statistics.

| Laboratory: _____   |              | To be sent to<br>darias@decotecsl.com<br>Daniel Arias -DECOTEC - - Desarrollo y Control Tecnológico, S.L. |                   |            |                  |  |                   |                |             |         |   |
|---|--------------|---|-------------------|------------|------------------|--|-------------------|----------------|-------------|---------|---|
| Exposure starting in (MM/YY): _____                                       |              |   |                   |            |                  |  |                   |                |             |         |   |
| Box No.   | Florida code | Class   | Gloss Category    | RAL colour | Number of panels | ΔE RAL card  | Sent for          | Residual Gloss | ΔE measured | Remarks |   |
|   |              | ↑<br>dropdownlist   | ↑<br>dropdownlist |            |                  |  | ↑<br>dropdownlist |                |             |         | ↑ |
| To be filled in only if the number of panels is not the number prescribed |              |   |                   |            |                  | Any additional information that might appear necessary, such as "special approval" "new extension", etc. |                   |                |             |         |   |
| in blue: to be reported if available                                      |              |   |                   |            |                  |  |                   |                |             |         |   |

#### Packaging

The panels shall be well protected to prevent any kind of damage during transportation that could adversely affect the surface quality. Care shall be taken with some types of paper that leave traces of dust on the surface.



## D. Washing procedure

### Cleaning of panels during Florida exposure

During exposure in Florida, class 3 panels shall be washed every year by ATLAS using demineralised water with a mild detergent solution.

### Cleaning of panels after exposure

After exposure, the exposed panels shall be immersed in demineralised water (maximum temperature of 25°C) with a 1% surface-active agent (mild detergent solution) for 24 hours.

## E. Assessment of the Florida test results

See **Summary of requirements for the approval of organic coating materials (all classes)** Appendix A10 of the QCT Specifications published on [www.qualicoat.net/main/specifications.html](http://www.qualicoat.net/main/specifications.html)

### Gloss retention for category 1

In the case of borderline gloss retention results after the Florida test, the responsible laboratory, should use an 85° geometry to measure the gloss<sup>4</sup>.

### General rules

The results of the instrumental measurements shall be evaluated by the responsible laboratory according to the following criteria:

| PANELS<br>(individual values)  | ASSESSMENT     |
|--------------------------------|----------------|
| 3 panels OK                    | SATISFACTORY   |
| 2 panels OK and 1 panel NOT OK | SATISFACTORY   |
| 1 panel OK and 2 panels NOT OK | UNSATISFACTORY |
| 3 panels NOT OK                | UNSATISFACTORY |

### Visual assessment (*Section 2.13 of the QCT Specifications*)

If the instrumental result is unsatisfactory, the Florida WG members shall carry out an additional visual assessment for:

- category 1 organic coatings;
- organic coatings with a structured appearance in all gloss categories;
- organic coatings with a metallic or metallised effect
- organic coatings in light colours ( $L > 70$ )<sup>5</sup>

In case of doubt, the WG is allowed to carry out an additional visual assessment on coated panels in all classes and categories even if they do not belong to the above list of candidates for visual assessment.

<sup>4</sup> Resolution No. 5/TC 22.11.18

<sup>5</sup> Resolution No. 4/TC 5.11.14.



This visual assessment shall be carried out completely anonymously. For this purpose, the panels shall be identified with special codes and every WG member shall assess the panels individually.

Every WG member shall record his or her assessment in a file and keep this evaluation until the end of the meeting. At the end of the meeting, the results of the assessment shall be compiled. The final assessment shall reflect the opinion of the majority of the WG members.

## **F. APPENDICES**

### **APPENDIX A - List of colour tolerances before granting or renewing an approval (for QUALICOAT laboratories)**

See Appendix A8 of the QCT Specifications published on [www.qualicoat.net/main/specifications.html](http://www.qualicoat.net/main/specifications.html)

### **APPENDIX B - List of colour tolerances after weathering tests for granting or renewing an approval (for QUALICOAT laboratories)**

See Appendix A12 of the QCT Specifications published on [www.qualicoat.net/main/specifications.html](http://www.qualicoat.net/main/specifications.html)