



# **SPECIFICATIONS FOR A QUALITY LABEL FOR DECORATION OF COATED ALUMINIUM USED IN ARCHITECTURAL APPLICATIONS**

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## TERMINOLOGY

**COATING APPLICATOR:** applicator of powder coating materials.

**DECORATOR:** applicator of decorations.

**DECORATION or DECORATIVE FINISH:** a single combination of a paper or plastic film with a powder coating (sublimation technology) or of a base coating with a top coating (powder on powder technology).

**DECORATION CLASS:** classification of decorative finishes according to weathering performance. Class 1 decorative finishes are approved after 1 year of exposure in Florida and class 2 decorative finishes after 3 years of exposure in Florida.

**DECORATION SYSTEM:** combination of an approved powder coating (P-No.) from a licensed powder supplier (PS-No.) with an approved film from a licensed film supplier (FS-No.).

**FILM SUPPLIER:** supplier of paper or plastic film used for transferring decorations.

**GLOSS CATEGORY:** classification of gloss finishes into three different gloss levels (matt, semi-matt or semi-gloss, gloss).

**NEW TECHNOLOGY:** technology used to produce decorations other than sublimation or powder on powder.

**POWDER COATING CLASS:** QUALICOAT classification of powder coatings according to weathering performance. Class 1 powder coatings are approved after 1 year of exposure in Florida and Class 2 powder coatings after 3 years of exposure in Florida.

**OTHER EFFECTS:** decorative finishes other than wood.

**POWDER SUPPLIER:** supplier of powder coating material.

**QUALIDECO LICENCE (decorator):** confirmation that a decoration plant operates in accordance with the QUALIDECO Specifications for one specific technology.

**QUALIDECO LICENCE (film or powder supplier):** confirmation that a facility operates in accordance with the QUALIDECO Specifications.

**QUALIDECO APPROVAL:** confirmation that a specific supplier's product meets the requirements of the QUALIDECO Specifications.

**SELF-TESTED DECORATIONS:** class 1 decorations tested by powder and/or film suppliers (sublimation technology)<sup>1</sup>

**WOOD EFFECTS:** decorative finishes similar to wood

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<sup>1</sup> See Appendix II-2.



# **Chapter 1**

## **INTRODUCTION**



## 1. INTRODUCTION

### 1.1. Scope and purpose of the Specifications

Various technologies can be used to produce decorative finishes on products, such as wood effect. The following Specifications cover technologies based on the transfer of images to coated substrates using the sublimation process or on powder on powder application using suitable techniques. Other technologies may be used only if they have been previously approved by the QUALIDECO Committee as specified in [Appendix III](#).

These Specifications do not include process tests because the technology is patented.

The aim of the QUALIDECO Specifications is to establish minimum requirements that decoration plants, materials and decorated products shall meet and to ensure continuous quality control of products so that decorators and – in the case of sublimation technology – powder and film suppliers can be granted a QUALIDECO licence for exterior architectural applications.

### 1.2. Basic principles

- a) The company that performs the coating cycle shall hold the QUALICOAT quality label to ensure that the coating is applied under the best conditions and the company has the equipment for the tests.
- b) For sublimation technology, the film and powder suppliers shall be licensed by QUALIDECO in accordance with [Chapter 3](#) and the base powder coating shall be approved by QUALICOAT for sublimation use.
- c) For powder on powder technology, the powder coating materials shall be approved by QUALICOAT and the extension shall be approved by QUALIDECO in accordance with [§ 5.2](#). The base and top coatings shall be applied at the same production site.
- d) If a decoration plant uses different technologies, every technology shall be approved, and the licence number shall identify the country and the technology used by the decorator.
- e) The licensees shall attend training programmes organised regularly by the General Licensee or QUALIDECO.



# **Chapter 2**

## **TEST METHODS AND REQUIREMENTS FOR DECORATIVE FINISHES**





## 2. TEST METHODS AND REQUIREMENTS FOR DECORATIVE FINISHES

The test methods described below are used to test decorative finishes. They are based on international standards, where they exist.

The requirements are specified by QUALIDECO on the basis of practical experience and/or testing programmes organised by QUALICOAT.

### 2.1. Gloss

ISO 2813 – using incident light at 60° to the normal

REQUIREMENTS:

Gloss category	Gloss range	Acceptable variation*
1 (matt)	0 – 30	+/- 5 units
2 (semi-matt or semi-gloss)	31 – 70	+/- 7 units
3 (gloss)	71 – 100	+/- 10 units

(\* permissible variation from the nominal value specified by the coating supplier)

### 2.2. Coating thickness

EN ISO 2360

The thickness of the organic coating on each part to be tested shall be measured on the significant surface at not less than five measuring areas (appr.1 cm<sup>2</sup>).

REQUIREMENTS:

None of the measured values may be less than 80% of the specified minimum value (60 µm), otherwise the thickness test as a whole shall be considered unsatisfactory.

### 2.3. Resistance to humid atmospheres containing sulphur dioxide

EN ISO 3231 (0.2 l SO<sub>2</sub> – 24 cycles)

A cross-cut incision 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 colour change<sup>2</sup> or blistering in excess of 2 (S2) in accordance with ISO 4628-2.

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<sup>2</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.



**2.4. Accelerated weathering test**

**ISO 16474-2 Method A (daylight filters) – Cycle 1 (102 min. dry/18 min. wet)**

**Testing time:**

CLASS 1	CLASS 2
1000 hours	2000 hours, with gloss and colour change measured every 500 hours.

After exposure, the test panels shall be rinsed with demineralised water and checked for:

**Gloss variation:** ISO 2813 - 60° angle of incidence

**Colour change:** ΔE CIELAB using the formula in ISO 11664-4, measurement including specular reflection.

**Visual assessment:** grey scale in accordance with ISO 105-A02

Three colour measurements shall be made on the test panels before and after the accelerated weathering test.

**REQUIREMENTS:**

Gloss retention<sup>3</sup>

CLASS 1	CLASS 2
After 1000 hours: 50% residual gloss for all categories	After 2000 hours: 50% residual gloss for category 1 70% residual gloss for categories 2 and 3

- Colour change:
  - Visual assessment with a minimum acceptable value of 4 on the grey scale
  - Instrumental assessment (for information only, not decisive for the final evaluation).

**2.5. Natural weathering test**

**Exposure in Florida according to ISO 2810**

The test should start in April.

Class 1 finished products

Samples shall be exposed facing 5° south for 1 year.

4 test panels per colour shade are required (3 for weathering and 1 reference panel)

Class 2 finished products

Samples shall be exposed facing 5° south for 3 years with an annual evaluation.

10 test panels per colour shade are required (3 per year for weathering and 1 reference panel).

3

$$\text{Gloss retention} = \frac{\text{gloss value measured after testing}}{\text{initial gloss value}} \times 100$$



#### REQUIREMENTS:

##### a) Gloss

The gloss retention shall be at least 50% for class 1 finished products.

The following values apply to class 2 finished products:

- After 1 year in Florida : at least 75%
- After 2 years in Florida : at least 60%
- After 3 years in Florida : at least 50%

In case of unsatisfactory result, an additional visual assessment shall be carried out for

- Gloss category 1 finished products;
- Finished products with structured appearance in all gloss categories

##### b) Colour change:

- Visual assessment with a minimum acceptable value of 4 on the grey scale (ISO 105-A02)
- Instrumental assessment (for information only).

## 2.6. Intercoating adhesion test (for powder on powder technology only)

The method for testing intercoating adhesion consists of two tests:

### 2.6.1 Dry adhesion

#### ISO 2409

The adhesive tape is prescribed by the standard. The spacing of the cuts shall be 1 mm for organic coating thicknesses of up to 60 µm, 2 mm for thicknesses between 60 µm and 120 µm, and 3 mm for thicknesses over 120 µm.

REQUIREMENTS: The result shall be 0.

### 2.6.2 Pressure cooker test (modified with cross-cut)

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.

The cross-hatch shall be made after one hour but within two hours. Apply an adhesive tape 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.

REQUIREMENTS: The result shall be 0.



# **Chapter 3**

## **LICENSING OF FILM AND POWDER SUPPLIERS**

**(APPLIES TO SUBLIMATION TECHNOLOGY ONLY)**



### 3. LICENSING OF FILM AND POWDER SUPPLIERS (APPLIES TO SUBLIMATION TECHNOLOGY ONLY)

The grant of a licence to suppliers implies that film suppliers shall only use approved coating materials from licensed powder suppliers and that powder suppliers shall only use approved films from licensed film suppliers.

#### 3.1. Licensing of film suppliers

##### 3.1.1 Work specifications for film suppliers (REQUIREMENTS)

###### 3.1.1.1 Traceability

The film supplier shall have a procedure for monitoring and documenting all manufacturing steps in order to ensure traceability in the production chain. The results of these measures shall be entered in some record (register) readily accessible to the inspector.

The film supplier shall comply with the procedure for film coding described in [Appendix II-1](#).

###### 3.1.1.2 Laboratory and in-house control

In this context, the finished product is understood to be the film used for sublimation.

The film shall be tested after being applied to panels coated with a powder approved for QUALIDECO applications.

The film supplier shall have laboratory facilities that are separate from the production facilities. This laboratory shall have all the apparatus and chemicals necessary for testing the manufacturing process and finished products.

It shall at least be equipped with the following apparatus and reference material:

- ◆ a specular glossmeter
- ◆ an instrument for measuring coating thickness
- ◆ a recorder for curing temperature and time with four different measuring points
- ◆ apparatus for testing accelerated weathering resistance and for measuring colour change and gloss retention
- ◆ an application booth
- ◆ transfer equipment
- ◆ a grey scale reference (ISO 105-A02).

Each piece of apparatus shall have a data sheet showing the apparatus identification number and calibration checks.

The film supplier shall use the following procedure to monitor its manufacturing process and test its finished products:

- A sample of each roll (every 1000 metres) shall be printed on the coated surface to check the visual appearance. The results shall be recorded and at least two samples, taken from the beginning and end of each roll, shall be stored.
- The film supplier shall provide the decorator with a **system data sheet** for the



decoration approved for exterior applications (in particular indicating maximum sublimation temperatures and times and the reference to the film and powder codes). A copy shall be available to the inspector during his visit.

- The film supplier shall test every single new decoration in its laboratory and shall include every satisfactory decoration in a list of self-tested decorations which shall be shown to the QUALIDECO inspector upon request.

#### 3.1.2 Granting a licence to a film supplier

A licence shall be granted subject to the following conditions:

1. The film supplier shall submit to the General Licensee (or QUALIDECO in countries where there is no General Licensee) a written application identifying the decoration system(s) (film + powder) to be approved.
2. The plant shall have a laboratory equipped with the minimum apparatus (see [§ 3.1.1.2](#)).
3. If the application is accepted by the General Licensee (or QUALIDECO in countries where there is no General Licensee), the film supplier shall send a roll of film for the following **four basic decorations** to a QUALIDECO laboratory:
  - WALNUT and OAK to be applied on a brown base
  - PINE and OAK to be applied on a beige base

The names and references (product code) of the powder coating materials used shall be specified.

4. Samples of film shall be taken from that part of the roll where the pattern and printing marks appear.
5. **A QUALIDECO laboratory shall prepare the samples and perform the following tests:**
  - Accelerated weathering test (see [§ 2.4](#).)
  - Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3](#).)
  - If the laboratory test results are satisfactory, a natural weathering test shall be carried out in Florida (see [§ 2.5](#).)
6. An inspection of the film supplier's facility shall be carried out to check that its in-house control meets the requirements specified in [§ 3.1.1.2](#).

#### **CONFORMITY ASSESSMENT**

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below:

- If the results of the inspection and laboratory tests meet the requirements, a licence to use the QUALIDECO quality label shall be granted for the decoration systems tested, which shall be considered approved.
- If the results of the inspection or laboratory tests do not meet the requirements, the applicant shall be informed that the licence to use the quality label cannot be granted for the time being, stating the reasons. A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.



After a licence has been granted:

- If the results of the Florida test are satisfactory for all the basic decorations tested, the grant of the licence shall be confirmed for the decoration system(s) tested.
- If one or more basic decoration(s) do not meet the requirements after the Florida test, the licence shall be confirmed, but the decoration system approval shall be withdrawn. If only one decoration system is covered by the certification and fails, the licence itself shall be cancelled.

**TABLE 1: PROCEDURE FOR GRANTING A QUALIDECO LICENCE TO A FILM SUPPLIER**

INSPECTION RESULT	ACTIONS			
SATISFACTORY	▶ LABORATORY TESTS	TEST RESULTS SATISFACTORY	LICENCE GRANTED for the decoration system(s) tested	▶ FLORIDA TEST
		TEST RESULTS UNSATISFACTORY	LICENCE NOT GRANTED <sup>(1)</sup>	
UNSATISFACTORY	LICENCE NOT GRANTED <sup>(1)</sup>			

FLORIDA TEST RESULTS	FINAL ASSESSMENT
ALL BASIC DECORATIONS SATISFACTORY	LICENCE CONFIRMED for the decoration system(s) tested
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	LICENCE CONFIRMED DECORATION SYSTEM APPROVAL WITHDRAWN <sup>(2)</sup>

(1) A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.

(2) If only one decoration system is covered by the certification, the FS-licence itself shall be cancelled.

### 3.1.3 Approval of class 2 decorations

After a film supplier has been granted a licence to use the quality label, class 2 decorations shall be approved subject to the following conditions:

- a) The film supplier shall submit to a QUALIDECO laboratory a written application identifying the decoration(s) to be tested (reference codes of both the base coating and the film following the procedure for film coding described in [Appendix II-1](#)). The powder supplier shall be notified of this written application.
- b) All data pertaining to the named decoration (designation), decoration reference code, QUALICOAT approval and reference code for powder coating, and technical data sheets for the film and powder coating shall be available to allow correct application of the powder and film.
- c) A QUALIDECO laboratory shall perform the tests prescribed in [§ 3.12](#).
- d) An approval shall be granted for every single decoration if all the laboratory tests are satisfactory. A list of approved class 2 decorations shall be appended to the film supplier’s certificate.
- e) If one or more tests are unsatisfactory, the laboratory shall inform both the film supplier and the powder supplier of the unsatisfactory results.
- f) The approval shall be confirmed if the result of the natural weathering test (Florida exposure) is satisfactory.



#### 3.1.4 Renewing a film supplier's licence

After a film supplier has been granted a licence to use the quality label, its plant shall be inspected every three years.

The routine inspection shall include the following aspects:

- a) **LABORATORY EQUIPMENT** in accordance with [§ 3.1.1.2](#)
- b) **DECORATED SAMPLES** tested during in-house control
- c) **IN-HOUSE CONTROL AND REGISTERS**
- d) **SAMPLING** – Two different decorations from the list of self-tested decorations<sup>4</sup> shall be selected by the inspector for testing ([see 3.1.2](#)).

#### **CONFORMITY ASSESSMENT**

The inspector shall submit the inspection report to the General Licensee or QUALIDECO for evaluation.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below (*also see [Table 2](#)*):

- If the results of the inspection (including laboratory test results) meet the requirements, authorisation to use the QUALIDECO quality label shall continue. Once tested satisfactorily in a QUALIDECO laboratory, these decorations shall become QUALIDECO approved decorations.
- If the results of the inspection do not meet the requirements, another inspection shall be carried out within one month (allowing for holiday periods and non-working days) after the film supplier has received notification of an unsatisfactory result from the General Licensee and/or QUALIDECO. In the meantime, the licensee shall rectify nonconformities and inform the General Licensee or QUALIDECO immediately. If the second inspection again produces unsatisfactory results, the licence to use the quality label shall be withdrawn immediately.
- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn and the inspection shall be repeated.
- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be removed from the supplier's list of self-tested decorations and be recorded in a list of banned decorations appended to the film supplier's certificate.

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<sup>4</sup> See [Appendix II-2](#)





- The film supplier shall have banned decorations tested again as soon as possible after receiving notification. Banned decorations subject to repeat testing shall be considered suspended.

**TABLE 2: PROCEDURE FOR RENEWING A FILM SUPPLIER'S QUALIDECO LICENCE**

INSPECTION	INSPECTION RESULT	ACTIONS	REPETITION OF INSPECTION	INSPECTION RESULT	ACTIONS
	SATISFACTORY	▶ LABORATORY TESTS			
UNSATISFACTORY		▶ REPEAT INSPECTION		UNSATISFACTORY	LICENCE WITHDRAWN

  

LABORATORY TESTS	LABORATORY TEST RESULTS	ACTIONS	REPETITION OF LABORATORY TESTS	LABORATORY TEST RESULTS	ACTIONS
	BOTH DECORATIONS SATISFACTORY	LICENCE RENEWED ▶ FLORIDA TEST			
1 DECORATION OK 1 DECORATION NOT OK	▶ REPEAT LABORATORY TESTS ON THE DECORATION THAT FAILED <sup>(1)</sup>		UNSATISFACTORY	DECORATION BANNED <sup>(2)</sup>	
BOTH DECORATIONS UNSATISFACTORY	▶ REPEAT LABORATORY TESTS ON BOTH DECORATIONS <sup>(1)</sup>		BOTH DECORATIONS SATISFACTORY	▶ FLORIDA TEST	
			1 DECORATION SATISFACTORY	1 DECORATION BANNED <sup>(2)</sup>	
			1 DECORATION UNSATISFACTORY	▶ REPEAT INSPECTION	

  

FLORIDA TEST	FLORIDA TEST RESULTS	FINAL ASSESSMENT
	BOTH DECORATIONS SATISFACTORY	LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED BOTH DECORATIONS APPROVED
1 DECORATION SATISFACTORY	LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED SATISFACTORY DECORATION APPROVED	
1 DECORATION UNSATISFACTORY	LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED 1 DECORATION BANNED <sup>(2)</sup>	
BOTH DECORATIONS UNSATISFACTORY	LICENCE RENEWED - DECORATION SYSTEM APPROVAL RENEWED 2 DECORATIONS BANNED <sup>(2)</sup>	

(1) After receiving notification of the unsatisfactory results, the supplier shall submit a new film sample, with the same reference code as the material used for preparing the unsatisfactory decoration(s). The laboratory shall then use this sample to prepare new decorated samples for repeating the tests.

(2) Every banned decoration shall be recorded in a list of banned decorations appended to the film supplier's certificate. The film supplier shall have banned decorations tested again as soon as possible after receiving notification. Banned decorations subject to repeat testing shall be considered suspended.

**3.1.5 Renewing a class 2 decoration approval**

Every year, two decorations selected from the list of the supplier's approved class 2 decorations shall be tested in accordance with [§ 3.1.2](#).

- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn.



- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be recorded in a list of banned decorations appended to the film supplier's certificate.

#### 3.1.6 Approval of a new decoration system

After a film supplier has been granted a licence to use the quality label, new decoration systems shall be approved subject to the following conditions:

1. The film supplier shall submit to the General Licensee (or QUALIDECO in countries where there is no General Licensee) a written application identifying the decoration system(s) (film + powder) to be approved.
2. When the application is registered by QUALIDECO, the film supplier shall send a roll of film for the following **four basic decorations** to a QUALIDECO laboratory:
  - i. WALNUT and OAK to be applied on a brown base
  - ii. PINE and OAK to be applied on a beige base

The names and references (product code) of the powder coating materials used shall be specified.

The film supplier shall comply with the procedure for film coding described in [Appendix II-1](#).

3. Samples of film shall be taken from that part of the roll where the pattern and printing marks appear.
4. A QUALIDECO laboratory shall prepare the samples and perform the following tests:
  - Accelerated weathering test
  - Resistance to humid atmospheres containing sulphur dioxide
  - If the laboratory test results are satisfactory, a natural weathering test shall be carried out in Florida (see [§ 2.5](#)).

#### **CONFORMITY ASSESSMENT**

- If the results of the laboratory tests meet the requirements, the new decoration system(s) shall be added to the licence.
- If the results of one or more laboratory tests do not meet the requirements, the laboratory tests shall be repeated. If the results of the laboratory tests or inspection do not meet the requirements, the applicant shall be informed that the new decoration system(s) cannot be approved for the time being, stating the reasons.
- If one or more basic decoration(s) do not meet the requirements after the Florida test, the decoration system shall be withdrawn from the licence.



**TABLE 3: PROCEDURE FOR GRANTING AN APPROVAL FOR A NEW DECORATION SYSTEM TO A FILM SUPPLIER**

LABORATORY TESTS	
SATISFACTORY	DECORATION SYSTEM APPROVED <sup>(1)</sup> ▶ FLORIDA TEST
UNSATISFACTORY	DECORATION SYSTEM NOT APPROVED
FLORIDA TEST RESULTS	
ALL BASIC DECORATIONS SATISFACTORY	DECORATION SYSTEM APPROVAL CONFIRMED
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	DECORATION SYSTEM WITHDRAWN FROM THE LICENCE <sup>(2)</sup>

(1) The new decoration system shall be added to the licence.

(2) If only one decoration system is covered by the certification, the film supplier’s licence itself shall be cancelled.

**3.1.7 Withdrawal of a decoration system approval**

The approval of a decoration system (base coating + film) shall be withdrawn if

- one or more basic decorations do not meet the requirements after the Florida test
- as soon as four decorations are banned.

**3.1.8 Withdrawal of a class 2 decoration approval**

Every decoration that does not meet the requirements after two consecutive unsatisfactory laboratory test results or after the natural weathering test shall have its approval withdrawn and be published on the website in a list together with the film supplier’s certificate.

**3.1.9 Withdrawal of a film supplier’s licence**

A film supplier’s licence shall be cancelled if two consecutive inspections are unsatisfactory.

A film supplier’s licence covering only one decoration system shall also be cancelled if the approval of this decoration system has to be withdrawn as stipulated in [§ 3.1.7](#).

**3.2. Licensing of powder suppliers**

**3.2.1 Work specifications for powder suppliers (REQUIREMENTS)**

**3.2.1.1 Traceability**

The powder supplier shall have a procedure for monitoring and documenting all manufacturing steps in order to ensure traceability in the production chain. The results of these measures shall be entered in some record (register) readily accessible to the inspector.



#### 3.2.1.2 Laboratory and in-house control

The powder supplier shall have laboratory facilities that are separate from the production facilities. This laboratory shall have all the apparatus and chemicals necessary for testing the manufacturing process and decorated products.

It shall at least be equipped with the following apparatus and reference material:

- ◆ a specular glossmeter
- ◆ an instrument for measuring coating thickness
- ◆ apparatus for the mechanical tests
- ◆ a recorder for stoving temperature and time with four different measuring points
- ◆ apparatus for testing accelerated weathering resistance and for measuring colour change and gloss retention
- ◆ an application booth
- ◆ transfer equipment
- ◆ a grey scale reference (ISO 105-A02)

Each piece of apparatus shall have a data sheet showing the apparatus identification number and calibration checks.

The powder supplier shall use the following procedure to monitor its manufacturing process and test its coated and decorated products:

- Each production lot shall be tested at least once, and a coated panel shall be prepared to check the visual appearance (gloss and colour) and mechanical properties every 100 to 300 kg depending on the lot size. The results shall be recorded in a register.
- In its laboratory, the powder supplier shall carry out an accelerated weathering test at least once a year on eight different approved decorations. The record of the results obtained shall be shown to the QUALIDECO inspector.
- The powder supplier shall provide the decorator with a **system data sheet** for the decoration approved for exterior applications (in particular indicating minimum and maximum curing temperatures and times and the reference to the film and powder codes). A copy shall be available to the inspector during his visit.
- The powder supplier shall test every single new decoration in its laboratory and shall include every satisfactory decoration in a list of self-tested decorations which shall be shown to the QUALIDECO inspector upon request.

#### 3.2.2 Granting a licence to a powder supplier

A licence shall be granted subject to the following conditions:

1. The powder supplier shall submit to the General Licensee (or QUALIDECO in countries where there is no General Licensee) a written application identifying the decoration system(s) (powder + film) to be approved.
2. The plant shall have a laboratory equipped with the minimum apparatus (see [§ 3.2.1.2](#)).
3. The basic colours to be tested are BEIGE and BROWN. The names and references (product code) of the powder coating materials used shall be specified. The film reference shall comply with the procedure for film coding described in [Appendix II-1](#).
4. If the application is accepted by the General Licensee (or QUALIDECO in countries where there is no General Licensee), a QUALIDECO laboratory shall ask the film



supplier to send a roll of film for the following **four basic decorations**:

- WALNUT and OAK to be applied on a brown base
  - PINE and OAK to be applied on a beige base.
5. Samples of film shall be taken from that part of the roll where the pattern and printing marks appear.
6. **A QUALIDECO laboratory shall apply the powder coating and the film and perform the following tests:**
- Accelerated weathering test (see [§ 2.4.](#))
  - Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3.](#))
  - If the laboratory test results are satisfactory, a natural weathering test shall be carried out in Florida (see [§ 2.5.](#)).
7. An inspection of the powder supplier’s facility shall be carried out to check that its in-house control meets the requirements specified in [§ 3.2.1.2.](#)

**CONFORMITY ASSESSMENT**

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below:

- If the results of the inspection and laboratory tests meet the requirements, a licence to use the QUALIDECO quality label shall be granted for the decoration systems tested, which shall be considered approved.
- If the results of the inspection and laboratory tests do not meet the requirements, the applicant shall be informed that the licence to use the quality label cannot be granted for the time being, stating the reasons. A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.

After a licence has been granted:

- If the results of the Florida test are satisfactory for all the basic decorations tested, the grant of the licence shall be confirmed for the decoration system(s) tested.
- If one or more basic decoration(s) do not meet the requirements after the Florida test, the licence shall be confirmed, but the decoration system approval shall be withdrawn. If only one decoration system is covered by the certification and fails, the licence itself shall be cancelled.

**TABLE 4: PROCEDURE FOR GRANTING A LICENCE TO A POWDER SUPPLIER**

INSPECTION RESULT	ACTIONS			
SATISFACTORY	▶ LABORATORY TESTS	TEST RESULTS SATISFACTORY	LICENCE GRANTED for the decoration system(s) tested	▶ FLORIDA TEST
		TEST RESULTS UNSATISFACTORY	LICENCE NOT GRANTED <sup>(1)</sup>	
UNSATISFACTORY	LICENCE NOT GRANTED <sup>(1)</sup>			
FLORIDA TEST RESULTS		FINAL ASSESSMENT		
ALL DECORATIONS SATISFACTORY		LICENCE CONFIRMED – DECORATION SYSTEM APPROVAL CONFIRMED		
1 OR MORE DECORATION(S) UNSATISFACTORY		LICENCE CONFIRMED – DECORATION SYSTEM APPROVAL WITHDRAWN <sup>(2)</sup>		

*(1) A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.*

*(2) If the powder supplier has only one decoration system approved, the PS-licence itself shall be cancelled.*



#### 3.2.3 Approval of class 2 decorations

After a powder supplier has been granted a licence to use the quality label, class 2 decorations shall be approved subject to the following conditions:

- a) The powder supplier shall submit to a QUALIDECO laboratory a written application identifying the decoration(s) to be tested (reference codes of both the film and the base coating). The film supplier shall be notified of this written application.
- b) All data pertaining to the named decoration shall be available to allow correct application of the powder and film:
  - Designation
  - Decoration reference code
  - QUALICOAT approval and reference code for powder coating
  - Film reference complying with the procedure for film coding described in [Appendix II-1](#)
  - Technical data sheets for the film and powder coating
- c) A QUALIDECO laboratory shall perform the tests prescribed in [§ 3.2.2](#).
- d) An approval shall be granted for every single decoration if all the laboratory tests are satisfactory. A list of approved class 2 decorations shall be appended to the powder supplier's certificate.
- g) If one or more tests are unsatisfactory, the laboratory shall inform both the powder supplier and the film supplier of the unsatisfactory results.
- h) The approval shall be confirmed if the result of the natural weathering test (Florida exposure) is satisfactory.

#### 3.2.4 Renewing a powder supplier's licence

After a powder supplier has been granted a licence to use the quality label, its plant shall be inspected every three years.

The routine inspection shall include the following aspects:

- a) **LABORATORY EQUIPMENT** in accordance with [§ 3.2.1.2](#)
- b) **DECORATED SAMPLES** tested during in-house control
- c) **IN-HOUSE CONTROL AND REGISTERS**
- d) **SAMPLING** – Two different decorations from the list of self-tested decorations<sup>5</sup> shall be selected by the inspector for testing.

#### CONFORMITY ASSESSMENT

The inspector shall submit the inspection report to the General Licensee or QUALIDECO for evaluation.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below (*also see [Table 5](#)*):

- If the results of the inspection (including laboratory test results) meet the requirements, authorisation to use the QUALIDECO quality label shall continue. Once tested satisfactorily in a QUALIDECO laboratory, these decorations shall become QUALIDECO approved decorations.

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<sup>5</sup> See [Appendix II-2](#).



- If the results of the inspection do not meet the requirements, another inspection shall be carried out within one month (allowing for holiday periods and non-working days) after the powder supplier has received notification of an unsatisfactory result from the General Licensee and/or QUALIDECO. In the meantime, the licensee shall rectify nonconformities and inform the General Licensee or QUALIDECO immediately. If the second inspection again produces unsatisfactory results, the licence to use the quality label shall be withdrawn immediately.
- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn and the inspection shall be repeated.
- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be removed from the supplier’s list of self-tested decorations and be recorded in a list of banned decorations appended to the powder supplier’s certificate.
- The powder supplier shall have banned decorations tested again as soon as possible after receiving notification. Banned decorations subject to repeat testing shall be considered suspended.

**TABLE 5: PROCEDURE FOR RENEWING A POWDER SUPPLIER’S QUALIDECO LICENCE**

INSPECTION	INSPECTION RESULT	ACTIONS	REPETITION OF INSPECTION	REPETITION OF INSPECTION	
	SATISFACTORY	▶ LABORATORY TESTS		SATISFACTORY	▶ LABORATORY TESTS
	UNSATISFACTORY	▶ REPEAT INSPECTION		UNSATISFACTORY	LICENCE WITHDRAWN

  

LABORATORY TESTS	LABORATORY TEST RESULTS	ACTIONS	REPETITION OF LABORATORY TESTS	REPETITION OF LABORATORY TESTS	
	BOTH DECORATIONS SATISFACTORY	LICENCE RENEWED ▶ FLORIDA TEST		SATISFACTORY	▶ FLORIDA TEST
	1 DECORATION SATISFACTORY <th>▶ REPEAT LABORATORY TESTS ON THE DECORATION THAT FAILED <sup>(1)</sup></th> <td></td> <td>UNSATISFACTORY</td> <td>DECORATION BANNED <sup>(2)</sup></td>	▶ REPEAT LABORATORY TESTS ON THE DECORATION THAT FAILED <sup>(1)</sup>		UNSATISFACTORY	DECORATION BANNED <sup>(2)</sup>
	1 DECORATION UNSATISFACTORY	▶ REPEAT LABORATORY TESTS ON BOTH DECORATIONS <sup>(1)</sup>		BOTH DECORATIONS SATISFACTORY <th>▶ FLORIDA TEST</th>	▶ FLORIDA TEST
	BOTH DECORATIONS UNSATISFACTORY	▶ REPEAT LABORATORY TESTS ON BOTH DECORATIONS <sup>(1)</sup>		1 DECORATION SATISFACTORY	▶ FLORIDA TEST
				1 DECORATION UNSATISFACTORY	1 DECORATION BANNED <sup>(2)</sup>
				BOTH DECORATIONS UNSATISFACTORY	▶ REPEAT INSPECTION

  

FLORIDA TEST	FLORIDA TEST RESULTS		FINAL ASSESSMENT	
	BOTH DECORATIONS SATISFACTORY		LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED BOTH DECORATIONS APPROVED	
	1 DECORATION SATISFACTORY		LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED SATISFACTORY DECORATION APPROVED	
	1 DECORATION UNSATISFACTORY		LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED 1 DECORATION BANNED <sup>(2)</sup>	
BOTH DECORATIONS UNSATISFACTORY		LICENCE RENEWED – DECORATION SYSTEM APPROVAL RENEWED 2 DECORATIONS BANNED <sup>(2)</sup>		



- *After receiving notification of the unsatisfactory results, the supplier shall submit a new powder sample, with the same reference code as the material used for preparing the unsatisfactory decoration(s). The laboratory shall then use this sample to prepare new decorated samples for repeating the tests.*
- *Every banned decoration shall be recorded in a list of banned decorations appended to the powder supplier's certificate. The powder supplier shall have banned decorations tested again as soon as possible after receiving notification. Banned decorations subject to repeat testing shall be considered suspended.*

#### 3.2.5 Renewing a class 2 decoration approval

Every year, two decorations selected from the list of the supplier's approved class 2 decorations shall be tested in accordance with [§ 3.2.2](#).

- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn.
- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be recorded in a list of banned decorations appended to the powder supplier's certificate.

#### 3.2.6 Approval of a new decoration system

After a powder supplier has been granted a licence to use the quality label, new decoration systems shall be approved subject to the following conditions:

1. The powder supplier shall submit to the General Licensee (or QUALIDECO in countries where there is no General Licensee) a written application identifying the decoration system(s) (film + powder) to be approved.
2. The basic colours to be tested are:
  - BEIGE with a specific product code
  - BROWN with a specific product code
3. For the approval of a decoration system, a QUALIDECO laboratory shall apply the four basic decorations, WALNUT and DARK OAK on a brown base and PINE and LIGHT OAK on a beige base, for every film supplier chosen by the powder supplier.

The following tests shall be performed:

- Accelerated weathering test (see [§ 2.4.](#))
- Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3.](#))
- If the laboratory test results are satisfactory, a natural weathering test shall be carried out in Florida (see [§ 2.5.](#)).

#### **CONFORMITY ASSESSMENT**

- If the results of the laboratory tests meet the requirements, the new decoration system(s) shall be added to the licence.
- If the results of one or more laboratory tests do not meet the requirements, the laboratory tests shall be repeated. If the results of the laboratory tests or inspection





do not meet the requirements, the applicant shall be informed that the new decoration system(s) cannot be approved for the time being, stating the reasons.

- If one or more basic decoration(s) do not meet the requirements after the Florida test, the decoration system shall be withdrawn from the licence.

**TABLE 6: PROCEDURE FOR GRANTING AN APPROVAL FOR A NEW DECORATION SYSTEM TO A POWDER SUPPLIER**

LABORATORY TESTS		
SATISFACTORY	DECORATION SYSTEM APPROVED <sup>(1)</sup>	▶ FLORIDA TEST
UNSATISFACTORY	DECORATION SYSTEM NOT APPROVED	

FLORIDA TEST RESULTS	FINAL ASSESSMENT
ALL BASIC DECORATIONS SATISFACTORY	DECORATION SYSTEM APPROVAL CONFIRMED
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	DECORATION SYSTEM WITHDRAWN FROM THE LICENCE <sup>(2)</sup>

*(1) The new decoration system shall be added to the licence.*

*(2) If only one decoration system is covered by the certification, the PS-licence itself shall be cancelled.*

### 3.2.7 Withdrawal of a decoration system approval

The approval of a decoration system (base coating + film) shall be withdrawn if

- one or more basic decoration(s) do not meet the requirements after the Florida test
- as soon as four decorations are banned.

### 3.2.8 Withdrawal of a class 2 decoration approval

Every decoration that does not meet the requirements after two consecutive unsatisfactory laboratory test results or after the natural weathering test shall have its approval withdrawn and be published on the QUALIDECO website in a list together with the powder supplier’s certificate.

### 3.2.9 Withdrawal of a powder supplier’s licence

A powder supplier’s licence shall be cancelled if two consecutive inspections are unsatisfactory.

A powder supplier’s licence covering only one decoration system shall also be cancelled if the approval of this decoration system has to be withdrawn as stipulated in [§ 3.2.7](#).



# **Chapter 4**

## **LICENSING OF DECORATORS FOR SUBLIMATION TECHNOLOGY**



## **4. LICENSING OF DECORATORS FOR SUBLIMATION TECHNOLOGY**

Decorations using sublimation technology are obtained by transferring an image from a support (that can be paper or plastic film) to a coated surface with a special process using temperature and/or pressure and/or under vacuum.

The decorators are responsible for checking that the decorations they use are approved by QUALIDECO or included in their suppliers' lists of self-tested decorations as described in [Appendix II](#).

- **Class 1:** The decorator shall only use decorations that are approved by QUALIDECO or are included in the suppliers' lists of self-tested decorations as described in [Appendix II](#).
- **Class 2:** The decorator use shall only decorations approved in accordance with [§ 3.1.3](#) and [§ 3.2.3](#).

### **4.1. Work specifications for decorators using sublimation technology (REQUIREMENTS)**

#### **4.1.1 Sublimation**

To produce decorated products, the decorator shall have a sublimation process that operates with a system to check the metal temperature, under the conditions prescribed by the suppliers in the technical data sheets.

#### **4.1.2 Laboratory**

The decorator shall at least be equipped with the following apparatus:

- ◆ specular glossmeter
- ◆ instrument for measuring coating thickness
- ◆ equipment to check metal temperature (for instance thermo labels or a temperature recorder).

Each piece of apparatus shall have a data sheet showing the apparatus identification number and calibration checks.

#### **4.1.3 In-house control**

Traceability of all raw materials used for the decoration process is a requirement. The decorator shall ensure unique identification of the decorated products and maintain records.

The decorator shall monitor the production processes and inspect the decorated products as follows:

- **INCOMING MATERIALS**

The decorator shall keep a register showing all data relating to the material received and to be decorated (date, coating applicator's reference, customer, QUALICOAT approval number of base coating, powder coating reference code, film supplier, decoration designation, film reference code).<sup>6</sup>

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<sup>6</sup> See Appendix I – Example of in-house control checklists for decorators.



The coated material shall be delivered by the coating applicator to the decorator with an applicator certificate (for example a copy of the in-house control records relating to the lot). This certificate shall be archived by the decorator.

The maximum time allowed between coating and decoration is two weeks. During this period, the coated material shall be protected from dust and all kinds of contamination.

• **COATED PRODUCTS**

a) **Gloss (ISO 2813)**

Gloss values shall be provided by the coating applicator for every lot of coated products (one lot represents a customer's complete order in one colour or that part of the order which is in the plant).

If the gloss cannot be measured with apparatus, a visual assessment shall be performed.

The results of these analyses shall be entered in some record (register) readily accessible to the inspector, showing the nominal values and maximum values not to be exceeded.

b) **Coating thickness (ISO 2360)**

The coating thickness measurements shall be provided by the coating applicator on at least as many samples as specified below:

Lot size	Number of samples (random selection)	Acceptance limit for rejected samples
1 – 10	All	0
11 – 200	10	1
201 – 300	15	1
301 – 500	20	2
501 – 800	30	3
801 – 1,300	40	3
1,301 – 3,200	55	4
3,201 – 8,000	75	6
8,001 – 22,000	115	8
22,001 – 110,000	150	11

The results of these measurements (minimum and maximum values) shall be entered and retained on some record readily accessible to the inspector.

• **DECORATED PRODUCTS**

**Appearance**

Appearance shall be evaluated visually on significant surfaces of the decorated products by comparison with a reference sample or as agreed with the customer.

The **significant surface** shall be defined by the customer and is that part of the total surface that is essential to the appearance and serviceability of the item. Edges, deep recesses and secondary surfaces are not included in the significant surface.

The coating on the significant surface shall not have any scratches through to the base metal. When the coating on the significant surface is viewed at an oblique angle of about 60° to the upper surface, none of the defects listed below shall be visible from a distance of three metres: excessive roughness, runs, blisters, inclusions, craters, dull spots, pinholes, pits, scratches or any other unacceptable flaws.

When viewed on-site, these criteria shall be fulfilled as follows:



- for parts used outdoors: viewed at a distance of 5 m
- for parts used indoors: viewed at a distance of 3 m

#### • **CONDITIONS FOR CURING POWDER COATING**

The curing conditions of the powder coating shall be monitored to ensure compliance with the powder supplier's data sheet by measuring the temperature according to the QUALICOAT Specifications for in-house control.

#### • **SUBLIMATION TEMPERATURE CONDITIONS**

The sublimation temperature conditions shall be monitored to ensure compliance with the film supplier's data sheet by measuring the temperature at least once a day on one point of the section surface and at least once a week at three different points in the oven to ensure uniform sublimation.

## 4.2. Testing and samples required for granting a licence

An inspection of the decorator's plant shall be carried out and laboratory tests shall be performed as follows to ensure that the decorations meet the requirements.

### Class 1

Samples of two decorations selected from the suppliers' lists of self-tested decorations shall be taken from production by the inspector, to be tested in a QUALIDECO laboratory.

### Class 2

Samples of two decorations selected from the suppliers' lists of class 2 decorations approved in accordance with [§ 3.1.3](#) and [§ 3.2.3](#) shall be taken from production by the inspector, to be tested in a QUALIDECO laboratory.

### 4.2.1 Inspection

The inspection shall include the following aspects:

#### a) **SUBLIMATION PROCESS**

As specified in [§ 4.1.1](#) and [§ 4.1.3](#).

#### b) **LABORATORY EQUIPMENT**

As specified in [§ 4.1.2](#) to ensure that the equipment is available and functional.

#### c) **DECORATED PRODUCTS**

The inspector shall perform the following tests on the decorated parts using his own equipment:

- Appearance
- Gloss (see [§ 2.1.](#))
- Coating thickness (see [§ 2.4.](#)).

#### d) **IN-HOUSE CONTROL AND REGISTERS**

The inspector shall check that in-house control has been carried out in accordance with [§ 4.1.3](#) and that registers are correctly maintained.



**4.2.2 Tests**

- Gloss (see [§ 2.1.](#))
- Coating thickness (see [§ 2.2.](#))
- Accelerated weathering test (see [§ 2.4.](#))
- Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3.](#))
- Natural weathering test in Florida, for class 2 decorations only (see [§ 2.5.](#)).

**4.2.3 Conformity assessment for granting a licence**

The inspector shall submit the inspection report to the General Licensee.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below:

- If the results of the inspection and laboratory tests meet the requirements, a licence to use the QUALIDECO quality label shall be granted to the decorator.
- If the results of the inspection or laboratory tests do not meet the requirements, the applicant shall be informed that the licence to use the quality label cannot be granted for the time being, stating the reasons. A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.

**TABLE 7: PROCEDURE FOR GRANTING A LICENCE TO A DECORATOR**

INSPECTION RESULT	ACTIONS		
SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>	TEST RESULTS SATISFACTORY	LICENCE GRANTED
		TEST RESULTS UNSATISFACTORY	LICENCE NOT GRANTED <sup>(2)</sup>
UNSATISFACTORY	LICENCE NOT GRANTED <sup>(2)</sup>		

(1) Two decorations selected by the inspector during his visit shall be tested in accordance with [§ 4.2.2.](#)

(2) A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.

**4.3. Renewing a decorator’s licence for sublimation technology**

The renewal of a QUALIDECO licence is based on the inspection results and the results of the tests carried out on decorations selected by the inspectors.

**4.3.1 Inspection**

After a plant has been granted a QUALIDECO licence, it shall be inspected once a year (preferably in the first half of the year) in accordance with [§ 4.2.1.](#)

**Class 1**

During the inspection, the inspector shall check production and select samples of two decorations from the suppliers’ lists of self-tested decorations in sufficient number and size to carry out the laboratory tests.

The inspectors shall use the self-tested decoration lists during their visits and check whether any decoration used by a decorator is not included in the lists.



If the inspector finds a decoration that is neither in the list of approved decorations nor in a list of self-tested decorations, he shall ask the decorator to contact his supplier. If the supplier confirms that the decoration has already been tested, the list of self-tested decorations shall be updated by the supplier within two weeks.

If no evidence of such self-testing (dated report and test panels) can be provided to the inspector by this deadline, the inspection of the decorator's plant shall be considered unsatisfactory.

#### **Class 2**

During the inspection, the inspector shall check production and select samples of two decorations from the decorator's list of QUALIDECO approved decorations in sufficient number and size to carry out the laboratory tests and the Florida test.

Marketing materials shall also be examined to check that the QUALIDECO licence is used for approved decorations only.

#### **4.3.2 Tests**

The tests are the same as for granting a QUALIDECO licence (see § 4.2.2).

#### **4.3.3 Conformity assessment for renewing a licence**

The inspector shall submit the inspection report to the General Licensee or QUALIDECO for evaluation.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below:

- If the results of the inspection are satisfactory and the laboratory tests on every decoration meet the requirements, authorisation to use the QUALIDECO quality label shall continue.
- If the results of the inspection are satisfactory, but the laboratory tests on one or more decoration(s) do not meet the requirements, the decorator shall ask the powder and film suppliers to provide a new powder coating sample and a new film sample respectively, with the same reference codes as the materials used for preparing the unsatisfactory decoration(s), in order to prepare new decorated samples for repeating the laboratory tests within one month.
- If the results of all the repeat laboratory tests meet the requirements, authorisation to use the QUALIDECO label shall continue.
- If the results of these repeat laboratory tests are again unsatisfactory, the decorator shall no longer be allowed to use the decoration(s) that failed, but the licence shall be renewed. In addition, the decoration(s) that failed shall be recorded in a list of banned decorations appended to the decorator's certificate.



**TABLE 8: PROCEDURE FOR RENEWING A DECORATOR'S LICENCE**

INSPECTION	INSPECTION RESULT	ACTIONS	REPETITION OF INSPECTION	SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>
	SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>		UNSATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>

LABORATORY TESTS	LABORATORY TEST RESULTS	ACTIONS	REPETITION ON DECORATOR'S SAMPLES	FINAL ASSESSMENT		
	LICENCE	DECORATION(S)				
BOTH DECORATIONS SATISFACTORY	NO ACTION			RENEWED	APPROVED/ RENEWED	
• 1 DECORATION SATISFACTORY • 1 DECORATION UNSATISFACTORY	▶ REPEAT LABORATORY TESTS ON THE DECORATION(S) THAT FAILED <sup>(2)</sup>		SATISFACTORY	RENEWED	APPROVED/ RENEWED	
BOTH DECORATIONS UNSATISFACTORY			UNSATISFACTORY	RENEWED	BANNED <sup>(3)</sup>	

**FOR CLASS 2 DECORATIONS:**

FLORIDA TEST	FLORIDA TEST RESULT	DECORATION
	SATISFACTORY	APPROVED
UNSATISFACTORY	BANNED <sup>(3)</sup>	

- (1) During the inspection, the inspector shall check production and select samples in accordance with § 4.3.1.
- (2) After receiving notification of unsatisfactory results, the decorator shall ask the powder and film suppliers to provide a new powder coating sample and a new film sample respectively, with the same reference codes as the materials used for preparing the unsatisfactory decorations, in order to prepare new decorated samples for repeating the laboratory tests within one month.
- (3) Every banned decoration shall be recorded in a list of banned decorations appended to the decorator's certificate.

**4.4. Banned decorations**

Every decoration that is not satisfactory after repetition of the laboratory tests (all classes) or after the Florida test (class 2 decorations) shall be banned and published on the QUALIDECO website in a list appended to the decorator's certificate.

**4.5. Withdrawal of a decorator's licence for sublimation technology**

A licence shall be withdrawn in the following cases:

- after two consecutive unsatisfactory inspections and as soon as four decorations have been banned due to unsatisfactory laboratory test results (both classes) or natural weathering test results (class 2);
- if the decoration plant ceases its sublimation activities;
- if the decoration plant transfers its sublimation activities to another production site.





# **Chapter 5**

## **QUALIDECO APPROVALS FOR POWDER ON POWDER TECHNOLOGY**



## **5. QUALIDECO APPROVALS FOR POWDER ON POWDER TECHNOLOGY**

### **5.1. Basic principles**

- a) The base and top coatings shall be produced by the same manufacturer and approved by QUALICOAT as class 1 or class 2 powder coatings.
- b) The decoration may be produced with the same P-Number or with different P-Numbers.
- c) The curing conditions of the base and top coatings shall be defined by the powder supplier in the technical data sheet.

### **5.2. Granting a P/P approval to a powder supplier**

For a QUALIDECO approval for powder on powder technology to be granted, laboratory tests shall be carried out as prescribed in § 5.2.1 on the following light and dark wood finishes:

- **WALNUT** decoration to check the compatibility of the colours **RAL 8011** (base coat) and **RAL 8017** (top coat).
- **PINE** decoration to check the compatibility of the colours **RAL 8001** (base coat) and **RAL 8014** (top coat).

If a combination of two different P-Numbers is used, the powder coatings shall be applied in a clearly defined sequence (i.e. one P-Number must be defined as the base coat and the other as the top coat).

Unlike class 1 approvals, which shall cover all combinations of colours, class 2 approvals for powder on powder shall apply only to specific combinations of codes for base and top coating.

#### **5.2.1 Tests**

The following tests shall be carried out:

- Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3.](#))
- Intercoating adhesion test (see [§ 2.6.](#))
- Accelerated weathering test (see [§ 2.4.](#))
- Natural weathering test (see [§ 2.5.](#))

#### **5.2.2 Assessment of test results**

The laboratory shall submit the test report to the General Licensee or to QUALIDECO in countries where there is no General Licensee.

The test reports shall be assessed by the General Licensee. Under the supervision of QUALIDECO, the General Licensee shall decide whether or not to grant a P/P approval.

- If the results of the laboratory tests prescribed in [§ 5.2.1](#) meet the requirements, the P/P approval shall be granted.



- If the results of any of the laboratory tests do not meet the requirements, the manufacturer of the organic coating material tested shall be informed that no P/P approval can be granted for the time being, stating the details and reasons.

The approval shall be confirmed if the results of the natural weathering test are satisfactory. Otherwise, the approval shall be withdrawn.

**TABLE 9: PROCEDURE FOR GRANTING AN APPROVAL FOR POWDER ON POWDER TECHNOLOGY**

LABORATORY TESTS		
BOTH BASIC DECORATIONS SATISFACTORY	P/P APPROVAL GRANTED	▶ FLORIDA TEST
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	P/P APPROVAL NOT GRANTED	

  

FLORIDA TEST RESULTS	FINAL ASSESSMENT
ALL BASIC DECORATIONS SATISFACTORY	P/P APPROVAL CONFIRMED
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	P/P APPROVAL WITHDRAWN

**5.2.3 Publication of approvals**

QUALIDECO shall publish a list of all P/P approvals (combinations of the same P-Number or of different P-Numbers). Class 2 approvals shall be clearly identified (references of the base and top coatings).

**5.3. Renewing a P/P approval**

**5.3.1 Tests**

Every year, the powder supplier shall submit powders (base and top coatings) for the tests prescribed in § 5.2.1 to be carried out on two decorations chosen by QUALIDECO.

**5.3.2 Assessment of test results**

The laboratory shall submit the test report to the General Licensee or to QUALIDECO in countries where there is no General Licensee.

The test reports shall be assessed by the General Licensee. Under the supervision of QUALIDECO, the General Licensee shall decide whether or not to renew the approval.

- If the results of the laboratory tests prescribed in § 5.2.1 meet the requirements, the approval shall be renewed.
- If the results of any of the laboratory tests prescribed in § 5.2.1 do not meet the requirements, the manufacturer of the organic coating material tested shall be informed that all of the tests must be repeated within one month.
- If the results of the second series of tests are again unsatisfactory, the approval shall be withdrawn.

The renewal of the approval shall be confirmed if the results of the natural weathering test prescribed in § 5.2.1 are satisfactory. Otherwise, the unsatisfactory decoration(s) shall be



banned (class 1) or the P/P approval withdrawn (class 2).

**TABLE 10: PROCEDURE FOR RENEWING A P/P APPROVAL**

LABORATORY TESTS		APPROVAL RENEWED		▶ FLORIDA TEST
ALL DECORATIONS SATISFACTORY				
1 OR MORE BASIC DECORATIONS UNSATISFACTORY	REPETITION OF TESTS ON FAILED DECORATION(S)	SATISFACTORY		
		UNSATISFACTORY		<b>DECORATION(S) BANNED</b>

FLORIDA TEST		APPROVAL ONFIRMED	
ALL DECORATIONS SATISFACTORY			
1 OR MORE BASIC DECORATIONS UNSATISFACTORY		<b>DECORATION(S) BANNED</b>	

**5.4. Banned P/P decorations**

Every decoration that is not satisfactory after repetition of the laboratory tests or after the Florida test shall be banned and published on the QUALIDECO website in a list of banned decorations.

**5.5. Withdrawal of a P/P approval**

An approval shall be withdrawn by QUALIDECO in the following cases:

**CLASS 1**

- as soon as four decorations have been banned due to unsatisfactory laboratory or natural weathering test results.

**CLASS 2**

- after two consecutive unsatisfactory results in the laboratory tests;
- after an unsatisfactory result in the natural weathering test.

**BOTH CLASSES**

- after cancellation of one or more QUALICOAT approval(s) (P-Number) related to the QUALIDECO P/P approval.



# **Chapter 6**

## **LICENSING OF DECORATORS FOR POWDER ON POWDER TECHNOLOGY**



## **6. LICENSING OF DECORATORS FOR POWDER ON POWDER TECHNOLOGY**

This effect is obtained in two steps: the base coating (A) is first applied and partially cured. Then, in a second step, the top coating (B) is applied over the base coat using a special filter and following a specific pattern. The system is then fully cured.

### **Basic principles:**

- The base and top coatings shall be produced by the same manufacturer.
- The curing conditions of the base and top coatings shall be defined by the powder suppliers, and appropriate technical data sheets shall be available in the decorator's plant.
- The base and top coatings shall be approved by QUALICOAT as class 1 or class 2 powder coatings with the same P-Number or with different P-Numbers.
- The extension for powder on powder shall be approved by QUALIDECO in accordance with [§ 5.2](#).
- The base and top coatings shall be applied at the same production site.

### **6.1. Work specifications for decorators using powder on powder technology (REQUIREMENTS)**

#### **6.1.1 Curing**

To produce decorated products, the decorator shall have a curing process that operates with a system to check the metal temperature, under the conditions prescribed by the powder suppliers in their technical data sheets.

#### **6.1.2 Laboratory**

The decorator shall at least be equipped with the following apparatus:

- ◆ specular glossmeter
- ◆ instrument for measuring coating thickness
- ◆ equipment to check metal temperature (temperature recorder).

Each piece of apparatus shall have a data sheet showing the apparatus identification number and calibration data recorded.

#### **6.1.3 In-house control**

Traceability of all raw materials used for the decoration process is a requirement. The decorator shall ensure unique identification of the decorated products and maintain records.

The decorator shall monitor the production processes and inspect the decorated products as follows:



- **Incoming materials**

The decorator shall keep a register showing all data relating to the material received and to be decorated (date, lot, coating applicator, coating applicator’s licence number, powder supplier, powder approval number, basic colour). An example is shown in Appendix 1.

- **Decorated products**

- a) **Gloss (ISO 2813)**

The gloss shall be measured for every lot of decorated products (one lot represents a customer’s complete order in one colour or that part of the order which is in the plant).

If the gloss cannot be measured with apparatus, a visual assessment shall be performed by comparison with reference samples agreed with the customer.

The results of these analyses shall be entered in some record (register) readily accessible to the inspector, showing the nominal values and maximum values not to be exceeded.

- b) **Coating thickness (ISO 2360)**

The coating thickness shall be measured on at least as many samples as specified below:

Lot size	Number of samples (random selection)	Acceptance limit for rejected samples
1 – 10	All	0
11 – 200	10	1
201 – 300	15	1
301 – 500	20	2
501 – 800	30	3
801 – 1,300	40	3
1,301 – 3,200	55	4
3,201 – 8,000	75	6
8,001 – 22,000	115	8
22,001 – 110,000	150	11

The results of these measurements (minimum and maximum values) shall be entered and retained on some record readily accessible to the inspector.

- **Curing conditions**

The curing conditions of the powder coating shall be monitored to ensure compliance with the powder supplier’s data sheet by measuring the temperature according to the QUALICOAT Specifications for in-house control.

## **6.2. Granting a QUALIDECO licence to a decorator for powder on powder technology**

### **6.2.1 Testing and samples required for granting a licence**

Provided that the company fulfils all the preliminary conditions and a written application has been submitted to the General Licensee (or QUALIDECO in countries where there is no General Licensee), an inspection of the decorator’s plant shall be carried out and laboratory tests shall be performed as follows to ensure that the decorations meet the requirements.



**a) LABORATORY EQUIPMENT**

**b) DECORATED PRODUCTS**

The inspectors shall perform the following tests on the decorated parts using their own equipment:

- Appearance
- Gloss
- Coating thickness.

**c) IN-HOUSE CONTROL AND REGISTERS**

The inspector shall check that in-house control has been carried out in accordance with [§ 4.13](#) and that registers are correctly maintained.

**6.2.2 Tests**

The following tests shall be carried out on samples of two decorations per class taken by the inspector from a production lot for exterior architectural applications. Corrosion tests shall be performed on single samples:

- Resistance to humid atmospheres containing sulphur dioxide (see [§ 2.3.](#))
- Intercoating adhesion test (see [§ 2.6.](#))
- Accelerated weathering test (see [§ 2.4.](#))
- Natural weathering test (see [§ 2.5.](#)): for class 2 decorations only.

**6.2.3 Conformity assessment for granting a licence**

The inspector shall submit the inspection report to the General Licensee.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below:

- If the results of the inspection and laboratory tests meet the requirements, a licence to use the QUALIDECO quality label shall be granted to the decorator.
- If the results of the inspection or laboratory tests do not meet the requirements, the applicant shall be informed that the licence to use the quality label cannot be granted for the time being, stating reasons. A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.

**TABLE 11: PROCEDURE FOR GRANTING A QUALIDECO LICENCE TO A DECORATOR (POWDER ON POWDER, CLASS 1)**

INSPECTION RESULT	ACTIONS		
SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>	TEST RESULTS SATISFACTORY	LICENCE GRANTED
		TEST RESULTS UNSATISFACTORY	LICENCE NOT GRANTED <sup>(2)</sup>
UNSATISFACTORY	LICENCE NOT GRANTED <sup>(2)</sup>		

(1) Two decorated samples selected by the inspector during his visit shall be tested in accordance with § 6.2.2.

(2) A new application may be made only when the company has given notification that it has rectified the deficiencies recorded.





#### 6.2.4 Approval of class 2 decorations

After a decoration plant has been granted a licence to use the quality label for powder on powder technology, class 2 decorations clearly identified by specific base and top coating codes shall be approved as class 2 if all the results of the laboratory tests prescribed in § [6.2.2](#) are satisfactory.

The list of approved class 2 decorations shall be published on the QUALIDECO website together with the decorator's certificate.

### 6.3. Renewing a decorator's QUALIDECO licence for powder on powder technology

#### 6.3.1 Inspection

After a plant has been granted a QUALIDECO licence, it shall be inspected once a year. Marketing materials shall also be examined in order to check that the QUALIDECO licence is used for approved decorations only.

#### 6.3.2 Tests

Every year, two decorations per class<sup>7</sup> shall be selected by the inspector from the list of the decorator's approved decorations to be tested in a QUALIDECO laboratory.

The tests are the same as for granting a licence (see § [6.2.2](#)).

#### 6.3.3 Conformity assessment for renewing a licence

The inspector shall submit the inspection report to the General Licensee or QUALIDECO for evaluation.

Under the supervision of QUALIDECO, the General Licensee shall follow the procedure below (also see Tables [12](#) and [13](#)):

- If the results of the inspection and laboratory tests meet the requirements, authorisation to use the QUALIDECO quality label shall continue for every decoration that meets the requirements.
- If the results of the inspection are satisfactory, but the laboratory tests on one or two decorations (class 1 or class 2) do not meet the requirements, the decorator shall be requested to submit the decoration(s) that failed, and the tests shall be repeated.
  - If the results of these repeat laboratory tests meet the requirements, authorisation to use the QUALIDECO label shall continue.
  - If the results of these repeat laboratory tests are again unsatisfactory, the decorator shall no longer be allowed to use the decoration(s) that failed, but the licence shall be renewed. In addition, the decoration(s) that failed shall be recorded in a **list of banned decorations appended to the decorator's certificate**.

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<sup>7</sup> For class 2, just one decoration if only one decoration is approved.



- In the case of class 2 decorations, if the results of the Florida test on one or two decorations do not meet the requirements, the decorator shall no longer be allowed to use the decoration(s) that failed, but the licence shall be renewed. In addition, the decoration(s) that failed shall be recorded in a **list of banned decorations appended to the decorator’s certificate**.

**TABLE 12: PROCEDURE FOR RENEWING A QUALIDECO LICENCE (POWDER ON POWDER, CLASS 1)**

INSPECTION	INSPECTION RESULT	ACTIONS	REPETITION OF INSPECTION	INSPECTION RESULT	ACTIONS
	SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>		SATISFACTORY	▶ LABORATORY TESTS <sup>(1)</sup>
UNSATISFACTORY	▶ REPEAT INSPECTION	UNSATISFACTORY	<b>LICENCE WITHDRAWN</b>		

LABORATORY TESTS	LABORATORY TEST RESULTS	ACTIONS	REPETITION OF LABORATORY TESTS	LABORATORY TEST RESULTS	FINAL ASSESSMENT
	BOTH DECORATIONS SATISFACTORY	NO ACTION		SATISFACTORY	LICENCE RENEWED DECORATIONS APPROVED/RENEWED
<ul style="list-style-type: none"> <li>1 DECORATION SATISFACTORY</li> <li>1 DECORATION UNSATISFACTORY</li> </ul>	▶ REPEAT LABORATORY TESTS ON THE DECORATION THAT FAILED <sup>(2)</sup>	SATISFACTORY	LICENCE RENEWED DECORATION APPROVED/RENEWED		
		UNSATISFACTORY	LICENCE RENEWED <b>DECORATION BANNED</b> <sup>(3)</sup>		
BOTH DECORATIONS UNSATISFACTORY	▶ REPEAT LABORATORY TESTS ON BOTH DECORATIONS <sup>(2)</sup>	BOTH DECORATIONS SATISFACTORY	LICENCE RENEWED DECORATIONS APPROVED/RENEWED		
		1 DECORATION SATISFACTORY	LICENCE RENEWED DECORATION APPROVED/RENEWED		
		1 DECORATION UNSATISFACTORY	LICENCE RENEWED <b>1 DECORATION BANNED</b> <sup>(3)</sup>		
		BOTH DECORATIONS UNSATISFACTORY	LICENCE RENEWED <b>BOTH DECORATIONS BANNED</b> <sup>(3)</sup>		

- (1) Every year, two decorations shall be selected by the inspector during his visit and be tested in a QUALIDECO laboratory.
- (2) After receiving notification of the unsatisfactory results, the decorator shall submit (a) new sample(s) of the decoration(s) that failed so that the laboratory tests can be repeated.
- (3) Every banned decoration shall be recorded in a list of banned decorations appended to the decorator’s certificate.

**TABLE 13: PROCEDURE FOR RENEWING A QUALIDECO LICENCE (POWDER ON POWDER, CLASS 2)**

LABORATORY TESTS	LABORATORY RESULTS	ACTIONS	REPETITION OF LABORATORY TESTS	RESULTS	ACTIONS
	BOTH DECORATIONS SATISFACTORY	FLORIDA TEST		SATISFACTORY	FLORIDA TEST
1 DECORATION SATISFACTORY	FLORIDA TEST	SATISFACTORY	FLORIDA TEST		
		UNSATISFACTORY	<b>1 DECORATION BANNED</b> <sup>(2)</sup>		
1 DECORATION UNSATISFACTORY	REPEAT LABORATORY TESTS ON THE DECORATION THAT FAILED <sup>(1)</sup>	BOTH DECORATIONS SATISFACTORY	FLORIDA TEST		
		1 DECORATION SATISFACTORY	FLORIDA TEST		
BOTH DECORATIONS UNSATISFACTORY	REPEAT LABORATORY TESTS ON BOTH DECORATIONS <sup>(1)</sup>	1 DECORATION UNSATISFACTORY	<b>1 DECORATION BANNED</b> <sup>(2)</sup>		
		BOTH DECORATIONS UNSATISFACTORY	<b>BOTH DECORATIONS BANNED</b> <sup>(2)</sup>		



FLORIDA TEST	FLORIDA TEST RESULTS	FINAL ASSESSMENT
	BOTH DECORATIONS SATISFACTORY	LICENCE RENEWED DECORATIONS APPROVED/RENEWED <sup>(2)</sup>
	1 DECORATION SATISFACTORY	LICENCE RENEWED DECORATION APPROVED/RENEWED <sup>(2)</sup>
	1 DECORATION UNSATISFACTORY	LICENCE RENEWED <b>1 DECORATION BANNED<sup>(2)</sup></b>
	BOTH DECORATIONS UNSATISFACTORY	LICENCE RENEWED <b>BOTH DECORATIONS BANNED<sup>(2)</sup></b>

- (1) After receiving notification of the unsatisfactory results, the decorator shall submit (a) new sample(s) of the decoration(s) that failed so that the laboratory tests can be repeated.
- (2) Every banned decoration shall be recorded in a list of banned decorations appended to the decorator’s certificate.

**6.4. Banned decorations**

Every decoration that is not satisfactory after repetition of the laboratory tests (all classes) or after the Florida test (class 2 decorations) shall be banned and published on the QUALIDECO website in a list appended to the decorator’s certificate.

**6.5. Withdrawal of a decorator’s licence for powder on powder technology**

A licence shall be cancelled after two consecutive unsatisfactory inspections and as soon as four decorations have been banned due to unsatisfactory laboratory test results (both classes) or natural weathering test results (class 2).



# Chapter 7

## LOGO



## 7. LOGO

Authorisation to use the QUALIDECO logo may be granted on condition that the Holder of a QUALIDECO licence (hereinafter referred to as the “Holder”) operates in accordance with the Specifications. This authorisation is governed by a contract.

The grant of a licence entitles the Holder to use the logo for the products specified. The licence may not be transferred.

### 7.1. Register of Holders

QUALICOAT shall keep a register showing the name, address and trade description of each Holder, the date on which the licence was granted to the Holder, the number assigned to each Holder, the approved decorations, the date of withdrawal of the licence and any other information or details which QUALIDECO may deem necessary at any time.

The Holder shall notify QUALICOAT forthwith of any changes in name or address.

### 7.2. Use of the logo by Holders

The logo exists in black and white, in white and blue (PANTONE Reflex Blue CV; RGB: 14-27-141; CMYK: 100-72-0-6) and in blue and silver (PANTONE Silver 877u; RGB: 205-211-215; CMYK: 8-3-3-9).



**DECORATOR  
FILM SUPPLIER  
POWDER SUPPLIER**  
(Licence No. xxxxx)



**DECORATOR  
FILM SUPPLIER  
POWDER SUPPLIER**  
(Licence No. xxxxx)

The Holder may not make any alteration or addition to the logo when using it. In the event that the Holder's own brands or trademarks are used separately on or in connection with his products, these regulations may not be infringed in any manner whatsoever. Holders of a QUALIDECO licence shall at any time provide the General Licensee (GL) with all information required as to the use of the logo.

Whenever making mention of or reference to QUALIDECO, the Holder must systematically indicate its licence number. This shall apply both to the use of the logo and in texts.

Improper use of the QUALIDECO logo may lead to the sanctions stipulated in [§ 7.4](#).

### 7.3. Withdrawal of licences

#### Failure to comply with the Regulations

The GL shall withdraw the licence if the Holder ceases to comply with these regulations and in particular if the Holder is guilty of any improper use of the logo or has failed to pay the annual fee.



In the event of withdrawal of a licence, the Holder shall be given notice in writing by the GL and such notice shall be effective immediately. In such event, all tags, labels, bands, stencils, stamps, wrappers, containers, price lists, business notices, business cards and any other objects in or upon which the logo is affixed shall either be delivered to the GL or, upon the GL's instructions, kept at the disposal of the GL until a new QUALIDECO licence is granted.

#### **Significant changes in a company**

In the case of any significant event in a company (change in shareholders or key personnel, new lines), that company shall notify the GL immediately. The GL shall be authorised to make a supplementary visit in order to ensure that the Holder continues to satisfy all the conditions stipulated in the Specifications.

If the Decorator ceases to trade, all tags, labels, bands, stencils, stamps, wrappers, containers, price lists, business notices, business cards and any other objects in or upon which the logo is affixed shall either be delivered to the GL or, upon the GL's instructions, kept at the disposal of the GL until a new QUALIDECO licence is granted.

#### **Voluntary surrender**

In the event of voluntary surrender of a licence, all tags, labels, bands, stencils, stamps, wrappers, containers, price lists, business notices, business cards and any other objects in or upon which the logo is affixed shall either be delivered to the GL or, upon the GL's instructions, kept at the disposal of the GL until a new QUALIDECO licence is granted.

## **7.4. Sanctions**

In the event of improper use of the QUALIDECO logo or of any behaviour or action that could impair the image of the Quality Label, the following sanctions may be imposed either by the GL or by QUALICOAT in countries without a national association:

1. official statement
2. reprimand
3. withdrawal of the label.

The party concerned shall have the right to appeal first to the GL and then to the QUALICOAT Executive Committee, whose decision shall be final.

## **7.5. Amendments**

The regulations stipulated in Chapter 7 of the QUALIDECO Specifications may be amended if and when necessary. However, the Holder shall be allowed 4 months from the date of publication in which to comply with any such amendment.

## **7.6. Notices**

Any notice required to be given to or by the Holder under these regulations shall be effective if sent by correctly stamped and addressed letter.



# Appendices



## APPENDIX I – Example of in-house control checklists for decorators

### 1. Sublimation technology

Date	Coating applicator's reference	Customer	QUALICOAT approval for base coating	Reference code for powder coating	Film supplier	Decoration designation (name)	Reference code for film	QUALIDECO film code	Process Oven		Product			Notes	
									Day	Week	Before decoration		After decoration		
											Thickness	Gloss	Appearance		

### 2. Powder on powder technology

Date	Coating applicator's reference	Customer	QUALICOAT approval for base coating	QUALICOAT approval for top coating	Decoration designation	Process Oven		Product			Notes				
						Day	Week	Decoration testing							
								Thickness	Gloss	Appearance					





## APPENDIX II – Film coding and list of self-tested class 1 decorations<sup>8</sup>

### 1. Rules for coding films

The purpose of this coding is to uniquely identify each sublimation film with its decoration group/category and the name of the company, for each of its variants.

**It is the film supplier’s responsibility to create the QUALIDECO film code for each and every one of its films used for QUALIDECO decorations.**

The film suppliers shall include these QUALIDECO film codes in their list of self-tested decorations, as described in § 2 of this Appendix.

If a QUALIDECO film code is missing, the powder supplier shall contact the film supplier in order to obtain it.

The coding allows the suppliers’ individual codes to be eliminated and replaced by one common coding system stipulated by QUALIDECO.

#### How to build the QUALIDECO film code?

Film code structure: **D1 (or D2)-XXYY-ZZZ**

**D1** = Decoration class 1

**D2** = Decoration class 2

**XX** = Two capital letters identifying the group/category of decorations (ACRONYM).

**YY** = Two digits identifying the film supplier using the last two digits of its QUALIDECO licence number (FS-YYY).

**ZZZ** = Three digits identifying the variant of the decoration group/category.

#### Example: D1-AK21-122

**D1** = Decoration class 1

**AK** = Oak group/category

**21** = Film supplier with QUALIDECO licence number FS-021

**122** = 122<sup>nd</sup> variant of the OAK decoration group/category

ACRONYM	DECORATION
AC	acacia
AK	oak
AL	alder
AS	ash
BA	bamboo
BE	beech
BR	birch
CH	cherry
CN	chestnut
CR	cork
DU	douglas
EL	elm
IR	iroko
MA	maple
MH	mahogany
NT	nut
LV	olive tree
PN	pine
RT	root wood
TK	teak
ZE	zebrano wood

<sup>8</sup> This Appendix applies to sublimation only.



**2. Use of self-tested class 1 decoration lists by powder and film suppliers**

The powder and film suppliers shall test every single new class 1 decoration in their laboratories in accordance with § 3.1.2.1 or § 3.2.2.1 and shall include every satisfactory decoration in a list of self-tested decorations which shall be shown to the QUALIDECO inspector upon request.

**Objective:**

To provide an overview of all decorations tested by powder and/or film suppliers.

The lists of self-tested decorations shall be accessible to:

- **powder and film suppliers**, who shall update them;
- **laboratories and inspectors**, who shall use them during their inspections for renewing a decorator’s QUALIDECO licence, a supplier’s QUALIDECO licence or a QUALIDECO approval.

**Structure of the self-tested decoration list:**

DECORATION	FILM SUPPLIER	QUALIDECO LICENCE (FS)	SUPPLIER'S FILM CODE	QUALIDECO FILM CODE	POWDER SUPPLIER	QUALIDECO LICENCE (PS)	APPROVAL FOR SUBLIMATION (P-No.)	POWDER COATING CODE (REFERENCE)

**How to fill-in the template?**

- **DECORATION:** name of the decoration.
- **FILM SUPPLIER:** name of the film supplier.
- **QUALIDECO LICENCE (FS):** film supplier’s QUALIDECO licence number (FS-XXX).
- **SUPPLIER'S FILM CODE:** supplier's code for the film used for sublimation.
- **QUALIDECO FILM CODE:** QUALIDECO film code (see the “rules for coding films”).
- **POWDER COMPANY:** name of the powder supplier.
- **QUALIDECO LICENCE:** powder supplier’s QUALIDECO licence number (PS-XXX).
- **APPROVAL FOR SUBLIMATION (P-No.):** QUALICOAT powder coating P-Number.
- **POWDER COATING CODE:** supplier's code for the powder coating used for sublimation.



## **APPENDIX III – Approval of new technologies**

### **1. Scope**

Decorations on coated aluminium can be obtained using different technologies, but technologies other than sublimation technology and powder on powder technology may only be used if previously approved by the QUALIDECO Committee.

It is the responsibility of QUALIDECO to develop a testing programme in order to check the quality of a new decoration product. The testing methods may be the same as for sublimation and powder on powder technology.

### **2. Description of new technology**

Any company interested in having a new technology tested shall send a request to QUALIDECO giving technical explanations and providing information on laboratory test results and experience in the market.

Based on such information, the QUALIDECO Committee shall accept or reject the request, stating the reasons for its decision.

If the request is accepted, a QUALIDECO laboratory shall be asked to perform the tests to qualify the product. Tests other than those prescribed by QUALIDECO may be included in the testing programme if necessary. Outdoor exposure, if required, shall start only if the laboratory test results meet the requirements. The period of exposure shall be defined by QUALIDECO. It is the laboratory's responsibility to prepare a final report including all results.

### **3. Granting an approval/licence**

Based on the results obtained by the laboratory, QUALIDECO shall decide on the procedure to be followed to grant an approval (for the system tested) or a licence (for users of the system). The procedure shall also include the criteria for renewing and withdrawing an approval or licence.



## **APPENDIX IV – Approval of other effect decorations<sup>9</sup>**

### **1. Procedure for granting and renewing other effect decoration approvals for film suppliers**

#### **1.1. Approval of other effect decorations (classes 1 and 2)**

- a) The film supplier shall submit to a QUALIDECO laboratory a written application identifying the decoration(s) to be tested (reference codes of both the film and the base coating). The powder supplier shall be notified of this written application.
- b) All data pertaining to the named decoration (designation), decoration reference code, QUALICOAT approval and reference code for powder coating, and technical data sheets for the film and powder coating shall be available to allow correct application of the powder and film.
- c) A QUALIDECO laboratory shall perform the tests prescribed in § 3 of this Appendix.
- d) An approval for every single decoration shall be granted if all the laboratory tests are satisfactory.
- e) If one or more tests are unsatisfactory, the laboratory shall inform both the film supplier and the powder supplier of the unsatisfactory results.
- f) The approval shall be confirmed if the result of the natural weathering test (Florida exposure) is satisfactory.

#### **1.2. Certificate**

A list of approved other effect decorations shall be appended to the film supplier's certificate.

#### **1.3. Renewing an approval**

Every year, two decorations selected from the list of the supplier's approved class 1 and class 2 other effect decorations shall be tested by a QUALIDECO laboratory in accordance with § 3 of this Appendix.

- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn.
- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be recorded in a list of banned decorations appended to both the film and powder suppliers' certificates.

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<sup>9</sup> This Appendix applies to sublimation only.



#### **1.4. Withdrawal of other effect decoration approvals (classes 1 and 2)**

Every decoration that is not satisfactory after repetition of the laboratory tests or after the natural weathering test shall have its approval withdrawn and be published on the QUALIDECO website in a list together with the film supplier's certificate.

## **2. Procedure for granting and renewing other effect decoration approvals for powder suppliers**

### **2.1. Approval of other effect decorations (classes 1 and 2)**

- a) The powder supplier shall submit to a QUALIDECO laboratory a written application identifying the decoration(s) (reference codes of both the film and the base coating). The film supplier shall be notified of this written application.
- b) All data pertaining to the powder coating reference code, QUALICOAT approval, technical data sheets for the powder coating and film, decoration name (designation) and decoration reference code shall be available to allow correct application of the powder and film.
- c) A QUALIDECO laboratory shall perform the tests prescribed in § 3 of this Appendix.
- d) An approval for every single decoration shall be granted if all the laboratory tests are satisfactory.
- e) If one or more tests are unsatisfactory, the laboratory shall inform both the powder supplier and the film supplier of the unsatisfactory results.
- f) The approval shall be confirmed if the results of the natural weathering test are satisfactory.

### **2.2. Certificate**

A list of approved class 1 or class 2 other effect decorations shall be published on the QUALIDECO website together with the powder supplier's certificate.

### **2.3. Renewing an approval**

Every year, two decorations selected from the list of the supplier's approved class 1 or class 2 other effect decorations shall be tested in accordance with § 3 of this Appendix.

- If the results of the laboratory tests on one decoration do not meet the requirements, a new sample of the decoration that failed shall be prepared in the laboratory for repeating the tests. If the results of these repeat laboratory tests are again unsatisfactory, the approval of the decoration that failed shall be withdrawn.
- If the results of the laboratory tests on both decorations do not meet the requirements, the tests shall be repeated on two new decorated samples prepared in the laboratory. If the results of these repeat laboratory tests are again unsatisfactory for one or both decorations, the approval of the decoration(s) that failed shall be withdrawn.
- If the results of the Florida test do not meet the requirements, the approval of the decoration(s) that failed shall be withdrawn.
- The decoration(s) that failed shall be recorded in a list of banned decorations appended to both the film and powder suppliers' certificates.



**2.4. Withdrawal of class 1 or class 2 other effect decoration approvals**

Every decoration that is not satisfactory after repetition of the laboratory tests or after the natural weathering test shall have its approval withdrawn and be published on the QUALIDECO website in a list together with the powder supplier’s certificate.

**3. Tests**

**a) Accelerated weathering test**

**ISO 16474-2**

**Testing time:**

CLASS 1	CLASS 2
1000 hours	2000 hours, with gloss and colour change measured every 500 hours.

After exposure, the test panels shall be rinsed with demineralised water and checked for:

**Gloss variation:** EN ISO 2813 (60° angle of incidence)

**Colour change:** ΔE CIELAB formula in accordance with ISO 7724/3, measurement including specular reflection.

Three colour measurements shall be made on the test panels before and after the accelerated weathering test.

REQUIREMENTS:

Gloss variation:

- 50% residual gloss for category 1
- 70% residual gloss for categories 2 and 3

Colour change:

- Visual assessment with a minimum acceptable value of 4 on the grey scale
- Instrumental assessment (for information only, not decisive for the final evaluation).

**b) Resistance to humid atmospheres containing sulphur dioxide**

**EN ISO 3231 (0.2 l SO<sub>2</sub> – 24 cycles)**

A cross-cut incision 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 colour change<sup>10</sup> or blistering in excess of 2 (S2) in accordance with ISO 4628-2.

**c) Natural weathering test (for class 2 only)**

**Exposure in Florida in accordance with ISO 2810.**

The test shall start in April. Samples shall be exposed facing 5° south for **3 years with an annual evaluation**. 10 test panels per decoration shall be required (three per year for weathering and one reference panel).

REQUIREMENTS:

For the time being, the acceptable limits are the same as those stipulated for the accelerated weathering test.

<sup>10</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.



**4. Rules for coding films for other effects**

The purpose of this coding is to uniquely identify each sublimation film with its decoration group/category and the name of the company, for each of its variants.

**It is the film supplier’s responsibility to create the QUALIDECO film code for each and every one of its films used for QUALIDECO other effect decorations.**

The film suppliers shall include these codes in their list of self-tested decorations, as described in § 2 of Appendix II.

If a QUALIDECO film code is missing, the powder supplier shall contact the film supplier in order to obtain it.

The coding allows the suppliers’ individual codes to be eliminated and replaced by one common coding system stipulated by QUALIDECO.

**How to build the QUALIDECO film code for other effects?**

Film code structure: **D1 (or D2)-XXYY-ZZZ**

**D1** = Decoration class 1

**D2** = Decoration class 2

**XX** = Two capital letters identifying the group/category of decorations (ACRONYM).

**YY** = Two digits identifying the film supplier using the last two digits of its QUALIDECO licence number (FS-YYY).

**ZZZ** = Three digits identifying the variant of the decoration group/category.

**Example:** D1-ST01-007

D1 = Decoration class 1

ST = Steel group/category

01 = Name of the supplier company identified by the last two digits in the QUALIDECO list of licensed film suppliers

007 = 7<sup>th</sup> variant of the STEEL decoration group/category

ACRONYM	DECORATION
AR	arabesque
BS	brushed
CA	carbon
CE	concrete
FN	fantasy
GR	granite
IY	ivory
JE	jeans
MB	marble
MM	mimetic
OX	oxidised
PY	pyton
RK	stone
RU	rust
SP	spatula
ST	steel
TR	travertine
ZP	zinc-plated

**5. Approval of self-tested other effect decorations**

The powder and film suppliers shall perform the accelerated weathering test in their laboratories on every single new class 1 or class 2 other effect decoration. Provided that the results are satisfactory, these decorations shall be submitted to a QUALIDECO laboratory that will send them to Florida for the natural weathering test.

An approval shall be granted if the results of the Florida test are satisfactory. A list of approved other effect decorations shall be appended to the supplier’s certificate.



## APPENDIX V-1 – Overview of principles and procedures

		SUBLIMATION				POWDER ON POWDER					
		DECORATOR (LICENCE) <a href="#">Chapter 4</a>		FILM SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.1.</a>		POWDER SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.2.</a>		DECORATOR (LICENCE) <a href="#">Chapter 6</a>		POWDER SUPPLIER (APPROVAL) <a href="#">Chapter 5</a>	
		CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECOARATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS
PRINCIPLES		Shall only use decorations that have been successfully tested by a QUALIDECO laboratory and are approved by QUALIDECO for this decorator (list appended to certificate) or are included in the suppliers' lists of self-tested decorations  <a href="#">(Introduction, Chapter 4).</a>	Shall only use decorations approved in accordance with <a href="#">§ 3.1.3</a> and <a href="#">§ 3.2.3.</a>	Shall only use approved materials from licensed powder suppliers <a href="#">(ref. Introduction to Chapter 3).</a>  Shall comply with the procedure for film coding described in <a href="#">Appendix II-1.</a>	Written application identifying the decoration(s) to be tested (reference codes of both the base coating and the film) following the procedure for film coding described in <a href="#">Appendix II-1.</a>  <a href="#">§ 3.1.3</a>	Shall only use approved materials from licensed film suppliers <a href="#">(ref. Introduction to Chapter 3).</a>  Shall comply with the procedure for film coding described in <a href="#">Appendix II-1</a>	Written application identifying the decoration(s) to be tested (reference codes of both the base coating and the film) following the procedure for film coding described in <a href="#">Appendix II-1.</a>	The base and top coatings shall be produced by the same manufacturer and be approved by QUALICOAT as class 1 or class 2 powder coatings with the same P-Number or with different P-Numbers.  The extension for powder on powder shall be approved by QUALIDECO in accordance with <a href="#">§ 5.2.</a> (P/P approval).	Class 2 decorations clearly identified by specific base and top coating codes shall be approved as class 2 if all the results of the tests prescribed in <a href="#">§ 6.2.4</a> are satisfactory.	The base and top coatings shall be produced by the same manufacturer and be approved by QUALICOAT as class 1 or class 2 powder coatings with the same P-Number or with different P-Numbers.  The extension for powder on powder shall be approved by QUALIDECO in accordance with <a href="#">§ 5.2.</a> (P/P approval).	Shall apply only to specific combinations of base and top coating codes.
	LIST OF QDC TESTED DECORATIONS	YES (without QDC film code)	YES	YES	YES	YES	YES	YES	YES	YES	YES



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	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS
LISTS OF SELF-TESTED DECORATIONS			YES		YES					
BANNING OF DECORATIONS	After unsatisfactory repetition of laboratory tests. <a href="#">§ 4.4.</a>	After unsatisfactory repetition of laboratory tests or an unsatisfactory result in the natural weathering test. <a href="#">§ 4.4.</a>	The decoration(s) that fail(s) shall be removed from the supplier's list of self-tested decorations and be recorded in a list of banned decorations appended to the film supplier's certificate. <a href="#">§ 3.1.4</a>	Approval withdrawn after two consecutive unsatisfactory laboratory test results or an unsatisfactory result in the natural weathering test. <a href="#">§ 3.1.5</a>	The decoration(s) that fail(s) shall be removed from the supplier's list of self-tested decorations and be recorded in a list of banned decorations appended to the powder supplier's certificate. <a href="#">§ 3.2.4</a>	Approval withdrawn after two consecutive unsatisfactory laboratory test results or an unsatisfactory result in the natural weathering test. <a href="#">§ 3.2.5</a>	After unsatisfactory repetition of laboratory tests. <a href="#">§ 6.4.</a>	After unsatisfactory repetition of laboratory tests or unsatisfactory Florida test results. <a href="#">§ 6.4.</a>	After unsatisfactory repetition of laboratory tests. <a href="#">§ 5.4.</a>	After unsatisfactory repetition of laboratory tests or unsatisfactory Florida test results. <a href="#">§ 5.4.</a>
LIST OF BANNED DECORATIONS	YES <a href="#">§ 4.4.</a>	YES <a href="#">§ 4.4.</a>	YES <a href="#">§ 3.1.4</a>	YES <a href="#">§ 3.1.8</a>	YES <a href="#">§ 3.2.4</a>	YES <a href="#">§ 3.2.8</a>	YES <a href="#">§ 6.3.3</a>	YES <a href="#">§ 6.3.3</a>	YES <a href="#">§ 5.4.</a>	YES <a href="#">§ 5.4.</a>
WITHDRAWAL OF DECORATION SYSTEMS			If one or more basic decorations fail after the Florida test.  As soon as four decorations are banned. <a href="#">§ 3.1.7</a>		If one or more basic decorations fail after the Florida test.  As soon as four decorations are banned. <a href="#">§ 3.2.7</a>					

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	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS	CLASS 1 DECORATIONS	CLASS 2 DECORATIONS		
WITHDRAWAL OF P/P APPROVALS	X		X		X		X		X		After cancellation of one or more QUALICOAT approval(s) (P-No.) related to the QUALIDECO P/P approval.  As soon as four decorations have been banned due to unsatisfactory laboratory or natural weathering test results.  <a href="#">§ 5.5.</a>	After two consecutive unsatisfactory laboratory test results or an unsatisfactory result in the natural weathering test.  <a href="#">§ 5.5.</a>
WITHDRAWAL OF A LICENCE											After two consecutive unsatisfactory inspections and as soon as four decorations (class 1 and/or class 2) have been banned.  <a href="#">§ 4.5.</a>	After two consecutive unsatisfactory inspections and as soon as four decorations (class 1 and class 2) have been banned  <a href="#">§ 4.5.</a>



## APPENDIX V-2 – Overview of sampling and tests

		SUBLIMATION				POWDER ON POWDER					
		DECORATOR (LICENCE) <a href="#">Chapter 4</a>		FILM SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.1.</a>		POWDER SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.2.</a>		DECORATOR (LICENCE) <a href="#">Chapter 6</a>		POWDER SUPPLIER (APPROVAL) <a href="#">Chapter 5</a>	
		CLASS 1	CLASS 2	CLASS 1	CLASS 2	CLASS 1	CLASS 2 S	CLASS 1	CLASS 2	CLASS 1	CLASS 2
<b>SAMPLING (GRANTS)</b>		Samples of two decorations taken from production and selected by the inspector from the suppliers' lists of self-tested decorations. <a href="#">§ 4.2.</a>	Samples of two decorations taken from production and selected by the inspector from the suppliers' lists of class 2 decorations. <a href="#">§ 4.2.</a>	Four basic decorations: • WALNUT and OAK applied on a brown base • PINE and OAK applied on a beige base.  <a href="#">§ 3.1.2</a>	Single decorations.  <a href="#">§ 3.1.3</a>	Four basic decorations: • WALNUT and OAK applied on a brown base • PINE and OAK applied on a beige base.  <a href="#">§ 3.2.2</a>	Single decorations.  <a href="#">§ 3.2.3</a>	Samples of two decorations taken from production and selected by the inspector from the suppliers' lists of self-tested decorations.  <a href="#">§ 6.2.2</a>	Samples of two decorations taken by the inspector from production.  <a href="#">§ 6.2.2</a>	• WALNUT decoration with RAL 8011 (base coat) and RAL 8017 (top coat). • PINE decoration, with RAL 8001 (base coat) and RAL 8014 (top coat).  <a href="#">§ 5.2.</a>	• WALNUT decoration with RAL 8011 (base coat) and RAL 8017 (top coat). • PINE decoration, with RAL 8001 (base coat) and RAL 8014 (top coat).  <a href="#">§ 5.2.</a>
<b>SAMPLING (RENEWALS)</b>		Samples of two decorations taken from production and selected by the inspector from the suppliers' lists of self-tested decorations.  <a href="#">§ 4.3.1</a>	Samples of two decorations selected from the list of QUALIDECO approved decorations (just one if only one class 2 decoration is approved).  <a href="#">§ 4.3.1</a>	Two different decorations selected by the QUALIDECO laboratories from the list of self-tested decorations to check every decoration system approved.  <a href="#">§ 3.1.4</a>	Two decorations selected from the list of the film supplier's approved class 2 decorations (just one if only one class 2 decoration is approved).  <a href="#">§ 3.1.5</a>	Two different decorations selected by the QUALIDECO laboratories from the list of self-tested decorations to check every decoration system approved.  <a href="#">§ 3.2.4</a>	Two decorations selected from the list of the powder supplier's approved class 2 decorations (just one if only one class 2 decoration is approved).  <a href="#">§ 3.2.5</a>	Samples of two decorations taken from production and selected by the inspector from the list of QUALIDECO approved decorations.  <a href="#">§ 6.3.2</a>	Samples of two decorations taken from production and selected by the inspector from the list of QUALIDECO approved decorations (just one if only one class 2 decoration is approved).  <a href="#">§ 6.3.2</a>	Two decorations chosen by QUALIDECO.  <a href="#">§ 5.3.</a>	Two decorations chosen by QUALIDECO.  <a href="#">§ 5.3.</a>

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	CLASS 1	CLASS 2	CLASS 1	CLASS 2	CLASS 1	CLASS 2 S	CLASS 1	CLASS 2	CLASS 1	CLASS 2
GLOSS EN ISO 2813	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>	<a href="#">§ 2.1.</a>
COATING THICKNESS EN ISO 2360	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>	<a href="#">§ 2.2.</a>
RESISTANCE TO HUMID. ATM. ISO 3231	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>	<a href="#">§ 2.3.</a>
INTER-COATING ADHESION							<a href="#">§ 2.6.</a>	<a href="#">§ 2.6.</a>	<a href="#">§ 2.6.</a>	<a href="#">§ 2.6.</a>

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		CLASS 1	CLASS 2	CLASS 1	CLASS 2	CLASS 1	CLASS 2 S	CLASS 1	CLASS 2	CLASS 1	CLASS 2
ACCELERATED WEATHERING TEST	Testing time	1000 hours <a href="#">§ 2.4.</a>	2000 hours <a href="#">§ 2.4.</a>	1000 hours <a href="#">§ 2.4.</a>	2000 hours <a href="#">§ 2.4.</a>	1000 hours <a href="#">§ 2.4.</a>	2000 hours <a href="#">§ 2.4.</a>	1000 hours <a href="#">§ 2.4.</a>	2000 hours <a href="#">§ 2.4.</a>	1000 hours <a href="#">§ 2.4.</a>	2000 hours <a href="#">§ 2.4.</a>
	Gloss & colour change meas.	After 1000 hours <a href="#">§ 2.4.</a>	Every 500 hours <a href="#">§ 2.4.</a>	After 1000 hours <a href="#">§ 2.4.</a>	Every 500 hours <a href="#">§ 2.4.</a>	After 1000 hours <a href="#">§ 2.4.</a>	Every 500 hours <a href="#">§ 2.4.</a>	After 1000 hours <a href="#">§ 2.4.</a>	Every 500 hours <a href="#">§ 2.4.</a>	After 1000 hours <a href="#">§ 2.4.</a>	Every 500 hours <a href="#">§ 2.4.</a>
	Gloss requirements	After 1000 hours 50% residual gloss for all categories. <a href="#">§ 2.4.</a>	After 2000 hours - 50% residual gloss for category 1 - 70% residual gloss for categories 2 and 3. <a href="#">§ 2.4.</a>	After 1000 hours 50% residual gloss for all categories. <a href="#">§ 2.4.</a>	After 2000 hours - 50% residual gloss for category 1 - 70% residual gloss for categories 2 and 3. <a href="#">§ 2.4.</a>	After 1000 hours 50% residual gloss for all categories. <a href="#">§ 2.4.</a>	After 2000 hours - 50% residual gloss for category 1 - 70% residual gloss for categories 2 and 3. <a href="#">§ 2.4.</a>	After 1000 hours 50% residual gloss for all categories. <a href="#">§ 2.4.</a>	After 2000 hours - 50% residual gloss for category 1 - 70% residual gloss for categories 2 and 3. <a href="#">§ 2.4.</a>	After 1000 hours 50% residual gloss for all categories. <a href="#">§ 2.4.</a>	After 2000 hours - 50% residual gloss for category 1 - 70% residual gloss for categories 2 and 3. <a href="#">§ 2.4.</a>
	Colour requirements	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>	<ul style="list-style-type: none"> <li>• Visual assessment with min. value of 4 on the grey scale</li> <li>• Instrumental measurement (for info only).</li> </ul> <a href="#">§ 2.4.</a>

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		SUBLIMATION						POWDER ON POWDER			
		DECORATOR (LICENCE) <a href="#">Chapter 4</a>		FILM SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.1.</a>		POWDER SUPPLIER (LICENCE) <a href="#">Chapter 3, § 3.2.</a>		DECORATOR (LICENCE) <a href="#">Chapter 6</a>		POWDER SUPPLIER (APPROVAL) <a href="#">Chapter 5</a>	
		CLASS 1	CLASS 2	CLASS 1	CLASS 2	CLASS 1	CLASS 2 S	CLASS 1	CLASS 2	CLASS 1	CLASS 2
NATURAL WEATHERING TEST	Testing time		3 years <a href="#">§ 2.5.</a>	1 year <a href="#">§ 2.5.</a>	3 years <a href="#">§ 2.5.</a>	1 year <a href="#">§ 2.5.</a>	3 years <a href="#">§ 2.5.</a>		3 years <a href="#">§ 2.5.</a>	1 year <a href="#">§ 2.5.</a>	3 years <a href="#">§ 2.5.</a>
	Gloss requirements		After 1 year: ▶ at least 75% After 2 years: ▶ at least 60% After 3 years ▶ at least 50%. <a href="#">§ 2.5.</a>	After 1 year 50% residual gloss for all categories. <a href="#">§ 2.5.</a>	After 1 year: ▶ at least 75% After 2 years: ▶ at least 60% After 3 years ▶ at least 50%. <a href="#">§ 2.5.</a>	After 1 year 50% residual gloss for all categories. <a href="#">§ 2.5..</a>	After 1 year: ▶ at least 75% After 2 years: ▶ at least 60% After 3 years ▶ at least 50%. <a href="#">§ 2.5..</a>		After 1 year: ▶ at least 75% After 2 years: ▶ at least 60% After 3 years ▶ at least 50%. <a href="#">§ 2.5..</a>	After 1 year 50% residual gloss for all categories. <a href="#">§ 2.5.</a>	After 1 year: ▶ at least 75% After 2 years: ▶ at least 60% After 3 years ▶ at least 50%. <a href="#">§ 2.5..</a>
	Colour requirements		• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>		• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>	• Visual assessment with a min. acceptable value of 4 on the grey scale. • Instrumental assessment (for information only). <a href="#">§ 2.5.</a>