



REPORT FOR COATING SYSTEMS

- GRANTING OF APPROVAL
- RENEWAL (P-1656)
- REPETITION (P-1656)

COMPANY

NAME: Beyond Powder Coatings Ltd
 ADDRESS: 5066 80th AVE SE, Calgary, AB
 COUNTRY: Canada
 CONTACT PERSON: Lucy L
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SYSTEM

FULL DESIGNATION: PP RAL Glossy Series
 QUALICOAT CODE¹: KB1

TYPE² 1 1d 1s 2a 2b 2c 2d 2e
 GLOSS CATEGORY 1 2 3
 CLASS 1 1.5 2 3
 STRUCTURED FINISH³ a b c NO

APPLICATION QUALICOAT QUALIDECO

SAMPLING: Date: 15.01.2019

During routine inspection at the coating plants
 Directly at the system supplier's premises
 Sent by the supplier to the laboratory

LABORATORY:

Laboratory in charge of preparing the samples: IFO CN
 Laboratory in charge of testing: IFO CN
 Contact person: Derek Ding
 Approval number of the alternative pretreatment used: A-002
 Date of application: 22.01.2019
 Curing temperature: 200C
 Curing time: 15min

1 Code given by QUALICOAT to the laboratory
 2 COATING TYPES: 1) Powder coating 1d) Two coat organic coating 1s) for sublimation only 2) Liquid coating 2a) Two-coat PVDF 2b) Three-3 coat PVDF (metallic) 2c) Silicon polyester without primer 2d) Other thermosetting paints 2e) Two.component paints
 3 Structured finishes: a) Leathered b) Textured c) Wrinkled



| TESTS <i>Specified minimum thickness: 60µm</i> | COLOURS TESTED | | | |
|--|---|---|---|---|
| | RAL 3005 | RAL 5010 | RAL 9010 | RAL 9006 |
| RAL compliance Delta E referring to standard 841GL) | 2.76 | 0.58 | 0.43 | 0.6 |
| 1. Gloss (ISO 2813) Cat. 3 | m.v.⁴ | m.v. | m.v. | m.v. |
| | 84µm 92 | 92µm 90 | 65µm 92 | 69µm 89 |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 2. Thickness (ISO 2360) | 84µm | 92µm | 65µm | 69µm |
| 3. Adhesion Dry adhesion (ISO 2409) <i>spacing of cutters: 1mm up to 60 µm; 2 mm above</i> <i>Acceptable value: 0</i> | 84µm 0 | 92µm 0 | 65µm 0 | 69µm 0 |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| Wet adhesion (Specs. 2.4.2) <i>No detachment of blistering</i> | 74µm 0 | 71µm 0 | 82µm 0 | 96µm 0 |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 4. Indentation (ISO 2815) <i>minimum value: 80</i> | 84µm 100 | 92µm 125 | 65µm 100 | 69µm 111 |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 5. Cupping (ISO 1520) <i>No detachment at a diameter of 5 mm</i> <i>Class 1: no cracking or detachment at a depth of 5 mm</i> <i>Class 1.5, 2, 3: no detachment at a depth of 5 mm after tape test</i> | 69µm | 72µm | 58µm | 58µm |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 6. Bend test (ISO 1519) <i>No detachment at a diameter of 5 mm</i> <i>Class 1: no cracking or detachment at a diameter of 5 mm</i> <i>Class 1.5, 2, 3: no detachment at a diameter of 5 mm after tape test</i> | 69µm | 72µm | 58µm | 58µm |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 7. Impact test (ISO 6272-1 or 2/ASTM D 2794) <i>No detachment at at 2.5 Nm</i> <i>Class 1: no cracking or detachment at 2.5 Nm</i> <i>Class 1.5, 2, 3: no detachment at 2.5 Nm after tape test</i> | 67µm | 65µm | 68µm | 61µm |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 8. Resistance to humid atmospheres containing sulphur dioxide (ISO 3231) <i>No infiltration exceeding 1 mm on both sides of the scratch, and no change in colour or blistering in excess of 2 (S2)</i> | 98µm | 102µm | 84µm | 91µm |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |
| 9. Acetic acid salt spray (ISO 9227) <i>Section 2.10 of Specifications</i> <i>Length of filaments: max 4 mm</i> <i>Infiltration: max 16 mm2/10 cm</i> <i>No blistering in excess of 2 (S2)</i> | 85µm | 95µm | 92µm | 112µm |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory |

⁴ m.v. = measured value



| | | | | | | | | |
|--|---|---|---|---|---|---|---|-------------|
| 10. Accelerated weathering (ISO 16474-2) <i>Gloss retention</i> ≥ 50% class 1 ≥ 75% class 1.5 ≥ 90% class 2 | Initial gloss | Final gloss | Initial gloss | Final gloss | Initial gloss | Final gloss | Initial gloss | Final gloss |
| | 92° | 85° | 90° | 84° | 92° | 89° | 89° | 84° |
| | Gloss retention | | Gloss retention | | Gloss retention | | Gloss retention | |
| | 92% | | 93% | | 97% | | 94% | |
| <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | |
| 10. Accelerated weathering (ISO 16474-2) <i>Colour variation Delta E</i> Class 1: see appendix A7 Class 1.5: 75% of the limits prescribed for class 1 Class 2: 50% of the limits prescribed for class 1 | Spec. ΔE | Meas. ΔE | Spec. ΔE | Meas. ΔE | Spec. ΔE | Meas. ΔE | Spec. ΔE | Meas. ΔE |
| | 4 | 1.56 | 4 | 0.17 | 2 | 0.55 | 2 | 0.68 |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | |
| | 74µm | | 71µm | | 82µm | | 96µm | |
| <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | |
| 12. Constant climate condensation water (ISO 6270-2) No infiltration exceeding 1 mm on both sides of the scratch No blistering in excess of 2 (S2) | 87µm | | 109µm | | 78µm | | 83µm | |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | |
| 13. Polymerisation (for liquid coating only) | µm | | µm | | µm | | µm | |
| | <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | |
| 14. Resistance to mortar (EN 12206-1) No defects No colour change No residues of mortar | 79µm | | 95µm | | 74µm | | 90µm | |
| | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | | <input checked="" type="checkbox"/> satisfactory <input type="checkbox"/> not satisfactory | |
| 15. Weathering test 1 year of exposure in Florida (class 1) 2 years of exposure in Florida (class 1.5) 3 years of exposure in Florida (class 2) | Exposure period (Florida test): | | | | | | | |
| | 3 Years | | | | | | | |

Laboratory (signature)

Date: 11.10.2019

General licensee's recommendation to QUALICOAT

- Result satisfactory
- Result unsatisfactory (specify)

Enclosures:

Date: 15.05.2020

Signature: