

**Project No.** 150457

**Client:** Council of the Isles of Scilly

**Tender Issue** 10/11/2017

**STRIDE TREGLOWN**  
ARCHITECTURE

## Carn Gwavel School

**10 November 2017**

**This document includes:**

Code	Section	Revision	Dated
Z31	Powder coatings		

## **Z31 Powder coatings**

To be read with Preliminaries/ General conditions.

### **120 POWDER COATING MATERIALS**

- **Manufacturer:** Obtain from one only of the following: Contractor Choice.
- **Selected manufacturer:** Submit details before commencement of powder coating including:
  - Name and contact details.
  - Details of accreditation schemes.
  - Technical data of product including current Agrément certificates.

### **210 WORKING PROCEDURES**

- Comply with the follow following standards.
  - Aluminium components: To BS 6496 or BS EN 12206-1.
  - Steel components: To BS EN 13438.
  - Safety standards: To British Coatings Federation 'Code of safe practice - Application of thermosetting powder coatings by electrostatic spraying'.

### **220 POWDER COATING APPLICATORS**

- **Applicator requirements:**
  - Approved by powder coating manufacturer.
  - Currently certified to BS EN ISO 9001.
  - Comply with quality procedures, guarantee conditions, standards and tests required by powder coating manufacturer.
  - Applicator to use only one plant.
  - **Selected applicator:** Submit details before commencement of powder coating including:
    - Name and contact details.
    - Details of accreditation schemes.

### **225 GUARANTEES**

- **Powder coating manufacturer and applicator guarantees:**
  - Submit sample copies before commencement of powder coating.
  - Submit signed project specific copies on completion of work.

### **230 CONTROL SAMPLES**

- **Sequence:** Prior to ordering materials for the works, obtain approval of appearance for:
  - Powder coated samples: Of various grades and forms of background metal to be used, showing any colour, texture and gloss variation.
  - Fabrication samples: Showing joint assembly, how powder coating is affected and how any cut metal edges are finished and protected.
- **Samples to include the following information:**
  - Product reference.
  - Colour.
  - Reference number.
  - Name.
  - Gloss level.

**235 INDEPENDENT INSPECTION AT PLANT**

- Requirement: Contractors/ suppliers of the following designated components must commission an approved Independent Inspection Authority to carry out acceptance inspections to confirm that powder coating application complies with this specification.
  - Designated components: Curtain Walling frame and cover caps / Windows .
- Acceptance inspections: Carry out for each variation of colour and finish of each component work package at applicator's plant prior to any fabrication of units, in accordance with the following:
  - Where three or more production runs are required for application of coatings, not less than three acceptance inspections must be carried out in accordance with BS 6001-1, general inspection level 2, with an acceptance quality limit of 1%.
  - Where less than three production runs are required for application of coatings, one acceptance inspection must be carried out in accordance with BS 6001-2, with a limiting quality of 5% where the probability of acceptance is 10%.
- Components failing inspection: Reprocess or replace and reinspect.
- Inspection reports: Independent Inspection Authority must submit copies.

**240 QUALITY ASSURANCE SYSTEM**

- Requirement: Powder and coating application to the following designated components is to be tested and approved in accordance with the Qualicoat system.
  - Designated components: TBA.

**250 COMPONENT DESIGN**

- Condition of components to be powder coated:
  - To comply with relevant recommendations of BS 4479-1, -3, and -4.
  - Of suitable size to fit plant capacity.
  - Of suitable thickness to withstand oven curing.

**310 PRETREATMENT OF ALUMINIUM COMPONENTS**

- Condition of components to be pretreated:
  - Free from corrosion and damage.
  - All welding and jointing completed and finish off as specified.
  - Free from impurities including soil, grease, oil.
  - Suitable for and compatible with the pretreatment process.
- Conversion coating requirements:
  - Chromate system: To BS 6496 or BS EN 12206-1.
  - Chromate-free system: To BS EN 12206-1. Submit details before using.
- Rinsing requirements: Use demineralized water. Drain and dry.

**320 PRETREATMENT OF STEEL COMPONENTS**

- Condition of components to be pretreated:
  - Free from corrosion and damage.
  - All welding and jointing completed and finish off as specified.
  - Free from impurities including soil, grease, oil.
  - Suitable for and compatible with the pretreatment process.
- Conversion coating requirements: To BS EN 13438.
- Rinsing requirements: Use demineralized water. Drain and dry.

**430 EXTENT OF POWDER COATINGS**

- Application: To visible component surfaces, and concealed surfaces requiring protection. Coated surfaces will be deemed 'significant surfaces' for relevant BS 6496 or BS EN 13438 performance requirements.

**435 APPLICATION OF POWDER COATINGS**

- Surfaces to receive powder coatings: Free from dust or powder deposits.
- Powder colours: Obtain from one batch of one manufacturer.
- Commencement of powder coating: To be continuous from pretreatment.
- Jig points: Not visible on coated components.
- Curing: Controlled to attain metal temperatures and hold periods recommended by powder coating manufacturer.
- Stripping and recoating of components: Only acceptable by prior agreement of powder coating manufacturer. Stripping, pretreatment and powder coating are to be in accordance with manufacturer's requirements.
- Overcoating of components: Not acceptable.

**440 PERFORMANCE AND APPEARANCE OF POWDER COATINGS**

- For aluminium components:
  - Standard: To BS 6496 or BS EN 12206-1.
- For steel components:
  - Standard: To BS EN 13438.
- Visual inspection after powder coating: Significant surface viewing distances to be as specified in the relevant Standard, unless specified otherwise.
- Colour and gloss levels: To conform with approved samples.

**450 ALUMINIUM ALLOY FABRICATIONS**

- Units may be assembled:
  - Before powder coating.
  - From components powder coated after cutting to size.
  - Where approved, from components powder coated before cutting to size.
- Exposure of uncoated background metal: Not acceptable.
- Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

**460 STEEL FABRICATIONS**

- Unit assembly: Wherever practical, before powder coating.
- Exposure of uncoated background metal: Not acceptable.
- Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

**470 FIXINGS**

- Exposed metal fixings: Powder coat together with components, or coat with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.

**480 DAMAGED COMPONENTS - REPAIR/ REPLACEMENT**

- Before delivery to site: Check all components for damage to powder coatings. Replace damaged components.
- Site damage: Submit proposals for repair or replacement.

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**510 PROTECTION**

- Powder coated surfaces of components: Protect from damage during handling and installation, or by subsequent site operations.
- Protective coverings: Must be:
  - Resistant to weather conditions.
  - Partially removable to suit building in and access to fixing points.
- Protective tapes in contact with powder coatings: Must be:
  - Low tack, self adhesive and light in colour.
  - Applied and removed in accordance with tape and powder coating manufacturers' recommendations. Do not use solvents to remove residues as these are detrimental to the coating.
- Inspection of protection: Carry out monthly. Promptly repair any deterioration or deficiency.

**535 DOCUMENTATION**

- Submit the following information for each batch of powder coated components:
  - Supplier.
  - Trade name.
  - Colour.
  - Type of powder.
  - Method of application.
  - Batch and reference number.
  - Statutory requirements.
  - Test certificates.
  - Maintenance instructions.

**540 COMPLETION**

- Protection: Remove.
- Cleaning and maintenance of powder coatings: Carry out in accordance with procedures detailed in powder coating manufacturer and applicator guarantees.