

Z31 POWDER COATINGS

To be read with Preliminaries/General conditions.

- 110 POWDER COATING: This is invoked by reference in other sections.
- 120 POWDER COATING MATERIALS:
- Obtain from one only of the following manufacturers:
Isopon, Synthapulvin, Akzo Nobel, Jotun Ltd.
 - Submit details of selected manufacturer to the CA when details are to be submitted with Tender.
- 210 WORKING PROCEDURES: Unless specified otherwise, comply with all relevant requirements and recommendations of:
- **BS 6496** for aluminium alloy backgrounds.
 - **BS 6497** for galvanized steel backgrounds.
 - British Coatings Federation: Code of safe practice - Application of powder coatings by electrostatic spraying.
 - Powder coating manufacturer's guarantee.
- 220 APPLICATOR REQUIREMENTS:
- Powder coating applicators must be approved by the powder coating manufacturer and be currently certified to **BS EN ISO 9002**. Submit details of the selected applicator(s) together with proof of approval and certification to the CA
 - Use only one application plant unless otherwise approved.
 - The applicator must comply with all quality procedures, guarantee conditions, standards and tests required by the powder coating manufacturer.
 - The applicator must issue a certificate to the CA before delivery of work to site, confirming that coatings are in accordance with this specification.
- 225 GUARANTEES:
- Submit sample copies of powder coating manufacturer and applicator guarantees to the CA before commencement of powder coating.
 - Submit signed, project specific powder coating manufacturer and applicator guarantees to the CA on completion of work.
- 230 CONTROL SAMPLES: Prior to ordering materials for the works, obtain approval for:
- Powder coated samples of the various grades and forms of background metal to be used, showing any colour, texture and gloss variation. Agree with the CA the quantity of samples to be provided.
 - Fabrication samples showing joint assembly, how powder coating is affected and how any cut metal edges are protected.
- 235 INDEPENDENT INSPECTION AT PLANT:
- The contractor(s)/supplier(s) of the following components must commission an Independent Inspection Authority, approved by the CA, to carry out acceptance inspections to confirm that the powder coating application complies with this specification:
 - Acceptance inspections for each variation of colour and finish of each component work package must be carried out at the 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 must be reprocessed or replaced and reinspected.
 - The Independent Inspection Authority must submit copies of reports of all inspections to the CA.

- 241 INDEPENDENT INSPECTION ON SITE:
- In the event of any unresolved deficiency in coating specification compliance following inspection at plant, the relevant contractor(s)/supplier(s) must commission an Independent Inspection Authority, approved by the CA, to carry out a site acceptance inspection.
 - Acceptance inspection will be carried out in accordance with BS 6001-2 with a limiting quality of 5% where the probability of acceptance is 10%. Each component of a fabricated unit will be assessed as an individual part for sampling procedures.
 - Components failing inspection will be assessed by the CA for removal and reprocessing/replacement.
- 250 COMPONENT DESIGN:
- Ensure that components to be powder coated comply with relevant recommendations of BS 4479-1,-3, and -4, are of suitable size to fit plant capacity and of suitable thickness to withstand oven curing.
 - Ensure that deflection under design load or thermal movement of background metal of components will not be detrimental to powder coatings.
- 310 PRETREATMENT:
- All components to be powder coated are to be free from corrosion and damage, and suitable for and compatible with the pretreatment and powder coating process.
 - Clean, conversion coat, condition, rinse in demineralised water, drain and dry all components in accordance with the powder coating manufacturer's requirements and the pretreatment supplier's recommendations.
- 430 EXTENT OF POWDER COATINGS:
- Apply powder coatings to all visible surfaces, and all concealed surfaces requiring protection, of all components.
 - All coated surfaces will be deemed 'significant surfaces' for relevant BS 6496/BS 6497 performance requirements.
- 435 APPLICATION OF POWDER COATINGS:
- Surfaces to receive powder coatings must be free from dust or powder deposits.
 - Application of powder coatings to all components must be completed within 48 hours of pretreatment.
 - Jig points must not be visible on coated components.
 - Curing must be controlled to attain metal temperatures and hold periods recommended by the powder coating manufacturer.
 - Stripping and recoating of components will only be acceptable by prior agreement of the powder coating manufacturer. Stripping, pretreatment and powder coating are to be in accordance with manufacturer's requirements and must be carried out at the applicator's plant.
 - Overcoating of components will not be acceptable.
- 440 PERFORMANCE AND APPEARANCE OF POWDER COATINGS: To BS 6496/BS 6497.
- 450 ALUMINIUM ALLOY FABRICATIONS:
- Units may be assembled:
 - Before powder coating
 - From components powder coated after cutting to size
 - From components powder coated before cutting to size, subject to approval of the CA and the powder coating manufacturer.
 - Fabrication resulting in exposure of uncoated background metal will not be acceptable.
 - Assembly sealants must be compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.
- 460 STEEL FABRICATIONS:

- Wherever practical, units must be assembled before powder coating.
 - Fabrication resulting in exposure of uncoated background metal will not be acceptable.
 - Assembly sealants must be compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.
- 470 **FIXINGS:** All exposed metal fixings must be powder coated together with components, or coated with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.
- 480 **FABRICATION DAMAGE REPAIR/REPLACEMENT:**
- Check all components before delivery to site for damage to powder coating. Report findings and proposed method of repair or replacement to the CA. Obtain approval before commencing remedial work.
 - Repair components with minor damage as soon as possible by cleaning, abrading and coating with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.
 - Replace components with major damage considered unacceptable for repair.
- 510 **PROTECTION:**
- All powder coated surfaces of components vulnerable to damage during handling and installation, or by subsequent site operations, are to be fully protected throughout the course of these works.
 - Protective coverings are to be resistant to all weather conditions, removable from areas inaccessible after installation, and partially removable and replaceable for access to fixing points during installation or subsequent site operations.
 - Any protective tapes used in direct contact with powder coatings must be low tack, self adhesive, light in colour and approved by the tape manufacturer. Apply and remove in accordance with the tape and powder coating manufacturers' recommendations. Do not use solvents to remove adhesive residues unless approved by the powder coating manufacturer.
 - Carry out monthly inspections of protective coverings and promptly repair any deterioration or deficiency.
 - Remove protective coverings only when instructed by the CA.
- 530 **SITE DAMAGE REPAIR/REPLACEMENT:**
- Any damage to powder coatings caused during handling and installation, or by subsequent site operations, is to be rectified immediately. Obtain approval before commencing extensive repairs or replacements.
 - Repair components with minor damage by cleaning, abrading and coating with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.
 - Replace components with major damage considered unacceptable for repair.
- 540 **MAINTENANCE:** After removal of protective coverings, clean and maintain all powder coated surfaces at regular intervals until Practical Completion. All maintenance is to be in accordance with procedures detailed in the powder coating manufacture and applicator guarantees.