

1.3.8 Coating Inspection Requirements

- A. All coated surfaces shall be visually examined to ensure they are free from deleterious film defects such as runs, sags, wrinkling, pinholes, holidays, missed areas, blisters, cracking, dry spray and any other defects.
- B. The dry film thickness of each coat and the total dry film thickness shall be measured and all results recorded. One measurement shall be taken per square metre of coated surface with additional measurements at changes in section, corners and edges, and as directed.
- C. Dry film thickness readings shall be measured by means of a suitable, properly calibrated portable electronic thickness gauge with an accuracy of at least + 10% of the actual thickness. As a general rule the dry film thickness shall not exceed the thickness specified by more than 25%. Any deviation to this figure shall be requested in writing supported by the coating manufacturer's written assurances.
- D. Coatings shall be subjected to 100% holiday detection after the final cure of the coating system. The method of testing and test voltage shall be as specified by the coating manufacturer. However, as a general rule, coatings less than 350 microns thick shall be tested with a low d.c. voltage sponge tester. All other coatings shall be tested with a high voltage d.c. pin hole detector; the test voltage shall be 4 volts per micron dry film thickness. All defects found shall be clearly marked, repaired and retested. All results shall be recorded and reported. The Contractor can be directed by the Engineer to increase the test voltage for thicker coatings if the coatings are suspected of having vacuoles or similar defects within the coating thickness.
- E. Coatings shall be subject to adhesion testing after the final cure of the coating system. The adhesion shall be measured using an Elcometer pull off adhesion tester or equivalent to ISO 4624, or an alternative approved test method that conforms to an internationally accepted standard. As this is a destructive test, coating adhesion shall be measured on test plates of the same material as the substrate being coated, which have been prepared and coated in an identical fashion to, and at the same time as, the surfaces being coated. A test plate shall be prepared for each item or for each batch of items if the total surface area of coating does not exceed 25m². At least three adhesion tests shall be carried out per plate. The results shall be recorded and reported. Minimum adhesion strengths shall meet the requirements of the coating manufacturer. If the adhesion test result on a test plate is below that specified for that particular coating system, the entire item or batch of items shall be completely re-prepared and recoated.