

CASE STUDY

It's what's underneath that really counts!

Qualicoat put a variety of chemical pretreatment systems regularly used in industry to the test.

The role of the Powder Coater

It is estimated that there are over 1,000 powder coat applicators across Australia. The multitudes of these coaters are termed 'general job shops'. They apply powder over a variety of metals and parts which include mild steel, galvanised parts and various others. The level of pretreatment applied to these parts also varies from virtually nothing up to multi-stage pretreatment systems that may or may not be suited to the particular metal and substrate being coated. These products can end up being used in just about any situation or location.

Architectural fabrications have for a long time been finished with quality powder coating. Coating for the architectural market is a specialised profession as the finish needs to protect and enhance the architectural components for a long time.

One of the difficulties with powder coatings is that any coater can buy a box of brand name powder, spray it over the part and the part comes out looking nice and new in the required colour. At the surface, a part coated by a not so reputable coater, can appear to look the same at the surface as one that is coated by a quality coater who applies industries world's best practice such as the Qualicoat system. It is important to recognise that "a layer of paint can hide a lot of sins". In order to help demonstrate this, the following trial was conducted.

Assessment of Aluminium Extrusions processed with a variety of Chemical Pretreatment Systems regularly used in Industry.

One length of mill finish aluminium frame extrusion was cut into six longer and six shorter lengths. Each of one

short and one long length was then fastened together using two stainless steel screws. Each assembled sample was marked A-F. Samples were sent to various powder coat plants and pre-treated using their standard processing method which is representative of systems typically offered by the various coaters.



Powder Coating

Subsequently, all the samples were brought to the one plant and all samples were coated with the same brand name powder coat in the "Berry Grey" colour and stoved cured at once.



Samples after 1000 hour Acetic Acid Salt Spray Test

Quantifying the Results

The chart below depicts the corrosion resistance performance of the supplied parts up to 1,000 hours Acetic Acid Salt Spray or till failure for the four sub-specifications of the test.

