

TECHNICAL
BULLETIN

AAF

AUSTRALIAN ALUMINIUM FINISHING

aafonline.com.au

ANODISING PROCESS

As soon as the aluminium is electrochemically anodised, millions of tiny pores, perpendicular to the surface are created. This porous oxide layer is now able to absorb water soluble “Organic” dyes of just about any colour or alternatively, can accommodate the plating of special “In-Organic” metal colouring agents. Anodising without subsequent colouring produces a “clear” or “natural” aluminium coloured part. Once coloured, the pores are sealed to help protect the finish.

“ORGANIC” DYE COLOURING

Organic dyes provide a large range of colour options including many vivid choices. These dyes are similar to those used to colour textiles, however only the most suitable have been selected and optimised for aluminium finishing. However in general, due to the nature of their molecular structure, these Organic dyes are not as UV light-fast as the “In-organic” colour options. This is why they are recommended only for Internal and not external exposure. Having said this, for many years now, Organic dyes have an excellent track record of performance in the internal applications for which they have been designed.

The Green Anodise colours you list below are not a finishes we produce in our range EverShield™ Architectural Anodising range.

Whilst we understand that vivid colours such as red, blue & green can be produced on anodised finishes, these are more often used to colour small anodised components, like automotive & computer parts, where colour stability & consistency is not as significant an issue.

These vivid colours are produced with what is termed “Organic Dyes”. Essentially, they are a bit more advanced version of dyes used in the Textile Industry.

Whilst the quality of “Organic Dyes” can vary considerably, we have not been able to find any Green Anodise Colours which are sufficiently colourfast to offer the performance required of our 25 Year Warrantable EverShield™ Architectural Anodising range.

Generally, it is clear to say that “Organic Dye” colours are not as “colour fast” as the more robust & proven Inorganic (metal) colouring used for anodising many monumental projects worldwide over the last 50 years.

For this reason they are not generally used in Architectural Anodising, particularly in Australia where our Solar Irradiation is quite high by most world standards.

Attached are the colours we offer in our EverShield Colour range.
Our Apollo Grey colour would be our closest to the Sapphire “Slate Grey”

“IN-ORGANIC” ELECTROLYTIC COLOURING

For applications where External light fastness is a requirement, AAF’s External architectural anodise colours employ “specially selected metals” as the colouring agent.

The anodised parts are coloured in by a second “Electrolytic” bath which plates special metal ions into the base of the anodising pores prior to sealing. This is why it is sometimes referred to as a “two-step” finish. This is a premium process, and not all anodisers are set up to do it.

These In-organic colours in nature are inherently very UV stable, particularly in comparison to paint and other coating colours. As such, these External Architectural colours offer superior light – fastness in external applications. There are many monumental anodised projects around the world, that have been anodised and coloured with the very same Inorganic colours used by AAF, which have been around for more than 20, 30, 40 years or more!

The range of In-organic colour options is not as vast as that of the Organic colours. However, by controlling the plating time, the one tank solution can create a great number of Shades from Black, through to “Jamaican Chocolate”, “Portland Stone” to the ever popular “Sea Breeze” colour, and everything in between.

Additionally, AAF has spent considerable time and effort in bringing to the market a new range of metallic grey shades, that we’ve called our “Cosmic” range.

THICKNESS RELATED COLOUR & PERFORMANCE

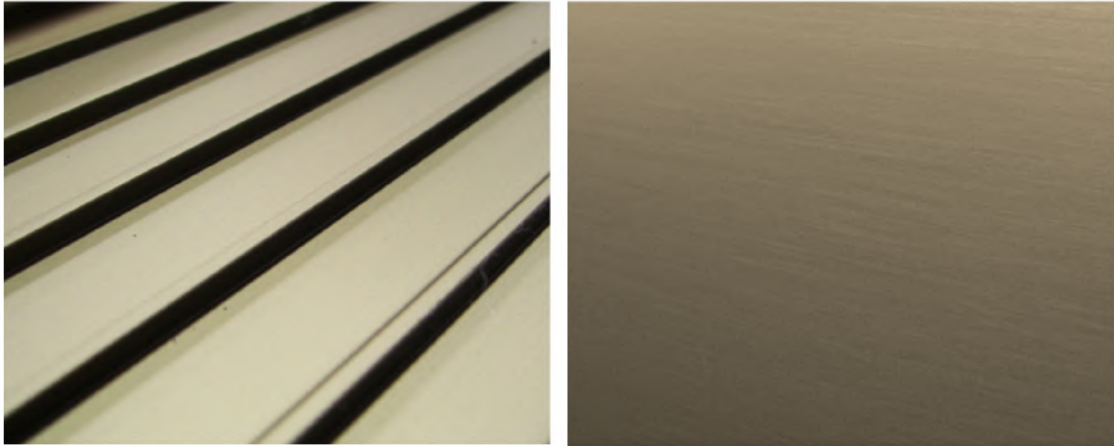
The thicker the anodic layer, the deeper the pores are and the more colouring agent is required to fill. This means that there is more colouring agent in a thicker finish compared to the same colour in a thinner finish. For this reason, thicker anodise finishes are regarded to have superior light-fast properties, when compared to the same colour in a thinner finish.

Additionally, it’s important to note, to achieve a “good deep black shade”, a minimum anodise thickness of 15µm is required.

When you combine the colour stability offered of these In-organic colouring agents with a thick (20/25µm.) and extremely hard surface created by the anodising process, then you have a finish that has both excellent weathering performance as well as light-fastness.

MAINTAINING THAT BEAUTIFUL APPEARANCE

Like all finishes, it’s imperative that they are properly cleaned and maintained. This not only keeps your surfaces looking like new, but also helps protect the surface from harm that atmospheric pollution, soils & other contaminants can cause if allowed to accumulate and become ingrained. The AAF recommended maintenance procedure (TB 100 – “The Basics of Aluminium Care”) is available from our website www.aafonline.com.au



NOTE

Details contained herewith do not constitute specific advice, merely they are provided as a matter of courtesy and as general information only. You should seek your specialist's advice, to ensure that any information or suggestion meet your specific requirements. Reference should be made to the respective standards for the finish concerned as well as Australian Aluminium Finishing Pty Ltd (AAF) Terms and Conditions of Sale. Latest releases of Australian Standards are available for purchase via the following website; www.standards.com.au

AAF makes no warranty as to the completeness, accuracy or reliability of any information expressed or contained in this document, and to the full extent permitted by law, AAF disclaims all liability and responsibility for any loss or damage, direct or indirect, which may be suffered by any persons acting in reliance on anything contained or omitted from this document.



AAAF

AUSTRALIAN ALUMINIUM FINISHING

For more information on anodising
and powder coating please visit:

aafonline.com.au

NSW Wetherill Park
VIC Dandenong
QLD Geebung

02 8787 3999
03 9215 5700
07 3637 5600
