



ANODISED ALUMINIUM FINISHING

/ BEAUTIFUL & DURABLE



ANODISING IS AN ELECTRO- CHEMICAL PROCESS USED TO CREATE A PROTECTIVE FILM OF ALUMINIUM OXIDE

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Anodising is an electro-chemical process used to create a protective film of aluminium oxide on the surface of an aluminium extrusion. An anodised finish is integral to the aluminium itself. Anodising is translucent giving the aluminium a deep metallic lustre it extremely durable and well suited to architectural applications.

When specifying an anodised finish or aluminium windows and doors it is important to consider the atmospheric conditions the end product will be subjected to. AS1231-2000 is the Australian Standard for Aluminium and Aluminium alloys-Anodic oxidation coatings and sets out recommendations for anodising thickness and cleaning intervals based on atmospheric conditions. When subjected to particularly hot dry atmospheric conditions Anodised finishes may be temporarily impacted by crazing.

TYPICAL ANODISED FINISH COLOUR OPTIONS



Clear

Pale Bronze

Bronze

Dark Bronze

Black



/ Merewether Residence. Architect: Bourne Blue Architecture. Windows by AVS Windows: Photography: Simon Whitbread

ANODISING THICKNESS

Anodising can be specified in a range of thickness grades from AA10 to AA25. AA stands for Anodised Aluminium followed by a number representing the minimum average thickness in micrometers.

Anodised aluminium finished by AWS is supplied as standard at thickness grade AA20.

Thickness grade	Minimum average thickness	Minimum local thickness
AA25	25	20
AA20	20	16
AA15	15	12
AA10	10	8
AA5	5	4

Thickness grade AA25 should be specified for static exterior applications that are subject to moderate to severe atmospheric conditions.

Thickness grades AA20 and **AA15** may be specified for static exterior applications in atmospheres, or rural environments away from industrial pollution or marine influence, in locations where long-term durability may not be important (e.g shopfronts), or if frequent washing can be guaranteed. AWS does not recommend AA15 for use on aluminium joinery and supplies AA20 as standard.

Thickness grade AA10 may be specified for exterior applications in special circumstances e.g. if frequent maintenance can be guaranteed, if the installation is not permanent or if some deterioration in appearance is acceptable. AWS does not recommend AA15 for use on aluminium joinery and supplies AA20 as standard.

ATMOSPHERIC CLASSIFICATIONS

Exterior environments are separated in 3 main classifications

Mild to Moderate*Mild*

This classification covers areas remote from the coast, industrial activity and tropics. It covers sparsely settled regions such as outback Australia but also includes rural areas other than those on the coast.

Moderate

This classification covers areas with light industrial pollution or marine influence, or both. Typically this represents suburbs of cities on sheltered bays such as Melbourne, Adelaide and Hobart (except those areas near the coast) and most inland cities. The suburbs of Brisbane and Perth, away from the coast would also fall into this category.

Tropical

A tropical environment includes areas of North Queensland, Northern Territory and North-West Western Australia except where these areas are directly affected by salt spray. The characteristics of a tropical environment are as follows:

- Subject to high rainfall, greater than 120mm annually
- Average humidity high all year rounds, typically 65% to 100%
- No industrial fallout

Severe*Industrial*

This classification includes areas around major industrial complexes inland from the sea, within Australia this classification would be limited to areas such as Port Pirie and Newcastle which are located around smelters.

Marine

This classification includes areas influenced to a moderate extent by coastal salts. The extent of the area varies significantly depending upon factors such as winds, topography and vegetation. In sheltered areas, for example around Port Phillip Bay it extends from the coastline to about 100m from the beach, but in more ocean-front areas, such as those occurring along the south western corner of Western Australia and south-eastern corner of South Australia and NSW it generally extends from about 200m from the coast to 5 km inland depending upon conditions. This means large areas of Perth, Wollongong, Sydney and Newcastle are within this environment

FINISH SELECTION & SPECIFICATION

The flowchart below provides a quick reference to the selection and specification of anodised finish on AWS aluminium joinery. AWS does not recommend AA15 for use on aluminium joinery and supplies AA20 as standard, where ASI213-2000 recommends AA15 anodising thickness AWS has substituted AA20.



CLEANING, CARE & MAINTENANCE

The life of anodised aluminium in exterior applications depends not only upon the coating thickness but also the frequency with which atmospheric deposits are removed by washing. AS 1231-2000 provides advice on maximum recommended cleaning intervals for anodised aluminium based on the atmospheric conditions element is subjected to. This is illustrated in the table below.

Description	Atmospheric Classification	Thickness grade	Maximum cleaning interval
Mild	3	AA15*	12 Months
Moderate	3	AA15*, AA20 and AA25	9 Months
Tropical	4	AA25	9 Months
Severe	5	AA25	6 Months
Very Severe	-	AA25	1 to 3 Months

* NOTE: AWS does not recommend AA15 thickness and supplies AA20 as standard.



ABN 48 067 950 903
vantagealuminium.com.au
specifyaws.com.au

FOR TECHNICAL SUPPORT & FABRICATOR LOCATIONS
CALL **1300 026 189**
or email marketing@awsaustralia.com.au

HEAD OFFICE
76-78 Jemma Road Prestons NSW 2170
PO BOX 311 Liverpool NSW 1871, Australia

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