

SURFACE TREATMENT
ANODISING_ DECORATIVE
DSF 1.2.1

Definition:

Anodising is the common- name applied to methods of surface treating metals. The work piece is the anode in an electrolytic cell, usually to form oxide coatings for the purpose of increasing the performance of the surface.

In the case of aluminium, the anodising process forms a layer of aluminium oxide - Al_2O_3 - or corundum, which is very hard, relatively inert, electrically insulating and can absorb dyes to colour the film. See table, page 2.

The anodic film is converted, not deposited, at the aluminium / aluminium oxide interface by the continuous formation and dissolution of a layer of oxide, this 'barrier' layer and its thickness is a function of the process time & starting voltage. A porous more structured layer approx. 50% of the film thickness, forms on the barrier layer, thus only half of the coating is ingress.

Treatment Information:

The engineering drawing will identify the area to be coated.

Sulphuric Acid Anodising: (ISO 7599)

This is the most common type of anodising often referred to as natural, silver or clear. The film thickness is usually between $3\mu m$ - $25\mu m$, the thickest offering substantial corrosion resistance and electrical insulation without the loss of fatigue strength that can accompany hard anodising. The oxide layer is less dense than that of hard anodising and readily accepts a dye. Good for Decorative and Architectural applications.

Note: Anodising processes are sealed, unless it is to be used as a primer.

Appearance:

The finished article shall be free from visible defects such as blisters, pits or untreated areas and free from damage.

Issue	01	02	03	04	05	06	07	08	09
DCR		7135	7166	30040	40731	44725	44895	44939	

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Description:

A popular electrolytic passivation (protection) process used to increase the thickness & appearance (addition of dyes) of the natural (aluminium) oxide surface layer.

ASM (DEK) Preferred alloy is **6082** with a surface finish of 1.6 µm Ra for treatment areas.

Properties:

- Durable outer coating improves corrosion resistance.
- Better resistance to wear from normal use & handling.
- Better adhesion for primers & glue.
- Electrically insulated.

For components that require an exact colour match the base material type, dye type(s) and concentration(s) are specified on the engineering drawing. Master samples should also be held at both ASM/DEK and the vendor for future reference.

DRAWING CALLOUT	CLARIAN DYE TYPE	CONCENTRATION (gm/L)
DSF 1.2.1	NONE - CLEAR FINISH	
DSF 1.2.1_BLACK	SANADOL DEEP BLACK MLW	10.0
DSF 1.2.1_BLUE	SANADOL BLUE 2 LW	3.0
DSF 1.2.1_BROWN	ALUMINIUM YELLOW-BROWN 2G	1.0
DSF 1.2.1_GREEN	SANADOL TURQUOISE PLW SANADOL BLUE G	5.0 3.0
DSF 1.2.1_GREY	ALUMINIUM GREY R	2.0
DSF 1.2.1_GOLD	ALUMINIUM FAST GOLD R	0.2
DSF 1.2.1_ORANGE	ALUMINIUM ORANGE RL	3.0
DSF 1.2.1_RED	FIERY RED ML	5.0
DSF1.2.1_VIOLET	ALUMINIUM VIOLET CLW SANADOL BLUE G	1.2 0.2

ASM (DEK) Applications:

Components that require general protection with a cosmetic finish

Note: Film Thickness: Average **AA10 – AA15**

All tapped holes to be **free** from anodising residue.

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