

Colouring of aluminium

A wide range of colors

PROCESS DESCRIPTION

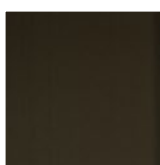
We dye aluminium using two methods: chemical and electrochemical. Chemical colouring of aluminium coatings consists in immersing them in a specific dye for a defined period of time, depending on the desired colour intensity. The dye is absorbed into the oxide layer, creating a deep colour effect on aluminium. Electrochemical dying is much more complicated and requires the use of several technologies.

EFFECT – ELECTROCHEMICAL DYING

It is the method that enables to achieve colour films with many shades of brown and the colour that imitates appearance of stainless steel. The colours achieved by means of electrochemical process are very resistant to the effect of light. Films applied through electrochemical process are perfectly suitable for outdoor applications, due to their high resistance to corrosion. Available colours:



Light brown (C33)



Dark brown (C34)



Black (C35)



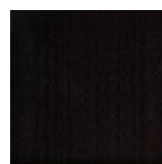
Gold (Z33)



Stainless steel (Inox)

EFFECT – CHEMICAL DYING

Coatings subjected to colourisation by means of chemical processes perfectly prove themselves in applications, where decorative properties are crucial factors. The applicability of coatings for outdoor applications depends on such factors, as the base material, thickness of the applied film and the selected colour. One has to be aware that shades of final colours may differ for various grades of base aluminium. Available colours:



Black (C35)



Green (G1)



Blue (B1)



Light Gold (Z32)



Orange (O1)



Red (R1)

EFFECT – COLOURLESS ANODIZING



Silver (C0)



ATTENTION: In mass production, we create custom-made colour. For further information, please contact our sales department.

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SUBJECT TO THE PROCESS

The colour of the oxide coating on aluminium depends on the type of input material. The importance lies in the type and content of alloying elements in the input material, as well as the conditions for obtaining the product. We carry out colourization of aluminium products by means of two methods, with regard to the base material and the desired final effect:

- the most homogenous coatings can be achieved on materials that have been mechanically deformed or subjected to thermal homogenization,
- purely colourless coatings can be achieved only in case when pure aluminium is the base material for anodising.

Use of high-alloy materials as base metals makes the applied coatings more or less grey. Improper homogenization of alloys may lead to formation of stains and various discolorations on the metal surface.

Thickness of oxygen layers formed on the aluminium surface depends on the conditions of the anodising process, as well as on composition and structure of the base material. For low-alloy materials and workpieces made of pure aluminium the possible thickness of oxidised layers may vary from 5 to 25 µm, depending on the customer's needs.

The hardness of coatings substantially depends on the parameters of the anodising process. For conventional coatings, the hardness ranges from 100 to 300 HV 0.05.

There is the rule that colourisation is the most efficient for coating applied onto pure aluminium (1xxx) or low-alloy materials (5xxx, 6xxx). On the other hand, alloys with high content of copper (2xxx) or zinc (7xxx) are quite difficult for application of colours. Cast alloys with the content of silicon above 3% are not suitable for anodising at all.

