There are a variety of methods and ways of achieving aluminium in the desired colour. But is it wise to use wet-paint or will a powder coating offer the preferred outcome? And how do you anodise aluminium? In this blog we discuss the pros and cons of wet paint and powder coating, so that you are well prepared for the painting process. This way you can be sure of a good end result!

**THE RIGHT PREPARATION**

Before making a choice between painting or powder coating it is important to consider the preparation. Without the correct preparation, painting or powder coating aluminium will not produce the desired result. If you don't process the material properly there is a chance that the paint won't adhere well and as such will peel quickly.

To ensure good adhesion, the aluminium is passed through a spray tunnel, or passes through several baths in which it is degreased and stained. A final bath introduces a conversion layer, which allows excellent adhesion to develop between aluminium and the coating/paint layer.
ALUMINIUM POWDER COATING OFFERS A POWERFUL PROTECTIVE LAYER

Aluminium powder coating is usually the desired solution, as it offers a number of advantages over wet paints. For example the powder coating ensures that a strong layer is formed over the aluminium. Thanks to the so-called stoving, where the coating is melted in an oven, a layer of paint is created that is stronger and less likely to be damaged than an ordinary painted layer.

In addition, the aluminium powder coating ensures that the coating forms a protective layer over the material. As such the aluminium is better protected against the effects of salts or chemical substances. This again makes a powder coating ideal when used in conditions where the aluminium has to endure a lot from the environment.

AN ADDITIONAL BENEFIT OF ALUMINIUM POWDER COATING: IT'S ENVIRONMENTALLY FRIENDLY

As well as the protective effect, powder coating has another huge benefit: powder coating is a lot more environmentally friendly than wet paint. With paint, lacquer is used to which a solvent has been added. This solvent ensures that the paint remains in a liquid state until it is applied. After application, the agent dissolves, allowing the paint to harden.

In contrast, no solvent is used in powder coating. Powder coating aluminium is done by what is called an electrostatic process. The negatively charged powder is applied to a positively charged aluminium object. The electrostatic effect ensures temporary adhesion of the paint, after which it is heated in an oven. The coating then has the opportunity to harden, and a firm connection is formed between the coating and the material.

Since there are no chemicals involved in the electrostatic process, it is a more environmentally friendly solution compared to working with traditional paints.

ADVANTAGES OF WET PAINTING

Does that mean that powder coating is always the best choice? Certainly not. Wet paints also have benefits. You achieve a much smoother result for example. Granules are used in powder coating, so the end result often looks a little coarser. The texture of the coating is clearly visible. Furthermore decorative effects can be applied to wet paints which is not feasible with a coating.

An additional advantage of wet paint is the fact that there are no maximum dimensions in terms of painting. Where powder coating uses a spray booth, some forms of wet paint do not require a booth. When painting, it is therefore not necessary to take into account the maximum dimensions of the object to be painted. For large aluminium products, painting is the solution when you want to provide these materials with a particular colour.

ANODISED ALUMINIUM PAINTS

An additional factor to take into consideration is how the aluminium has been pre-treated. Think of anodised aluminium for example. Anodised aluminium is aluminium that has been treated with an electrochemical process. Where an oxide layer is formed on the material. That is positive in terms of the durability of the material, but less practical if you want to paint the aluminium. In order to obtain good adhesion, the primer must be sandblasted or stained more thoroughly. If you want a different colour it's a good idea to re-anodise the aluminium. Using this process it's possible for the material to take on a new colour. It saves work and ensures the required sleek finish and adhesion.

Which treatment method is ultimately the best choice depends on various factors. For every assignment there are characteristics that need to be considered in the selection process. Curious as to which would be the best method to apply to your aluminium product?
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