



Manufacturing

# How you as a designer can influence costs

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You as product designer can influence the costs of your aluminium product. Here are the factors you need to consider.

## 1. Aluminium alloy

You need to choose the right aluminium alloy for an extruded product. But before you choose, you should consider the needs of the actual product. These include strength, surface quality, corrosion resistance, machining ability, weldability and economics.

Highly alloyed grades of aluminium are both more expensive and more difficult to extrude. You should therefore avoid choosing an alloy that is stronger than required. It is sometimes more cost-effective to increase dimensions and extrude the profile in a slightly softer, but more easily extruded, alloy.

## 2. Profile design

You should take advantage of aluminium's potential to integrate functions and simplify the profile as much as possible.

## 3. Weight per meter

Carefully considered design can reduce weight per meter, which often lowers costs.

It is sometimes more cost-effective to increase dimensions and extrude the profile with slightly more wall thickness, due to better tolerances and because it is easier to extrude.

#### 4. **Surface class**

The choice of surface class affects price. The finer the surface, the higher the production cost. Think carefully about which surfaces really need to be classified as visible.

#### 5. **Tolerances**

Tight tolerances decrease productivity, which leads to higher production costs. So only use high tolerances where they are essential for the functionality of the profile.

#### 6. **Surface treatment**

Choosing the right surface treatment has an impact on appearance, functionality and durability.

Machining at the design stage, it is important to design the profile so that it requires minimal subsequent machining. Extrusion provides many possibilities for integrating functions into the profile.

Careful choice of machining also has an impact on the final price of the product. Factors include tolerances, deburring, and whether to machine before or after surface treatment, depending on the surface requirement of the end product.

#### 7. **Recycling**

Recycling aluminium uses relatively little power. You should also remember that bolted joints and other solutions that use materials other than aluminium, could complicate recycling.

#### **Interested in learning more?**

If you are interested in learning more about using aluminium in your product design, then please [contact Hydro](#) and we will put you in touch with the right expert.