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## **Passivation**

### **What is passivation?**

Generation of a chemically passive oxide layer on certain metals.  
Regarding metal treatments, passivation is a chemical process to improve corrosion resistance. It stimulates the growth of a passive oxide layer on the surface, which protects the substrate from corrosion.

### **Passivation of Aluminium**

Aluminum naturally forms a thin oxide layer of aluminum oxide upon contact with oxygen in the atmosphere through a process called oxidation, which in many environments provides a physical barrier to corrosion or further oxidation.

However, some aluminum alloys do not form the oxide layer well and are therefore not protected against corrosion. Targeted passivation protects these parts from attack by chemical and atmospheric influences and thus from corrosion.

The surface of the substrate is “passive” to environmental influences. Hence the name passivation.

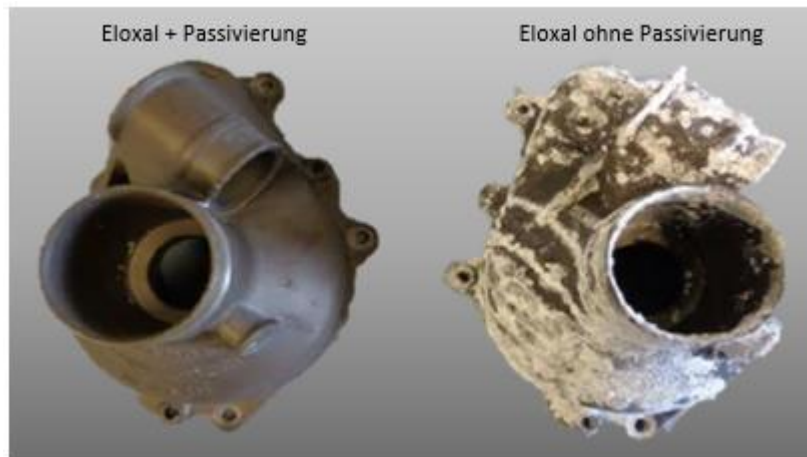
The passivation can be applied directly to aluminum or after anodization (anodization).

We carry out the trivalent chromium passivation treatment.

### **Advantages:**

- ✓ Improved protection against corrosion
- ✓ Conforms to the RoHS directive as it is free of hexavalent chromium
- ✓ Environmentally friendly process
- ✓ Suitable for high-alloy aluminium e.g. cast and forged parts
- ✓ Improved paint adhesion

**Example photo:**



Application on anodized surface - here Al - casting material (layer thickness 3-10  $\mu\text{m}$ ).  
No corrosion after 720h neutral salt spray test according to EN ISO 9227 NS