Investigation of premature blistering and delamination of coated AA5006 window frames using scanning (SEM) and transmission electron microscopy (TEM), glow discharge optical emission spectroscopy, and X-ray photoelectron spectroscopy (XPS) is presented. SEM of the blisters revealed corrosion of Aluminium and accumulation of corrosion products at the interface of coating and metal. TEM and XPS analysis revealed a thin and non-homogenous hexavalent Cr conversion layer. High number density of intermetallics, and surface defects from metal forming process resulted in a defective conversion coating leading to reduced corrosion protection of aluminium in the presence of water and Cl from atmosphere.