

CHROMIC ANODISING

Chromic anodising produces a film with an opaque milky appearance on most alloys, with thickness' typically 2-3 microns.

A range of pre-treatments can be used to prepare surfaces for chromic anodising although the milky appearance of the film normally rules out especially bright or decorative finishes

The thin chromic acid coatings do not accept dyes to the high decorative standards of sulphuric acid finishes. Colours are therefore usually limited to black and for identification purposes only.

PROPERTIES OF CHROMIC ANODISED FILMS

One of the main applications of chromic anodising is for corrosion prevention, but due to the thin, relatively soft film produced it is less suitable than other processes for applications demanding any mechanical protection.

Chromic acid anodising is frequently used for riveted assemblies where there are a number of re-entrants or crevices which make thorough rinsing difficult. Any chromic acid trapped in these crevices will not cause corrosion whereas entrapment of sulphuric acid or had anodising electrolytes could lead to corrosion and bleaching of dyed films.

Chromic acid anodising is also used for aircraft components where high levels of corrosion protection is essential.

Another specialist application of this process is on fabrications to contain explosives. In this situation the hazards caused by any residual electrolyte contacting the explosives are significantly reduced by the use of chromic acid.

During chromic acid anodising any small cracks or flaws in the material may be penetrated by the chromic acid and be entrapped. After anodising, washing and drying the acid will seep out and be easily recognised by its bright yellow colour. This makes the process valuable for detection of cracks, flaws and machining abuse in fatigue critical, heavily worked or machined parts, which would not otherwise be easily visible.

The major SPECIFICATIONS worked to at Acorn Surface Technology for Chromic anodising are:-

1. **DEF STAN 03-24** Chromic acid anodising of Aluminium alloys. This replaces **DEF 151 Type 2**
2. **NWS 1000/5/2-2** Chromic acid anodising.
3. **Mi1-A-8625 Type 1** Chromic acid anodising.