

Anodizing



COTEC has various surface treatment technologies and the company concentrates on products development and quality control to develop various surface treatment items



Our technology

- 1 Chromic acid anodizing
- 2 Sulfuric acid anodizing
- 3 Hard anodizing
- 4 Titanium anodizing
- 5 Boric-sulfuric acid anodizing
- 6 Magnesium anodizing
- 7 Tartaric acid anodizing
- 8 Phosphoric acid anodizing

Production items and applications

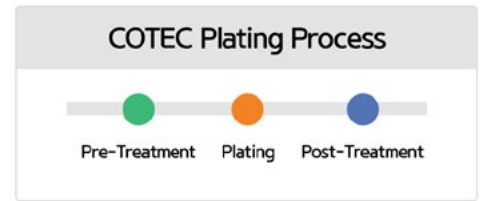
Department / Material		Aircraft parts, Defence, Automobile parts, Semiconductor device / Al, Mg, Ti	
Usage		Aircraft parts, Electricity resistant products, Parts requiring wear resistance, Hardness, Corrosion resistance and decoration	
Thickness (General criteria)		Soft white 1-15µm, Soft colored 10-25µm, Hard 1-80µm, Hard black 25-80µm	
Applied specifications	MIL-A-8625 BAC5019 BAC5632 80-T-35-2100 IFC 40-761-01MD IFC 40-761-02MD IFC 40-761-03MD FEIS 101 NE 40-030 NE 40-016 PPS 32.03 BAPS 160-010 IFMA 826 MP62.41.31	Thickness	13-100 µm unless otherwise specified
		Corrosion resistance	Subject to salt spray test for 336 hours
		Weight of coatings	Type I - class 1 : 2.2 g/m ² , Type I - class 2 : 5.4 g/m ² Type 2 - class 1 : 6.5 g/m ² , Type 2 - class 2 : 26.9 g/m ²
		Wear resistance	40 mg or less for Al2024, copper containing aluminium 20 mg or less of weight reduction for other aluminium alloys
Acceptance		External	BOEING, AIRBUS, MBD, AH, HS, CLAVERHAM, EMBRAER, BOMBARDIER, NADCAP
		Internal	HYUNDAE WIA, DOOWON, HANHWA, KAI, KAL, LIG NEX 1, ADD

Equipment condition

COTEC	Chromic acid process 1,800 × 900 × 1,500 mm	Sulfuric acid process 3,000 × 900 × 1,500 mm	Boric acid-sulfuric acid process 4,500 × 900 × 1,500 mm	Tartaric sulfuric acid process 4,500 × 900 × 1,500 mm
AERO COTEC	Chromic acid process 8,000 × 1,200 × 3,000 mm	Sulfuric acid process 8,000 × 1,200 × 3,000 mm	Hard anodizing 8,000 × 1,200 × 2,500 mm	Boric acid-sulfuric acid process 8,000 × 1,200 × 3,000 mm

Anodizing

Capable of coating complex parts



Our technologies and their applications

Chromic acid anodizing

Characteristic

- Suitable for assembly parts due to small dimensional change.
- Corrosion resistance for defense equipment and aircraft parts.
- Utilized in the inspection of cracks in aluminium materials.
- Excellent fatigue strength.
- Utilized in the inspection of cracks in aluminium materials.
- Better corrosion resistance than sulfuric acid method.

Applicable parts

- Parts for defense equipment and aircraft

Magnesium anodizing

Characteristic

- Short time (about 10 minutes) for the formation of a 30µm layer of coating.
(Conventional surface treatment requires about 60 minutes)
- Various colors can be realized.
- Mass production of as much as 250 pieces is possible for 1 lot.
- Process is simple and easy to control.
- Uniform surface of the material anodized.
- Environment friendly process without using 6 hazardous substances.
- 100% coating efficiency.

Applicable parts

- Construction structure, Defense equipment, Home appliances

Soft anidizing

Characteristic

- Its transparency enables the use of the materials showing their appearance.
- Due to high lubricity, adhesion of organic or inorganic paints are well dyed.
- It is used for decoration since it can have various colors.
- Good corrosion resistance.
- Availability of various colors depending on the components of alloys.

Applicable parts

- Construction structure, Defense equipment, Home appliances

Titanium anodizing

Characteristic

- Improved wear resistance and lubricity. (NaOH solution)
- Color change depending on the current density.
- Variations in color.
(from transparent garnet to cobalt blue)
- Decorative purpose.
(with phosphate or sulfuric acid solution)
- Used for functional purposes.
(such as medical transplanting tissue or dental tools)
- Increased wear resistance.

Applicable parts

- Aircraft parts, Artificial bone, Dental tools

Hard anidizing

Characteristic

- Less porosity on the coating and the coating is dense and strong.
- Excellent wear resistance.
- Lubricity can be enhanced with solid film lubricants.

Applicable parts

- Defense equipment parts, Aircraft parts

Boric-Sulfuric acid anodizing

Characteristic

- Suitable for assembly parts due to small dimensional change.
- Suitable for use in maritime climates
- Used for the pre-treatment of aircraft parts.

Applicable parts

- Aircraft parts

Process

