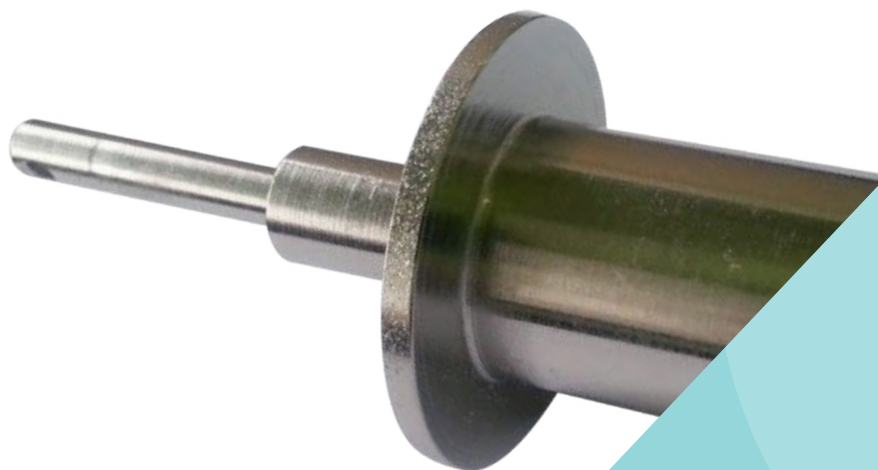


# Nickel Plating

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



## Production items and applications

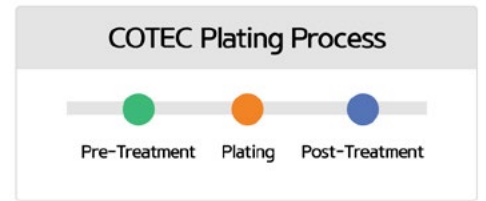
Department / Material		Aircraft, Defence, Atomic power, Electronic products, Machinery for general industries / Fe, STS, Al, Cu	
Usage		Corrosion prevention and decoration purposes	
Thickness (General criteria)		1~70μm hours	
Applied specifications	National defense 0115-0012 AMS2403 QQ-N-290	Thickness	It varies depending on the specification requirements According to the class applying 5~40μm
		Adhesiveness	No trace of separation after bending
		Stress relief	At 191±14°C, for more than 3 hours
		Relief of hydrogen embrittlement	The brittle time depending on material organization state and hardness At 191±14°C, for more than 3 hours (HRC 32~39) At 191±14°C, for more than 8 hours (HRC 40~47) At 191±14°C, for more than 23 hours (HRC 48)
Acceptance	External		
	Internal	DOOWON, HANHWA, KAI, LIG NEX 1, ADD	

## Equipment condition

COTEC	2,400 × 900 × 1,200 mm
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# Nickel Plating

Capable of coating complex parts



## Our technologies and their applications

### Nickel strike plating

#### Characteristic

- As a plating for good adhesion on stainless (Pre-treatment), it is good for triple nickel plating.
- Ventilation is to be installed as it discharges chlorine gas.

#### Applicable parts

- for various primer coating

### Black nickel plating

#### Characteristic

- Black nickel is good for decoration, optical instruments or military equipment as it prevents the reflection of light and gives a good feeling.
- Generally, it is for decoration as it has low corrosion resistance.
- The thin coating's adhesiveness is good but the wear resistance and flexibility are not good.
- Transparent lacquer coating is done to prevent tarnish.
- The bath has two different solutions such as nickel sulfide baths and nickel chloride bath. The nickel chloride bath is excellent.

### Nickel plating

- Nickel sulfate, nickel chloride, boric acid, are used as base solution with acetylene, alcohols as smoothing agent.
- Surface is semi-gloss finish, which could acquire polished and buffed finish at the same time.

### Single and multiple nickel plating

#### Characteristic

- Single nickel plating is usually used for decorative purposes. As the coating layer is 5 to 12µm, it can be used in a corrosive environment.
- Double nickel plating is to conduct the coating on a substrate with high level nickel and also to conduct the sufficient bright nickel layer on the coated surface which does not require expensive mechanical buffing.
- Triple nickel plating is done to add nickel plating between the semi-bright nickel layer and bright nickel layer with the highly active electrochemical nickel.

#### Applicable parts

- Various under coating parts



The above plating process is the property of COTEC Corporation.

## Process

