

Passivation



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 parts, Defence, Atomic power / STS	
Usage		Corrosion resistance (Thin film)	
Applied specifications	QQ-P-35 ITF 40-742-01 MD FEIS 115 NE40-081 NE40-081 National defense 0115-0013 AMS 2700 KS W 1115 ASTM A 967 API 02-05-005	I	Low temperature, Sodium dichromate is added nitric acid solution
		II	Medium temperature, Sodium dichromate is added Nitric acid solution
		III	High temperature, Sodium dichromate is added Nitric acid solution
		IV	S, Se are included Corrosion resistant steel
		V	Anodized, High carbon martensitic corrosion resistant steel
		VI	Low temperature, Nitric acid solution
Acceptance		External	AH, CLAVERHAM, HS, PARKER, AIRBUS, MBD, NADCAP, BOEING, EMBRAER, BOMBARDIER
		Internal	HYUNDAE WIA, DOOWON, HANHWA, LIG NEX 1, KAI, KAL, ADD

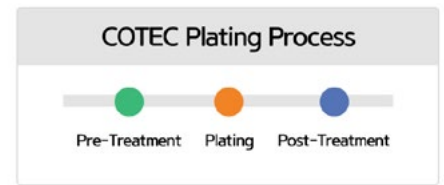
Equipment condition

COTEC	800 × 800 × 1,000 mm(4 Units)
	1,000 × 800 × 1,000 mm
AERO COTEC	1,000 × 700 × 1,100 mm



Passivation

Capable of coating complex parts



Our technologies and their applications

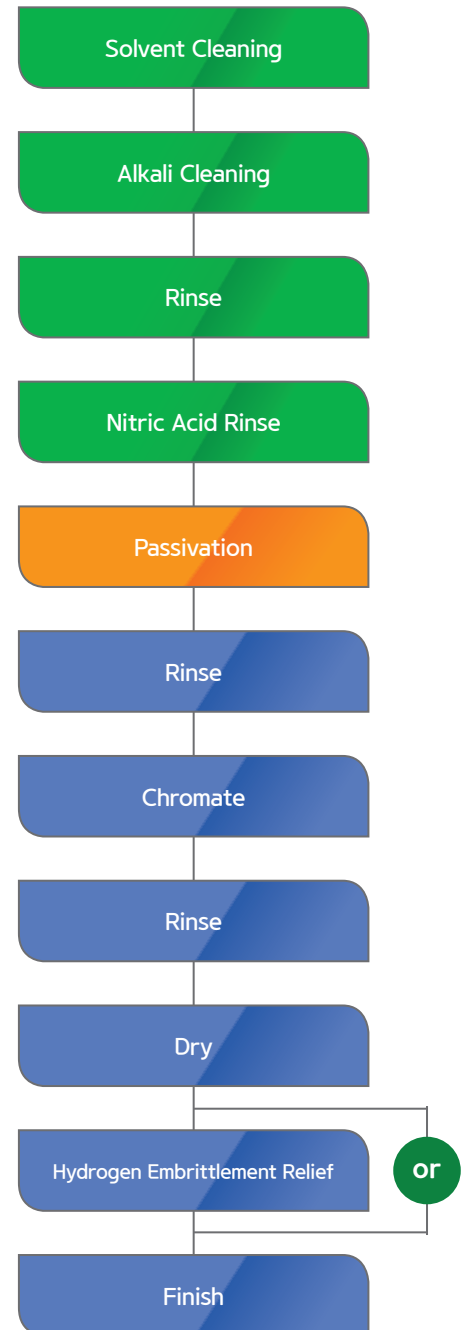
Characteristics

- Stainless steel is not a special steel but just an iron-based steel that has a corrosion resistant. Its main component is iron. The reason why stainless steel does not corrode is because very thin oxide film (30-60 Å, the passivation film) forms on the steel surface. This oxide film contains iron oxide generated from many causes. Since the iron can corrode easily when it comes into contact with Cu, Al, rubber or ebonite, or under the wet conditions, it should be passivated to remove the causes of generation of contaminants that damage corrosion resistance and cause future contamination. Contaminants are removed from the surface of stainless steel and passivation film is formed on it.
- Carburized chromium is formed on the surface of stainless steel that is heat treated for carburizing, making it unsuitable for passivation. In addition, the nitrated product cannot be treated with a solution as it corrodes the nitrated layer. If passivation is required, it shall be conducted before carburizing.
- If the parts that underwent mechanical machining and grinding are conducted with plating or electro polishing, and the iron contaminants are all removed during the process, the passivation treatment is not required.
- Parts to be soldered or brazed are to be processed with soldering or brazing prior to passivation because the passivation solution can corrode the materials for soldering or brazing.

Applied parts

General decoration, Car decoration, Cosmetic case / Accessory industrial products, etc.

Process



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