



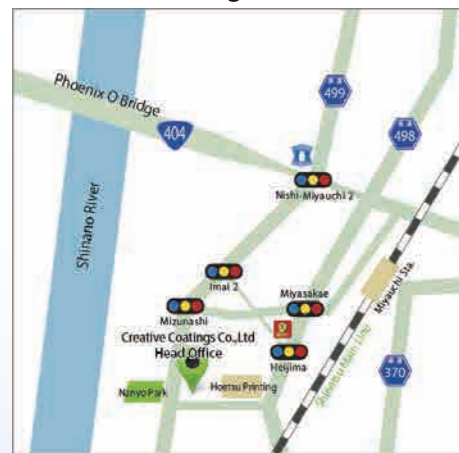
## Company Profile

CC is a "Coating specialized manufacturer"  
having a lot of coating technologies with No.1 position in the world.

## Creative Coatings Co., Ltd.

### Access

Headquarter & Mass production site  
(Niigata)



R&D Center  
(Niigata)



TOKYO Development center  
(Tokyo)



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Tree of creation for growing "Seeds" up from new "Needs" by the power of the knowledge and technology







# Coating Service

Cover customer needs in all directions with various process technologies in spite of liquid phase & vapor phase coating !

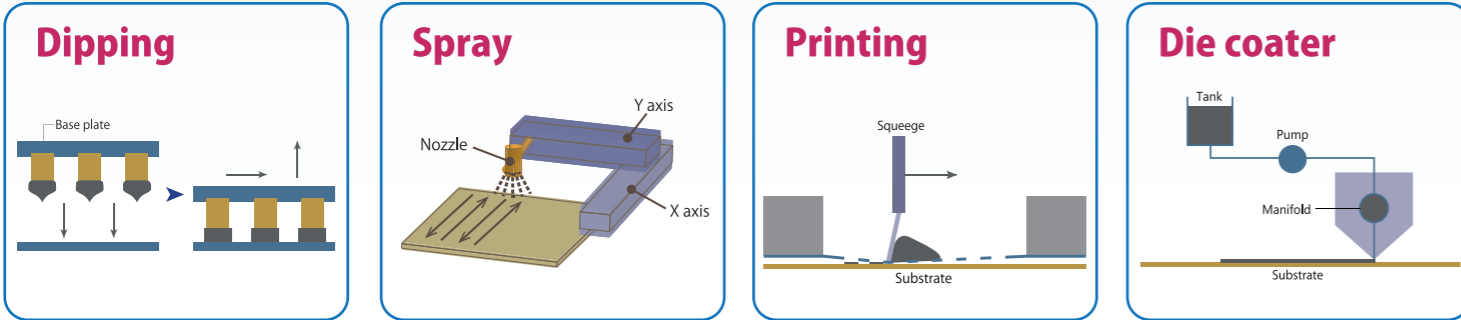
Applicable to different process with one stop service by **“Continuous process”**. Improve the production process dramatically.

Possible to form film for testing purpose of all technology and support contract service of film formation. Provide contract services such as process development & equipment development, Jig proposal, film formation and recipe. Please feel free to talk to us since we will provide most suitable technology.

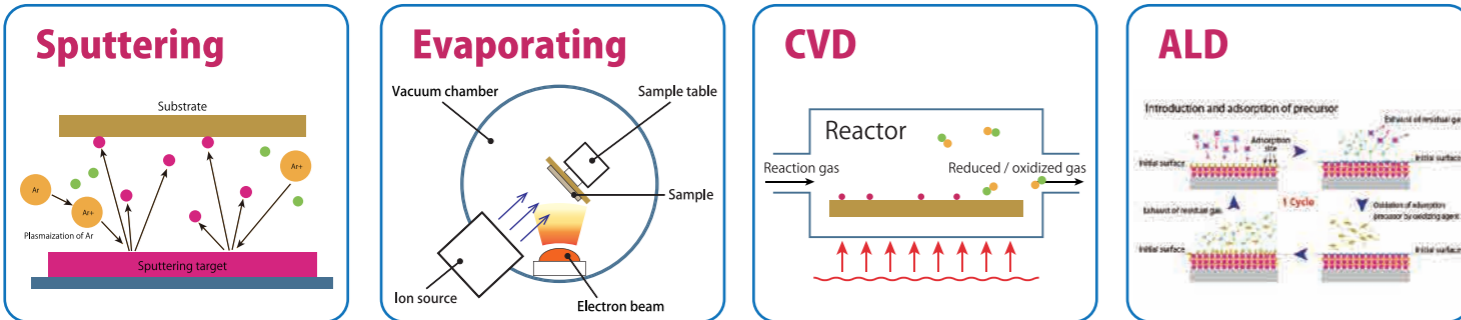
**Propose process method to meet customer needs and possible best equipment design and contract manufacturing service**

## Various process method of liquid phase & vapor phase

### Liquid phase process method



### Vapor phase process method



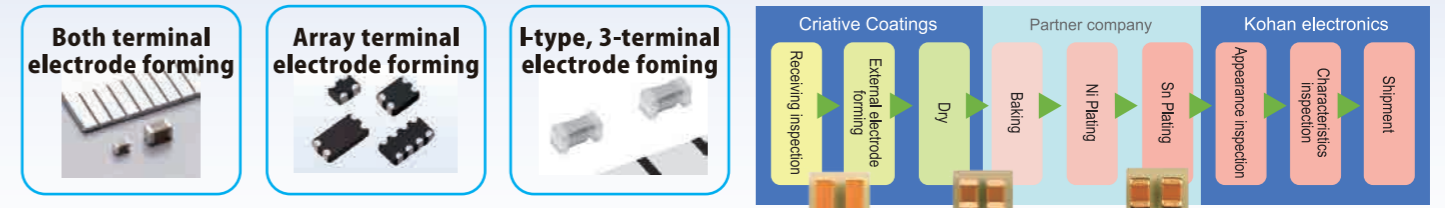
**Batch contract and development for plural processes by having skillful command of various process method**

## General characteristics of each process method

	Liquid phase				Vapor phase			
	Dipping	Splay	Printing	Die coater	Sputtering	Evaporating	CVD	ALD
Film thickness	>100 μm	1 ~ 100 μm	>20 μm	>1 μm	0.1 ~ 1 μm	50 ~ 500 nm	50 ~ 500 nm	1 ~ 50 nm
Speed	>100 μm/s	>1 μm/min	10~1000 mm/s	1 ~ 300 mm/s	0.1 μm/min	50 nm/min	50 nm/min	5 nw/hr
Material	Paste	Coating material	Paste Coating material	Coating material	Metal/insulator target material	Metal pellet	Organic / inorganic gas	Organic metal gas
Temperature	Room temp. (Drying required)	Room temp. (Drying required)	Room temp. (Drying required)	Room temp. (Drying required)	Room temp. ~ 600 °C	Room temp. ~ 300 °C	200 ~ 600 °C	Room temp. ~ 200 °C
Work	Unmentioned	Unmentioned	Unmentioned	Unmentioned	Metal, Glass, Ceramics	Metal, Glass, Ceramics, Rasin	Metal, Glass, Ceramics	Metal, Glass, Ceramics, Rasin
Work size	cm order	m order	m order	m order	m order	< 1 m	< 1 m	< 1 m
Adhesion	○	△	○	○	◎	△	○	◎
Uniformity	<± 10%	<± 20%	<± 10%	<± 10%	<± 5%	<± 10%	<± 5%	<± 1%
Appelcation	Electrode	General painting	Electronic materials	Electronic materials	Electronic materials	Optical material	Electronic materials	Electronic materials

**We are an only company to operate the production of sample, small lot and various kinds with one-stop seivce**

## Contract service of electrode forming



### Contract service with consistency process

- Provide all of processes from forming to inspection
- Possible to produce sample and various kind of small volume
- Provide stable delivery date and high quality at internally developed and produced production line

**Possible to achieve various processes, kind of film and film thickness**

## Contract service of film formation

### Film thickness Less than 100nm

#### Example of contract service by ALD at room temperature

- 【Film formation specification】  
Work : Wafer, Metal (SUS, Al, Cu, etc.), Resin, Film, etc.  
Work size : about 100nm per one side, the shape is not the matter
- 【Applicable film】  
SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, HfO, etc.

### Application example



### Film thickness 100~1000nm

#### Example of film formation contract service by IBAD

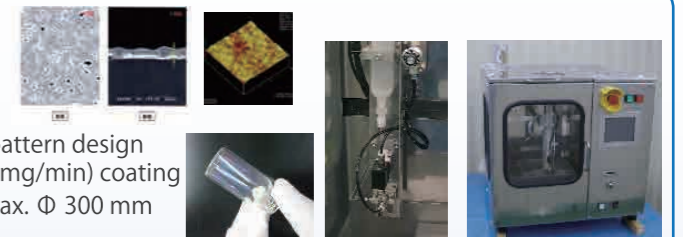
- 【Film formation specification】  
Work size : φ 100 ~ 300mm (Possible to use amorphous type and cylinder type)  
Film formation : Possible to make a single layer film and Multi-layer film (Max. 4 layers)  
Pattern deposition : Metal mask to be applicable (option)
- 【Applicable film】  
High melting metal, Cr, Si, Al, Cu, SiO<sub>2</sub>, SiN, ZnO, etc.



### Film thickness More than 1 μm

#### Example of contract service by atmosphere pressure spray equipment

- 【Film formation specification】  
Produce various tools based on work size, film layer shape, pattern design  
Can be applied for ordinary coating and very small amount (mg/min) coating  
Work size : About □400 mm, cylinder (using rotary table) Max. Φ 300 mm
- 【Applicable film】  
Photoresist film, transparent electrode, release agent film, antireflection film, fingerprint prevention film, antifogging film etc.



**Possible to make an ordinary pressure plasma processing which is not required large equipment, such as vacuum chamber, etc.**

## Atmospheric plasma surface treatment technology

### Technical features

- High efficiency & low cost by ordinary pressure
- Control the hydrophilicity and hydrophobic of the work surface
- Possible to apply to all of industrial products such as grass, ceramics, resin, metal and so on
- In barrel type, possible to process surface transaction with less nonuniformity of treatment on micro component such as MLCC and so on

