TOUCH-DOWN TECHNOLOGY

Touch-Down Technology is a professional advanced ceramics manufacturer, diversified across many different technologies. We use only the highest purity ceramic powders which allows Touch-Down to have a consistently high quality product that satisfies our customer's demand.

Established in: 1997
Factory size: 2,000 square meters (or 20,000 square feet)
Employees: 30
Customers distributed in US, Taiwan, China, and South-Eastern Asia.

Organization

- General Manager
  - Production
  - QA
  - Sales
  - Administration
  - Financial

Facilities

成型設備

Dry Pressing

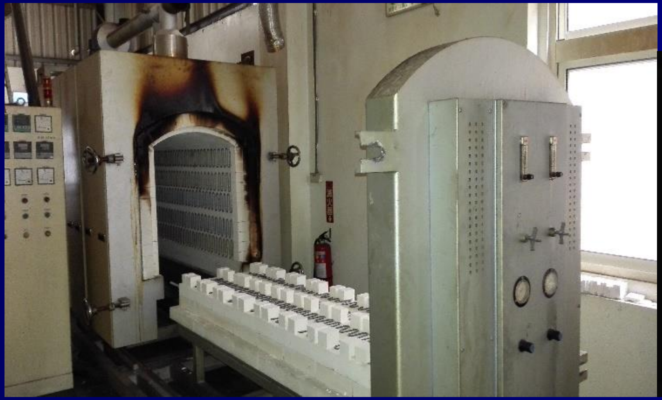
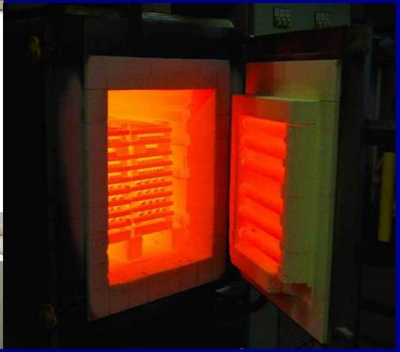
Bean Preparation

Cold ISO Pressing(Wet Pressing)

ARBURG **Injection Molder**

Debindering & Sintering 脫脂/燒結

Debindering550°C/Sintering1650°C

CNC machining CNC異型研磨

Plane Grinding　平面精磨

Flatness 2-3μm

Fine Ceramics Manufacturing Process 生產流程

Machining ceramics from raw material to completed product

Raw Material原料 → Pressing 成型 → Machining Greenbody 粗坯体 → Sintering 脫脂燒結 → Machining Grinding 精密研磨加工 Lapping 拋光 → Inspection-Analysis檢查 → Cleaning 清洗烘烤 → Packing 包裝 → Shipping 出貨

High purity. High rigidity. High precision.   Plasma resistance. Heat resistance. Wear resistance. Insulation

Materials and Processing

Touch-Down’s high purity ceramic powders are all imported from Japan to assure the highest and consistent quality available and meet our customer’s high quality demands.

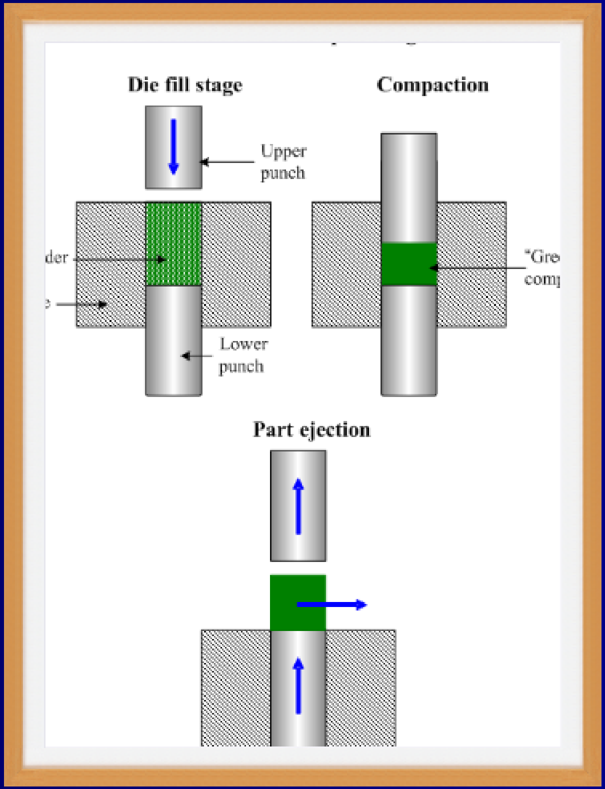
Production Processing:
Touch-Down uses Die-Pressing, Ejection Molding, and Cold Iso-Static Pressing of products with various shapes and dimensions to meet customer’s demand.

Touch-Down fires products at high temperature sintering (1400-1700 ℃) to achieve high density, hardness, strength, toughness, and corrosion resistance.

Touch-Down’s grinding equipment includes various CNC grinding and drilling machines with diamond grinding media to grind products to their final dimension with high accuracy.

1. Uniaxial (Die) Pressing

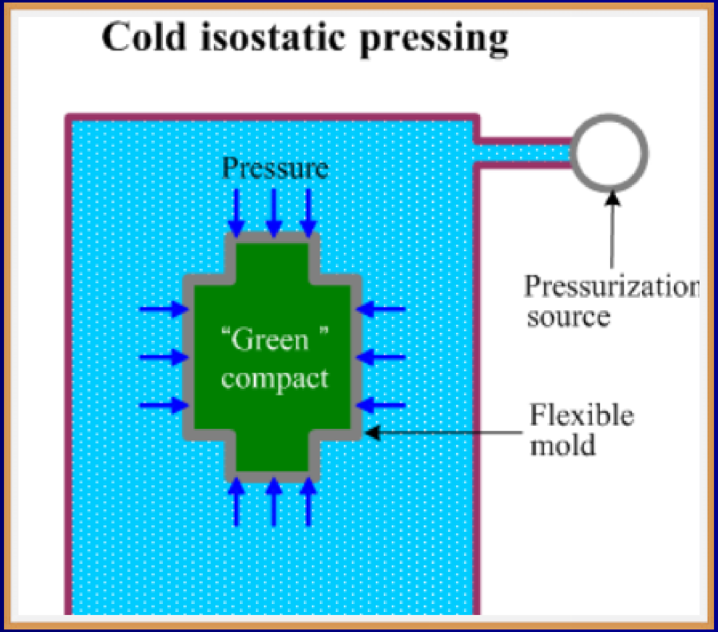
- ***Die pressing*** is the powder compaction method involving uniaxial pressure applied to the powder placed in a die between two rigid punches.



2. Isostatic pressing(Cold and Hot)

Isostatic pressing is the powder compaction method involving applying pressure from multiple directions through a liquid or gaseous medium surrounding the compacted part.

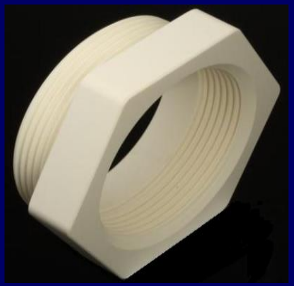
CIP



3. Injection moulding or extrusion

injection molding is the method of compaction of ceramic powder fed and injected into a mold cavity by means of a screw rotating in cylinder.

- **Mixing** the ceramic powder with 30% - 40% of a binder – low melt polymer.
- **Injection** of the warm powder with molten binder into the mold by means of the screw.
- **Removal of the part** from the mold after cooling down of the mixture.
- **Debinding** – removal of the binder. There are two debinding methods:
  - solvent debinding – the binder is dissolved by a solvent or by water;
  - thermal debinding – the binder is heated above the volatilization temperature.
- **Sintering** the “green” compact.



Products

Compared to traditional ceramics, advanced ceramics has much higher purity, density, hardness, strength, toughness, corrosion resistance, and electricity resistance.

Existing applications include:

Semiconductor robotic arms, chamber linings, covers, and rings.
In addition to Semiconductors, Touch-Down is active in the LED and Photo-electrical fields.

In our Textile business we are a leader in the ceramic thread guides, nozzles, and jets field.

Wire cutting equipment: insulation plate and roller.

Consumer application: cutting blade and others.

Inspection Instrument

2.5 D （投影量測儀)

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High Precision Density Meter (密度量測儀)

(X.Y投影量測儀)

Inner/Outer Grinding, CNC Drilling

Zirconia (ZrO_2) 氧化鋯系列

- Industrial cutter, Slitter, Household cutter Scissors.
- Spray Nozzles.
- Pulleys and sheaves.
- Vale guides.
- Bearing Parts.
- Wire guide.
- Roller.

Physical properties and chemical analysis of low-soda easy-sintering alumina

SUMITOMO AES series is Low-soda alumina with very fine sized α-crystals and have excellent sintering properties.

Qualitative data	Grade	AES-11C
Chemical composition	H_2O (%)	0.1
	L.O.I. (%)	0.1
	Fe_2O_3 (%)	0.01
	Na_2O (%)	0.05
	SiO_2 (%)	0.04
	Na_2O (%)	0.10
	Al_2O_3 (%)	99.8
D50 *	(μm)	0.45
Size of α-crystal	(μm)	0.3
Green density **	(g/cm^3)	0.22
Fired density	(g/cm^3)	3.93
Linear shrinkage	(%)	17
Packaging	kg	25

* Laser Diffraction
Without flux addition, pressed 300kg/cm², fired at 1600℃
* MgO is intentionally added, purity of Al_2O_3 is calculated without MgO content.

氧化鋁　材質特性


Thank You!