OUDENSHA・Electroformed Nameplate Manufacturing Processes

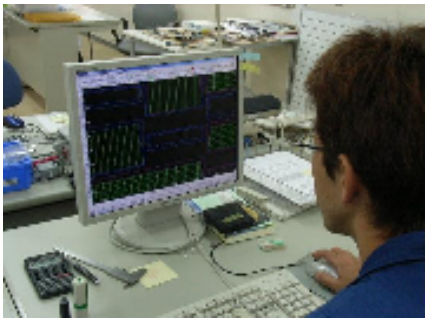
Using our leading technology and consistent production line, Oudensha will respond and satisfy customer's various needs.

We are capable of stable supply of products with our skillful tool making technology and superb mold precision that are unique to electroforming.

■Design

We will design and plan specifications of each product using our knowledge and technologies to fulfill customer's requirements.
Product specifications are considered based on the CAD data, and reproduced exactly as instructed in the drawing, and use them for master engraving and product making.

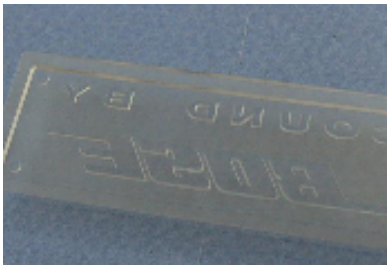
【Reviewing】
After receiving customer drawing and data, we review and decide the specifics within the Technology Department.



【CAD System】
We develop the engraving data using the CAD system.

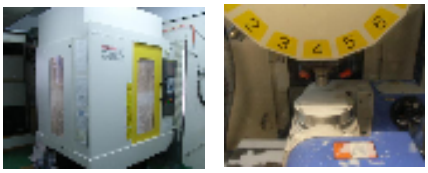
■Master Engraving Process

Based on the engraving data prepared by CAD system, we will engrave using numerically controlled NC Engraving Machine and 5-axis Robodrill.



【Engraved Acrylic Plate】

【NC Engraving Machine】

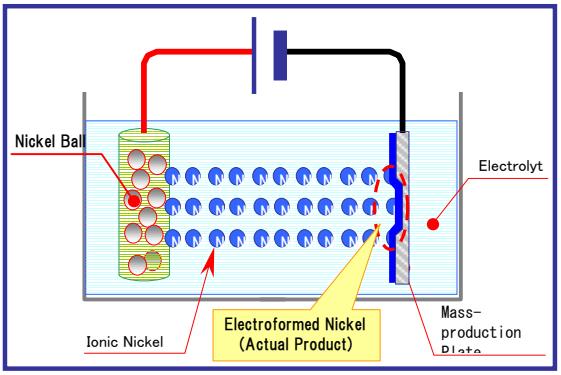


【5-axis Robodrill】

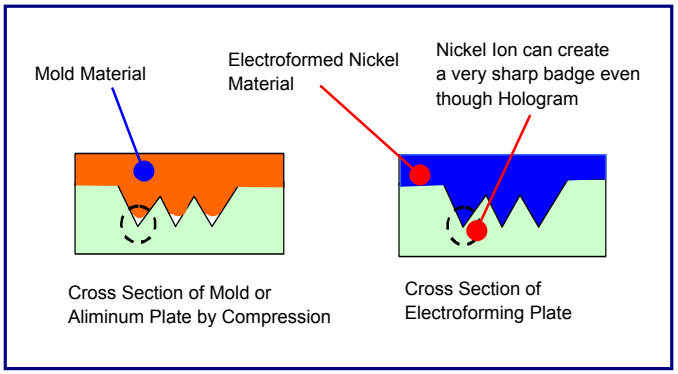
■Electroformed Mold

We will electroform the engraved master piece (reversed).

＊Electroforming is a mold making method to manufacture metal structure, applying the principle of electrodeposition.
The electrodeposition is similar to plating, but plating is a method of electrodepositing an object with either similar or different metal. On the other hand, for electroforming, electrodeposited product becomes the mold itself.
Since it precipitates ion, electroforming is extremely precise compared with other processing methods and can accurately replicate details of complex shapes.



【Image of Electroforming】

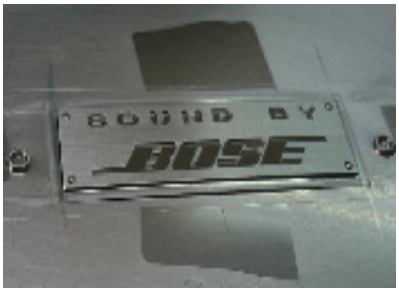


【Detailed image comparing Electroformed mold and other molding method】

■Making Electroformed Master Mold

Making use of electroforming method, we reverse mold, polish, add machine works such as sand-blasting, diamond-cut, and perform fine-tuning manually by expert engineer as needed, we continually check and adjust to perfect an electroformed master mold.
Major characteristics of Electroforming is that diverse variation can be obtained by combining a variety of different textures compared to plastic, aluminum, and spattering vapor deposition.
Diverse variation means that stunning number of designs are possible.
Since our company has been self-manufacturing the tooling from the very beginning, our motto is "prompt and detailed response to our customer's needs and requests" using our knowledge that we have accumulated over many years.

【Electroformed intermediate mold polishing】



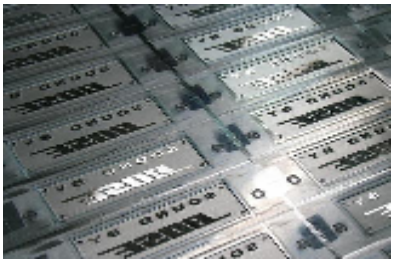
【Electroformed Master Mold(Raised Mold)】

【Electroformed Master Mold (Recessed Mold)】

■Electrofoming・One Row Type／Mass Production Mold

We replicate the master mold by electroforming, connect them together, and replicate that again by electroforming in order to make the electroformed mass production mold.
Regarding the appearance of the textures, there will be no quality deterioration, such as specular intensity variation, cut-pitch variation, or misalignment since it is replicated by electroforming.

【Electroform-One Row Mold】



【Electroform-Mass Production Master Mold (Large)】

■Electroform・Mass Production

Below is the electroforming bath production line at our mass production facility.
We can accomodate large volume production, allowing approximately 5 millions pieces per month.
We will apply various surface plating on electroformed molding and blank out the shape.
If we are adding color to the base, we use paint or printing methods.
We apply adhesive tape in the back and inspect the appearance, package, then ship the parts out.

【Mass Production Facility-Electroforming Bath】

Engraving on Acrylic
↓
Master Mold
↓
Mass-Production Plate
↓
Punching by Press Die
↓
Painting
↓
Ashesive Tape
↓
Inspection
↓
Shipping

【Mass Production Process Flow】

【Completed GT-R Badge】

【Completed BOSE Badge】