VICTOR ALUMINUM

Newsletter

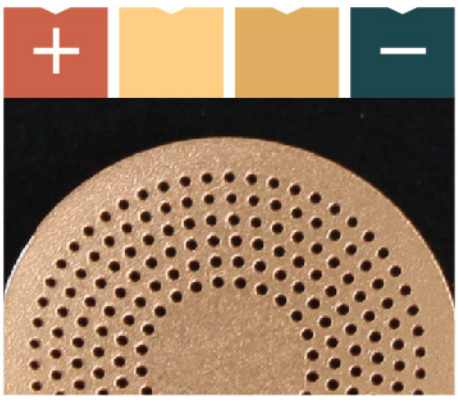
2017 No.03

Fabricating New Images In Aluminum Treatment

Etching Revamped at Victor

Mini-perforation used on the surface of electronic gadgets plays a vital role in the shifting of consumer's taste on the products. To allocate the right tool for the tiny holes is the next challenge surface finishers have to face.

Fabrication of mini-perforation may use CNC high-speed drilling, laser-graving, or punching; but for mini-holes on thin wall, etching is most ideal.



Etching is a chemical process by using chemical solutions to etch off the target area. It goes through a 6-step process of Rinsing, Shading, Light Exposure, Photo Development, Etching, and Film Removal to create cutout of an artwork on the surface. It works best with material of 0.05 – 0.6mm thick. Tolerances on blind-holes can be set within +/-0.015mm, while through-holes +/-0.03mm (subject to wall thickness and hole-diameters). Products gone through etching come out free from burs or bulges, and nice and bright on both faces.

Our newly introduced etching line protects product quality while increasing productivity and effectively decreasing equipment wear and tear. The application indicates another experimental exploration by Victor on alloyed aluminum.

CHEMICAL ETCHING

Our In-house Die Casting Design Evaluation

Aside from our top of the line casting techniques and a list of auxiliary devices to safeguard product quality, we also keen on die design modification through cross-division evaluation for optimum productivity, which results in proven economic advantage.

Mould Parting Line Design

The parting line, the touching faces where fixed mould and movable mould meet, is the key factor in mould design. It is also a pertinent factor to overall mould structure, design of the injection, mould ejection, and mould-making process.

Molten Sprue Design

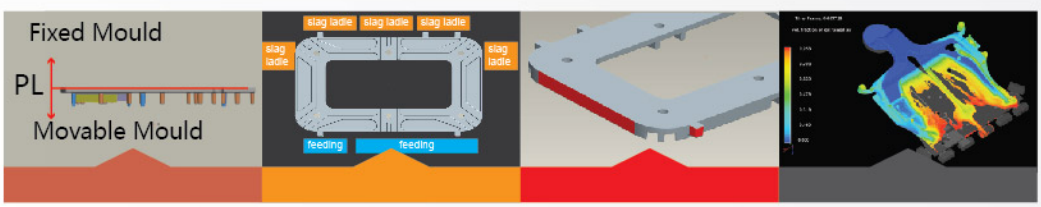
Abide by the Law of Fluid Mechanics, the sprue is designed to tackle such details as the position, shape and size of the opening, while conforming to the flow dynamics when molten is channeled into the casting chamber, which enables impeccable molten filling and minimizes porosity, and eventually guarantees smoothness and defect-free of the casting surface.

Mould Ejection Design

A tapering design on the two sides of the chamber facilitates easy mould ejection and effectively obviates “back-grab” or “abrasion” issues during the mould exit process.

3D Mould Flow Dynamics Analysis

The use of a 3D simulation computer program makes it possible to simulate mould formation process and come up with data to compare for mould design feasibility evaluation and improvement review.



Mould Parting Line Design | Molten Sprue Design | Mould Ejection Design | 3D Mould Flow Dynamics Analysis

Flame Technique – A Pretreatment Enhancer

Flame treatment is a highly effective cleaning technique used for cleaning on metal surface, which is now adopted by Victor on our powder lines. It helps significantly shorten the treatment cycle while improving cleaning power.

Flame treatment engagesa series of physical and chemical reactions.

Physical Reaction - for Power Cleaning

The high temperature flame transfers energy to burn off oils and chips on the aluminum surface, and subsequently eradicate surface residuals resulted by lubricant, fibers and chips while shunning from generating any scraps to be dealt with later, which serves as an effective cleaning.

Chemical Reaction – for Better Adhesion

Flame is replete of plasm that is subject to oxidation. When heated, the treated surface is oxidized, resulting in polar point charges, which elevates its surface tension helping bond the desired coating for better paint adhesion.

Stamping and its Applications

Stamping is an application, using pressor to apply force to the tooling over plate, sheet strip, tube or profiles, to induce deformation or separation of target material to obtain the required shape and dimension. It is a widely-applied manufacture process for its easy operation, low-cost and high productivity.

There are a few different types of applications to choose from to meet your metal forming needs:

1. Punching

   By applying stamping pressure to force the portions out from the part as so desired and designed.

Punching

2. Bending

   By applying tooling to reshape the material to a desired angle or form.

Bending

3. Stretching

   By applying special tooling to convert a 2D part to a cavity-shape.

Stretching

4. Forming

   Localized physical transformation in material by using special tooling.

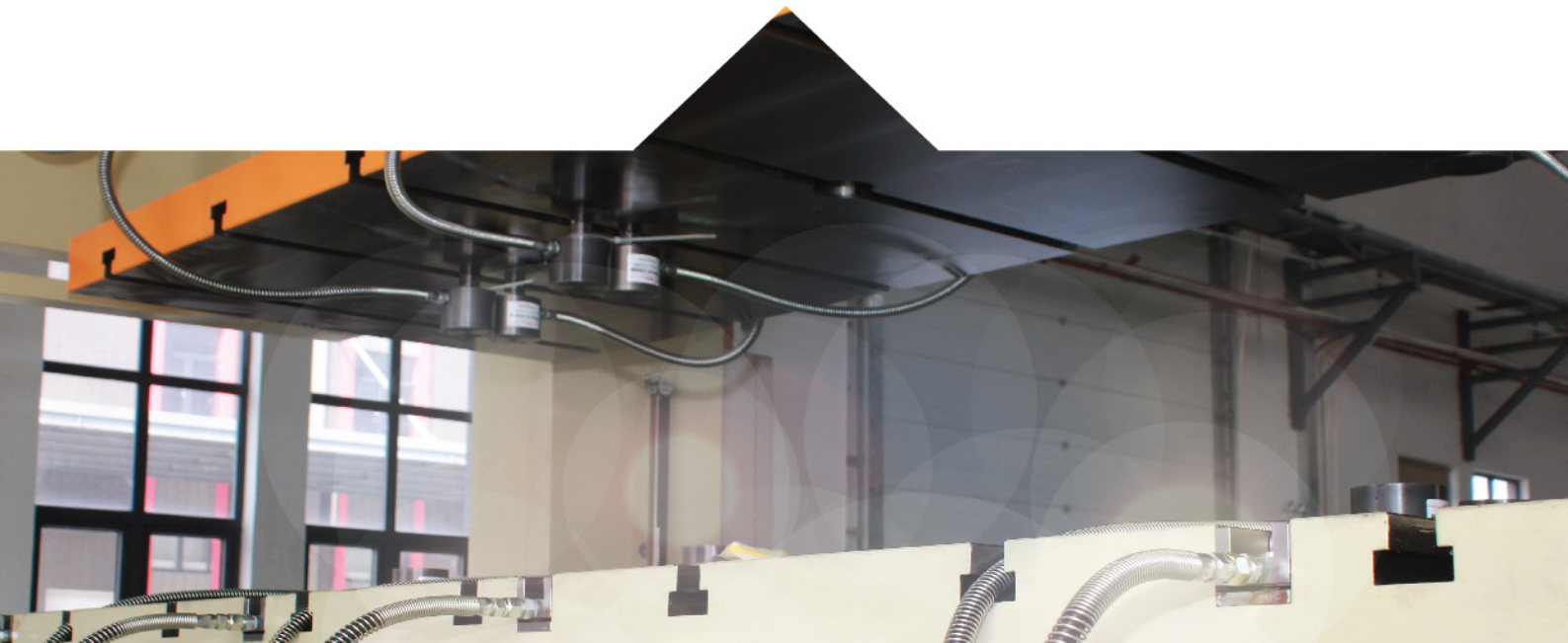
Forming

5. Compressing

   Physical transformation of shape dimension by using mold.

Compressing

To embrace the ever-evolving technical challenges from the market, the R&D team at Victor is committed to further explore and conquer any obstacles in our stamping process to enable in transmuting industrial design ideals into physical products for our customers.



COMPANY PROFILE

Our company was founded in year 2000. Being a company specialized in sophisticated alloyed aluminum fabrication and high-end surface treatment, JM Victor is not only refined with hands-on experiences through years of accumulation through the sector chain of precision manufacture, but also with unparalleled wealth of knowledge enriched from company operation and management process, which enables the company to offer solutions in overcoming design and production bottlenecks in high-end aluminum fabrication.

In Jiangmen High-Tech Industrial Park, we have invested in construction of our new cyber-physical powered Smart Plant embracing the core Industry 4.0 design concept. The new plant, residing on an area of 100,000 square metres, comprising a global lab of aluminum-magnesium surface treatment and a smart CNC fab centre with its own casting house and stamping workshop, will add on a new chapter of consummate expertise to the venture of JM Victor.

Our Mission Statement

We stand by our commitment to share the harvest and happiness with our staff and workers, create value for our customers and cultivate a company culture with a vision. This is the foundation for the sustainability and continuity of our company and our business.

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