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A Revitalization of Your Aluminum Product**

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Our Brand-New Etching Line

Etching is a photo-chemical process, using chemical solutions, to etch off the unwanted areas while keeping the remainder in the form of an uneven surface or simply, a cut-out.

Products gone through etching come out free from burrs and deformation; it warrants mass production consistency even on fabrication of high-density mini-holes. Today, etching technique is reaching its prime, especially in digital applications such as earphones, acoustic devices, mobile phone, and electronic pads which involves making of the speaker casing, logos, decorative hardware and accessories.



Our newly commissioned etching line, sitting on a 600sqm floor space, offers the making of artwork on metal surfaces of alloyed aluminum, copper, or stainless steel. It can also be paired with cover-up techniques such as cover-up sanding, cover-up brushing, and cover-up anodizing (to achieve more dynamic effects). Meanwhile, the line is equipped with auto-detect devices that monitor chemical concentration and temperature, and auto-replenish chemicals to ensure production stability.

The continual investment in new technology and new equipment allows Victor to offer more options on surface treatment. We stay uncompromised on surface quality and fabrication precision in manufacturing alloyed aluminum products for our customers.

Brushed Aluminum – A Revitalization of Your Aluminum Product

Brushing, apart from other surface treatment, gives the aluminum a silk-touch grain on the surface and makes the metal texture stand out, as if giving the ordinary aluminum a new life. This explains why such technique has gained more and more favor by the market to be widely applied.

Brushing is process by relative mechanical movement between the surfaces of the brushing material and metal to obtain a surface grain with consistent fine lines that are evenly distributed. This process induces the delicate sheen from the satin metallic luster and offers a flavor of style and tech to the product. The process also serves as a repair function to seamlessly overwrite any surface scratch on the metal.

Brushing Patterns – can be classified by the grain structure of the product accordingly to their decorative requirement, e.g. lined gain, cross grain, spiral grain and wave grain. The first two are the top picks at our mill.

Lined-Grain Pattern

Horizontal brushing

Grain texture is clear, running in the same orientation, with continuous and expanded line across the product, with alternating light reflection, and tactile

Cross-Grain Pattern

Horizontal brushing

Grain texture is smooth, with short lines spread and staggered.

Brushing belts are mainly supplied by 3M including:

- The non-woven belt
- Soft fabric belt for fine grain
- The grain is measured in the unit of 40/80/120/150/180/240/320/400/600 grits.
- TriZact belt
- Hard fabric belt for coarse grain

Brushing is a dynamic and complex practice that involves some technical tricks to acquire. That is what we, at Victor, can offer you the brushing solutions throughout years of experience and expertise.

Optical Emission Spectrometer (OES)- Special Helper in Picking Casting Ingot



Failure in compliance to chemical composition of alloyed aluminum may result in brittleness of the casting part. Thus, before reaching the furnace, it's an essential first step to test the chemical composition of the raw material.

Victor has adopted the Germany-made Spectra Spark OEM to perform test of aluminum ingot for our casting line. The device is merited for its high-speed analysis (20 – 30 seconds), high-definition analyzing ability, complete data coverage on metal alloys (including data reading on aluminum up to to 0.000000%), and high anti-jamming to surroundings.

This is how OES works - The radiation from the testing sample, activated by the source light, is passed to the spectrometer (or spectro-grill), where it is dispersed and dissolved into spectral lines by their wavelengths. Then, these optical signals are first translated into electric form which will be further converted to modular/digital form by the device's measuring system. The digital information will be read on their percentage composition by the computer to conduct standardized quantitative analysis, which facilitates ingot compliance to alloyed aluminum standards and enhances production stability of casting aluminum.



Surface Quality Assurance? —Lab-Test a Must

Ever since we shifted our focus to fabrication and surface treatment on high-end electronic products, we have made it the backbone to operate under stringent quality control on product surface.

So far, we have developed multiple testing applications to ensure full compliance to surface standards at delivery. These applications include the following:

Salt-spray Test

Using salt-spray test device mimicking a salt-saturated environment to test corrosion-resistance of a product.

Cross-Cut Test

By using the tooling to cross-cutting on coated surface in checkerboard pattern as specified, to analyze the coating film integrity of each checker square to determine how well the coating film is bonding to the part and its bonding grade.

Glossiness Test

Typically by using a Gloss-meter. The device comprises a projector and a receptor, where the projector emits light beams to the targeted surface, which returns a tapered beam to be received by the receptor to determine the returning or reflective ratio of the beam.

Film-Thickness Test

The film-thickness testing device using X-Ray to traverse the metal coating film before hitting the metal layer to return reflective energy wave spectrum to calculate product surface coating thickness.

Colour-Variance Test

By using a chromometer, a product specimen will be read and obtained the color range(expressed in L^*a^*b) of which the absolute value of the differences will be used as markers (or standards). Then production parts can be tested and measured against these markers to determine how far the it deviates and in which way.

Abrasionand Wear Test

By positioning the friction and reference spots according to the size of the part, the test is performed through relative motion between the product surface and abrasion device for designated times and evaluated after against product specimen.

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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