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## A light touch on Shortfalls of Aluminum Extrusions

Customer requirements may bring on all kinds of challenges to aluminum extrusion that may be difficult to control and incur higher defective rate. Therefore, it is viable to obviate the following during product design:

1) Thickness Variance – which is caused by uneven extrusion flow speed.

**Key to Success:** Reduction on extrusion speed, and quenching/cooling speed.

2) Multi-channel multi-angle profiles – uneven pressure applied on tooling will cause instability flow of extrusion and high scrap rate.

**Key to Success:** Reduction on extrusion speed, and stretch-correction immediately after profile extruded.

3) Multi-Cavity profiles – esp. when cavities are not even distributed, unstable flow of extrusion will induce profile twisting and tooling breakage.

**Key to Success:** Proper multicavity tooling design, and reduction on extrusion speed.

4) Tooling subject to break – tooling with thin-wall and wide-open cavities is subject to tear or break.

**Key to Success:** Increasing tooling strength at design stage.

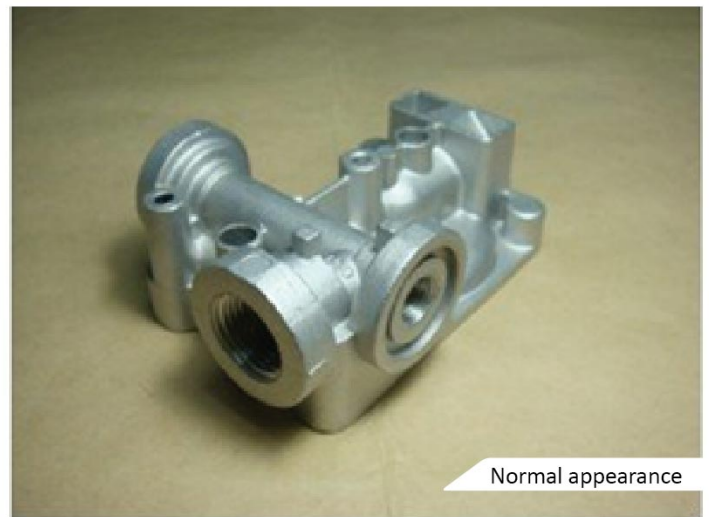
5) Challenges on Tolerances – tight tolerances, esp. hollow or semi-hollow profiles with thin wall.

**Key to Success:** Improve tooling precision, reduce extrusion speed, and stretching immediately after extruded.

With 17-year experience and expertise in production, we are confident to offer customers feasible design options and forecast possible challenges during extrusion for guaranteed delivery consistency.

## ***“Vaccination” at Victor ——To Prevent Casted Aluminum from Blackening***

Aluminum is so well-known for its volatility in the metal family that it is subject to oxidation in certain temperature and humidity. Without proper surface treatment, casted aluminum is prone to oxidation with the blackening look.



Victor is well versed with such characteristics and has developed a series of effective measurements to preclude oxidation from developing.

1. In-Process Casting QC - without applying the right amount of pressure during casting, the structure density of the casted part will be compromised to form tiny pores where water is easily trapped to cause oxidation or blackening. Victor has measures to effectively regulate casting speed and pressure for prevention of such defects.
2. Surface Cleansing – Thorough cleansing after casting and machining process is crucial in removing residuals such as eject-lub or shear-lub that are caustic to the surface and eventually speed up the rusty process if cleansing is not adequately done. To prevent such adverse effect, Victor has adopted the Passivation Treatment by applying a 6-step cleansing process including Alkaline Bath, Degreasing, Water Bath, Acid Bath, Water Bath, and Water Rinse, which works well in lowering the risk of getting rusty and turning black.
3. Manual Process – line operators are required to wear gloves to handle the parts to avoid direct skin contact with any casting part. In addition, parts are closely monitored during drying process to eliminate moisture built up on product surface.
4. Storage and Packaging – parts are kept in dry and ventilated condition but avoided being exposed in the sun; the products are packed in perforated wraps to release condensation, and moisture-proof agent is added to each package.





## *Central Tower Continuous Melting Furnace ——Big Guy for a Big Task*

Compared to the traditional electric crucible smelter, the central tower continuous melting furnace works more effectively, during the casting process, to regulate aluminum combustion temperature for ascertained molten quality. In Victor's new casting plant, the central continuous melting furnace is already in commission to lay the foundation for a quality product.

Our furnace is a custom-made equipment combined two functions, namely centralized aluminum smelter and thermostatic, in one body. It takes up big space to conduct continuous melting and auto-feeding at high thermal efficiency and low burning loss with a longer service life.

### Features:

1. Imported equipment using low-speed infrared and flame combustion for smelting to minimize combusted oxidations.
2. Using fume thermo-recovery system to reduce energy consumption with high heat efficiency for optimum energy efficiency.
3. Specially designed chamber structure, and the use of thermal barrier and refractory, minimize in-chamber heat disperse for reduced energy consumption and optimum work efficiency.
4. Fully automatic feeding system from lifting, lid-opening, descending, to lid-closing all completed in one stroke.



# Let Green Take the Lead in Company's Sustainable Growth

Since the inception of the company, Victor has been upholding our mission of dual-focus on production and operation as well as environmental protection. To better facilitate the latter task, we have allocated major funding in green facilities for waste water and exhaust emission treatment, by which we take advantage of advanced technology at home to ensure that our discharge fully meet the regulatory standards.

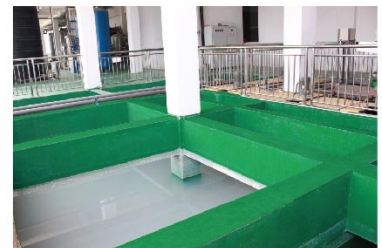
## Advanced Waste Water (WW) Facilities Treating



WW containing Nickel (Ni)



Inorganic WW



WW containing Phosphorus (P)

- 1) WW containing Nickel (Ni) – can be fully and separately recycled with effluence.
- 2) Inorganic WW – by pairing inorganic air floater and TFM Film to filter waste material from the water before discharge to enforce compliance.
- 3) WW containing Phosphorus (P) – through electrolysis to reverse possible water-borne sub-phosphorus to calcium phosphate in order to meet the standards of phosphorus discharge.
- 4) WW Treating Station – is devised with re-claimed water system to recycle water and improve WW recyclability.

## Exhaust Emission Treating Facilities

- 1) Emission Treating Tower – is installed to sprinkle, absorb, and filter exhaustion on anodic oxidation lines in order to comply with the State Emission Standards.
- 2) Sprinkler Devices – are paired with dust-bag devices applied to the fabrication process including grinding, polishing, sand blasting, and spray painting to remove dust and exhaustion with maximum 90% efficiency rate.



## 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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