

## **BIH RONG INDUSTRY CO.,Ltd.**

Aluminium | Magnesium | Production **ISO 9001 verified**

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# About the company

Bih Rong Industry Co. was founded in 1971 as an aluminum and magnesium extrusion plant specializing in production of seamless tubes, plates and extrusion profiles. Through continuous technical development in the past decades, Bih Rong supplies extrusion products of light metals, including 3 categories:

- Aluminum alloys: 2000, 5000, 6000, and 7000-series.
- Magnesium alloys: AZ31B, AZ61A, AZ80A, AZ91D, and ZK60.
- Non-standard advanced alloys: Sc-modified Al-alloys, Al-Li alloys, hypereutectic Al-Si alloys, aluminum base MMC.

The products meet the requirements of CNS, JIS, ASTM, MIL, or AMS specifications in accordance with the customer request. The unique combination of extrusion press manufacturing, die design and collaboration R&D allows Bih Rong Industry to offer continually high quality aluminum and magnesium tubes and extrusions for the international customers in transportation, machinery, electronics, computer, textile, defense, sporting goods, medical utensil and construction industries.

Bih Rong Industry has been dedicated to advancing the technology development of indirect extrusion for over 20 years. Our high precision extrusion presses in association with automatic control of production and excellent extrusion die design makes it possible to produce tubes and extrusion with stable quality, accurate dimensions, fine surface finish, and homogeneous microstructure of materials. Our collaboration with the Materials and Opto-electronics Research Division of Chung Shan Institute of Science and Technology since 1996 has further enhanced the capability in optimization of processing parameters, improvement of quality control techniques, development of new products for special purposes as well as resolution of any technical problems from customers. To satisfy the customer needs is always our top goal.



## Major products

- Seamless tubes, rods, shapes and extrusions of 2000, 5000, 6000 and 7000 series aluminum alloys.
- Aluminum seamless tubes with fine surface finish meet the requirements of international recognized specifications.
- Various aluminum extrusions are made in accordance with customer needs.



### Company advantages:

1. Fast delivery
2. Quality assurance
3. Competitive price
4. Continuous R&D activities

Monthly capacity: 500 tons

Export market: Worldwide

Delivery lead time: Within 15 days

Packing: STD Containers or wooden crate

# Advantages of indirect extrusion press

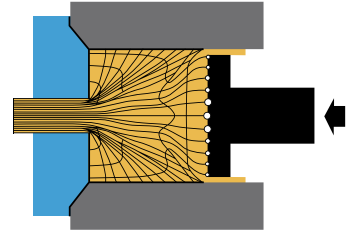
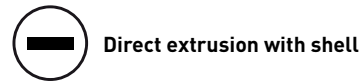
Bih Rong Industry has been dedicated to advance the development of indirect extrusion technology.

The advantages of indirect extrusion are partly related to the lower load needed and partly to the more uniform flow pattern developed because of the absence of relative motion between the billet and the container i.e. heat induced by friction. The main advantages are:

1. A 25 to 30% reduction in load compared with direct extrusion.
2. The resultant higher extrusion load available can be used either to extrude more complicated cross sections or to decrease the billet temperatures, permitting the use of higher speeds.
3. No heat is produced by friction between the billet and the container, and consequently no temperature increase occurs at the billet surface towards the end

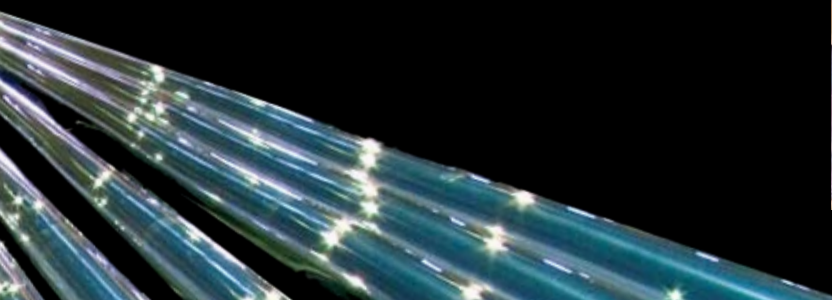
of extrusion, as is typical in the direct extrusion of aluminum alloys. Therefore, there is less sensitive to tear on surfaces and edges to crack in the indirect process.

4. There is more uniform deformation of the complete billet cross section with no tendency to form extrusion defect or a coarse-grained peripheral zone.



## Production equipment

1. High precision indirect piercer extrusion press (600 - 2.700 tons)
2. Straightening machine
3. Solution treatment furnace with fast water quench capability
4. Precision aging furnace
5. A computerized dual-use extrusion press with automatic peeling and feeding mechanism is capable to produce extrusions from a billet with 10 inch diameter
6. Solution treatment furnace (right bottom)



# Quality inspection instruments

To ensure best quality we are equipped with following instruments of quality inspection:

- SPARK – OES
- Universal testing machine
- Hardness tester
- Surface metrology

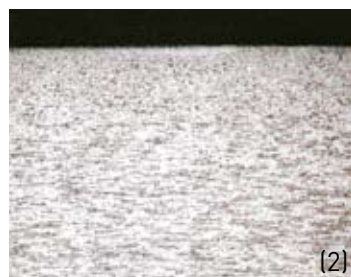
SPARK OES and a universal testing machine are used for determining the chemical compositions of incoming billets and tensile properties of products respectively.



## Collaboration with materials R&D center Chung Shan (CSIST)

- Optimization of aluminum extrusion parameters
- Assessment of quality problems and prevention
- R&D of new products
- Support of material testing and evaluation
- Technical consultation of material characteristics

Formation of blisters and coarse grains (1) on the surface layer of an AA7005 extrusion can be avoided (2) by processing parameters.



**Bih Rong Industry Co.** supplies high quality Al-alloy seamless tubes suitable for pneumatic cylinders, bicycle frames, and sporting goods.

