



**Southwest Aluminum (Kunshan) Co.,Ltd**

**Introduction for Aluminum forgings**



Southwest Aluminum (Kunshan) CO.,LTD always adheres to sustainable development ideas of "Based on high starting point, utilizing high technology, creating high quality,"and gradually has formed the unique aluminum industrial chain in the world with the most complete links and short inter-link distance, which covers the fields from energy, alumina, and electrolytic aluminum to aluminum profiles, and high-precision aluminum sheets, aluminum strips and aluminum foils. With respect to the corporate size and output, the company has continuously ranked in the forefront of the large enterprises involved in the aluminum industry worldwide.

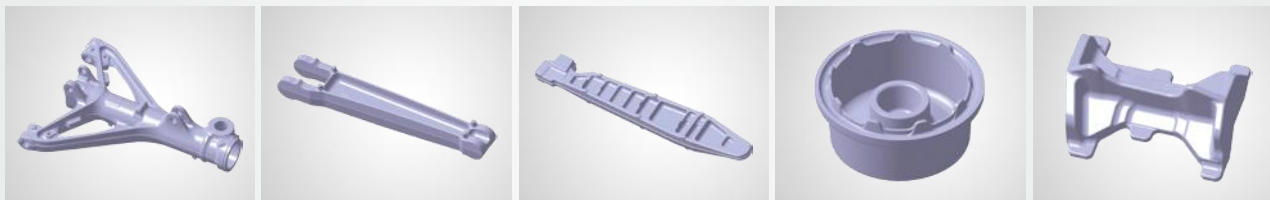
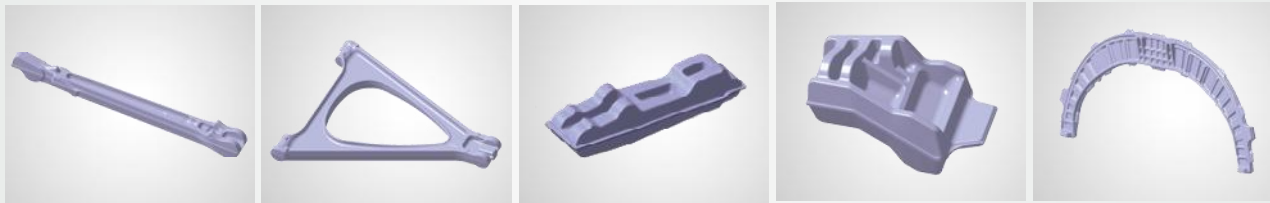
Southwest Forge Company was established in accordance with the "domestic leading and international first class" standards for being a large-scale high-end forge enterprise.

The company is capable to research,develop and produce high technology content, high value-added aluminum alloy forgings. The products cover aviation, shipbuilding, petrochemical, rail transportation, energy, marine and other industries that require high-end forgings.

# Product Display

- **Fuselage Product**

Forgings for landing gear and its supporting beam, frame of cabin doors, wings and frames etc. We have the ability to manufacture more than 90% of the forgings on an airplane.





## 500MN Closed Die Press

### Main Parameters:

- Daylight: 4000mm
- Stroke of moving crossbeam: 2000mm
- Size of working table: 4000\*7000mm
- Range of forging speed: 0.05-50mm/s
- Accuracy of forging speed:  $\pm 5\%$

500MN press is an imported closed die forging press with the largest tonnage and most advanced technology in China. The advanced structure and function of this press enables to have high position accuracy, high speed accuracy, accurate horizontal control of moving beam and control of strain rate which can guarantee the repeatability of the production of super large press forgings with high dimensional accuracy and consistent grain flow structure, for example parts such as the landing gear supporting beam as well as the solid forging of cabin bulkhead of large commercial aircraft.





# Forging Equipment



The 125MN closed die hydraulic press has advanced structure(The upper and lower working table, centering device as well as lower ejection device etc.), powerful functions (It has high position accuracy, high speed accuracy, horizontal control of moving beam and control of strain rate etc. ) and can finish the operation that normally needs several heats on other presses with one heat. During production, the stock is processed with high centering accuracy and minimal scrap. The presses of the same type in China do not have such kind of structure and functions yet.

## 125MN Closed Die Press

### 125MN PRESS Main Parameters

Daylight: 4000mm

Stroke of moving crossbeam:2000mm Size of working table:2000\*4000mm Range of forging speed:0.05-50mm/s Accuracy of forging speed:±5%





## 25MN Open Die Press

### Main Parameters:

Daylight: 4000mm

Stroke of moving crossbeam: 2000mm

Size of working table: 1800\*3500mm



## 60MN Open Die Press

### Main Parameters:

Daylight: 5000mm

Stroke of moving crossbeam: 3000mm

Size of working table: 2600\*5000mm





## Furnace main performance index

Temperature uniformity of Al heating furnaces:  $\pm 5^{\circ}\text{C}$

Temperature uniformity of Al heat treatment furnaces:  $\pm 3^{\circ}\text{C}$

Temperature uniformity of steel, Ti and Ni heating furnaces:  $\pm 7^{\circ}\text{C}$

Temperature uniformity of steel, Ti and Ni heat treatment furnaces:  $\pm 5^{\circ}\text{C}$

## Heating&Heat Treatment Equipment

- Types of furnaces are chain furnaces, box furnaces, car bottom furnaces, rotary furnaces and vertical furnaces etc. These furnaces could cover heating and heat treatment of four alloys. Their configurations are as per AMS2750E and RPS953 standards.
- The lines are equipped with 34 stock heating furnaces and 8 heat treatment furnaces.



## Machining Equipment

- 3X6m five-axis machining center,
- 5X8m five-axis machining center
- Five-axis linkage water jet cutter
- Seven types of imported band saws

## Surface treatment equipment

- Chemical etching facility for Aluminum, Titanium and super alloy ;
- Shot-blasting and sand-blasting equipment;
- automatic grinding equipment



## Inspection Equipment:

- Water-immersed ultrasonic flaw detection equipment that meets Boeing, airbus and other standards;
- CMM;
- On-line hardness testing machine;
- 3D Scanners;
- FPI machines;
- Magnetic particle inspection machines



## Complete detection capability:

Metallography, chemical composition, mechanical property, fatigue, corrosion, fracture toughness etc.

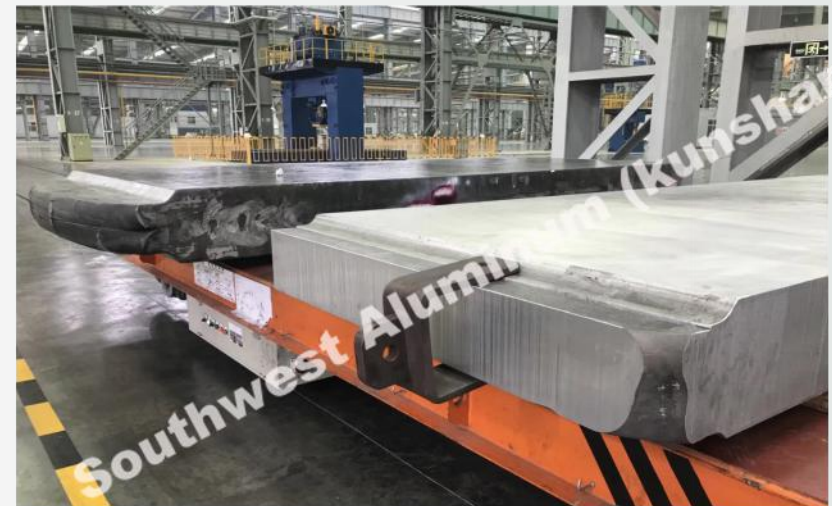
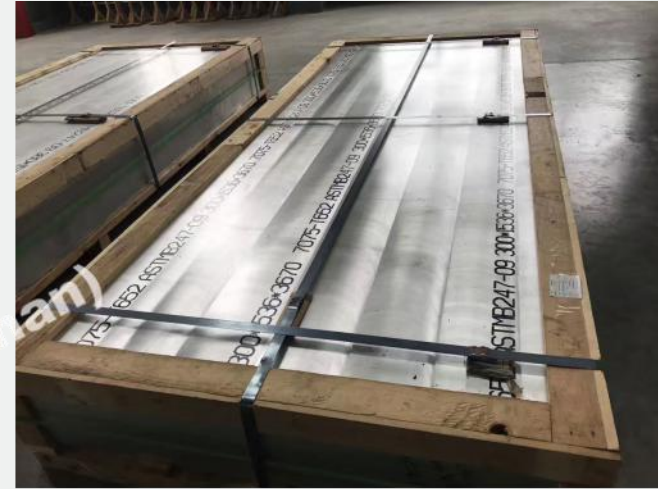
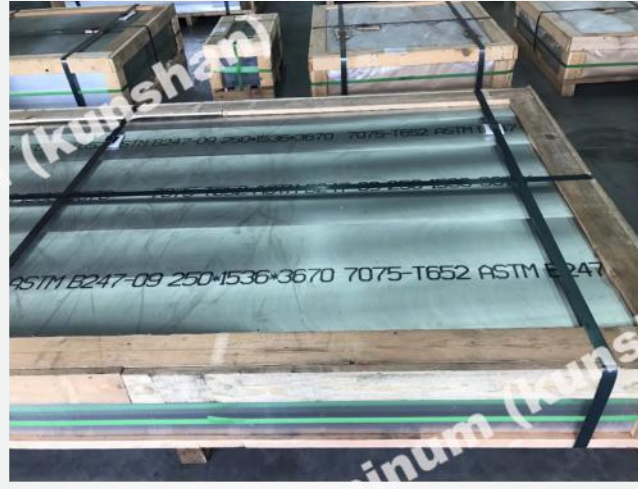
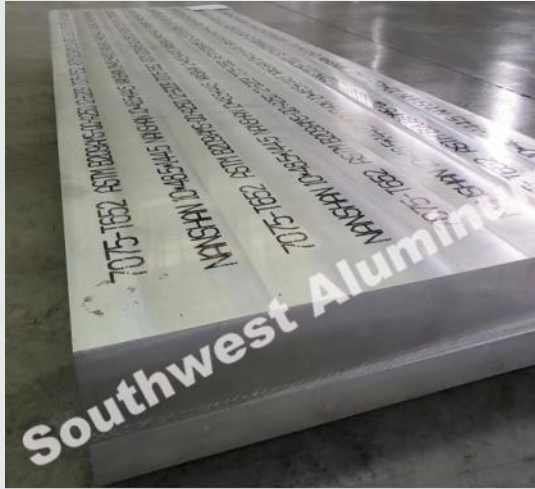


# Product Catalog

Forging	Type	Max.Weight	Max.Dimension	Alloy	Standard		
Open Die Forging	Cube	≤9T	Length≤7000mm, Width≤2000mm, Height≤500mm	2219,2618,2B50, 2A50,2A70,2A80, 2D70,2A14,2014, 2A11,2A12,2024, 3A21,4032,5A90, 5210,5A02,5A03, 5083,5A05,5A06, 6A02,6061,6A02, 7A04,7B04,7A09, 7075,7050,7A19, 7A10	GBn 223 YS/T 479 ASTM B247 AMS Standards		
	Disk	≤5T	Diameter≤2500mm				
	Ring	≤5T	Outer diameter of quenching parts ≤ 2500mm, Outer diameter of non-quenching parts ≤ 4000mm, Height ≤ 500mm				
	Cylinder	≤5T	Outer diameter 200-800mm Length ≤ 2000mm Diameter 801-2000mm Lenght ≤ 1500mm				
	Axle	≤8T	Length≤7000mm, Diameter≤800mm				
Backward Extrusion	Forged Pipe	—	Outer diameter ≤ 830mm Inner diameter ≤ 650mm Length ≤ 1800mm				
Closed Die Forging	Common Closed Die Forgings	—	PVA≤3.0m³ (Diameter≤1950mm)				
	Complex Closed Die Forgings	—	PVA≤1.5m³ (Diameter≤1400mm)				
Available Temper: O,F,H112,T3,T4,T5,T6,T62,T652,T73,T74,T7452,T852 etc.							
Note: Please consult engineers in technical department about products exceeding above mentioned range							



## Aluminum Forged Plate





## Aluminum Forged Pipe





## Aluminum Die Forging





## Aluminum Forged Flange





# THANK YOU

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