

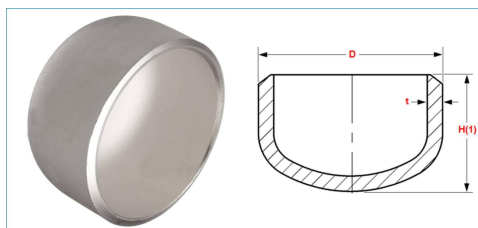
Aluminum Pipe End Caps

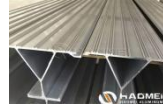
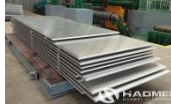
Aluminum pipe end caps, also known as aluminum caps, are aluminum fittings used to close one end of a metal pipe or other tubular item. They can be made by extruding or cutting processes and come in a variety of sizes and models to fit different sizes and types of pipes.

Aluminum pipe caps are widely used in various industries, including but not limited to the construction industry, automobile manufacturing, furniture manufacturing, medical equipment industry, and so on. They are extensively used in residential and commercial water pipelines to seal pipe ends effectively, preventing system leaks and ensuring a smooth flow of operations. Depending on the usage scenarios and needs, different grades and types of aluminum can be selected to manufacture aluminum pipe caps to ensure their performance and durability.

Aluminum Pipe End Caps Specification:

Size Range	½" NB to 24" NB in Sch 10s, 40s, 80s, 160s, XXS. (DN6~DN100)
Dimensions	ASME/ANSI B16.9, ASME B16.28, MSS-SP-43, BS4504, BS4504, BS1560, BS10
Thickness	Schedule 5S, 10S, 20S, S10, S20, S30, STD, 40S, S40, S60, XS, 80S, S80, S100, S120, S140, S160, XXS and etc.
Bending Radius	R=1D, 2D, 3D, 5D, 6D, 8D, 10D or Custom Pipe Fittings
Types	Seamless / ERW / Welded / Fabricated Pipe Fittings
Form	Equal Tee, Pipe Tee, Butt weld Tee, Barred Tee, Lateral Tee. Unequal Tee, Reducing Tee, Pipe Tee, Butt weld Unequal Tee.
Manufacturing process	Push, Forge, Press, Cast, etc.
Standards	ASTM B361 ASME SB361 ASTM B241 ASME SB 241
Export to	Saudi Arabia, Oman, Kuwait, Netherlands, Bahrain, Qatar, UAE, Africa, Nigeria, Mexico, Canada, Venezuela, United States, South Africa, Malaysia, Bangladesh, Singapore, Sri Lanka, Australia, Brazil, France, Italy, South Korea, Poland, Iran, United Kingdom, Turkey, Germany, Belgium





Types of Aluminum Pipe End Caps:

Buttweld End Cap	Butt Weld Pipe Caps
ASME B16.9 Butt weld End Cap	Aluminum Cap Pipe Fittings
Aluminum End Cap Suppliers	Buttweld End Caps Fitting
ANSI B16.9 Buttweld End Cap	ASME B16.28 Buttweld Pipe Cap Exporter
Welded Butt weld End Caps Stockholder	Seamless Butt weld End Cap
Aluminium Pipe End Cap	High Quality End Cap Manufacturer

Aluminum Pipe Caps Production Process:

1. Material Selection

Commonly used aluminum alloy: 1060 (pure aluminum, excellent corrosion resistance), 5052, 5083 (medium strength, corrosion resistance), 6061 (high strength, good weldability).

2. Forming process

Spin forming: Aluminum plate is fixed in spinning machine and formed by rotating + roll forming (suitable for hemispherical/elliptical head).

Stamping forming: mold cold stamping (thickness <10mm) or hot stamping (thickness ≥ 10 mm).

Casting molding: sand/metal mold casting (complex structure or large size head).

3. Post-treatment process

Heat treatment: Elimination of internal stress (annealing) or enhancement of strength (aging strengthening).

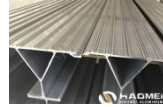
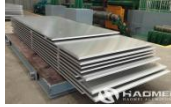
Machining: Turning port to ensure dimensional accuracy (such as beveling to accommodate welding).

Surface treatment: anodizing (film thickness 10-25 μ m), sandblasting or painting.

Inspection: ultrasonic flaw detection (internal defects), pressure test (1.5 times the working pressure holding pressure).

Main Functions of Aluminum Pipe Caps are:

- Dust and dirt prevention: to close off one end of the pipe to prevent dust, moisture or other contaminants from entering the interior of the pipe.
- Protecting function: protect the end of the pipe from damage and extend the service life of the pipe.
- Prevent liquid leakage: when needed, it can be used as a temporary or permanent seal to prevent liquid or gas from leaking out of the pipe.
- Decorative effect: Aluminum pipe cap can be anodized or other surface treatment to match the color and appearance of the pipeline and improve the overall aesthetics of the product.



Aluminium Pipe End Caps Core Advantages:

- Lightweight: Aluminum has a low density ($2.7\text{g}/\text{cm}^3$) and is approximately 65% lighter than steel, making it suitable for weight-sensitive containers (e.g., mobile equipment, aerospace).
- Corrosion Resistance: Aluminum oxide film is naturally formed on the surface, which is resistant to atmospheric and freshwater corrosion; acid and alkali resistance is significantly improved after anodizing.
- Excellent thermal conductivity: High thermal conductivity ($237\text{W}/\text{m}\cdot\text{K}$), suitable for heat dissipation pressure vessels or heat exchange equipment.
- Easy processing and molding: good ductility, can be cold/hot stamping, spinning into complex shapes (such as oval, butterfly head).
- Non-toxic: Conforms to food grade standards (e.g. GB 4806.9), suitable for food and pharmaceutical industries.
- Recyclability: Aluminum is 100% recyclable, which meets the requirements of environmental protection and reduces the whole life cycle cost.
- Various surface treatments: anodized, painted or plated for functionality and aesthetics.

Application of Aluminum Pipe End Caps:

Chemical Industry

- Reactor / tank sealing
- Corrosive media containers (e.g. dilute sulfuric acid tanks)

Food and Pharmaceuticals

- Fermenter heads
- Aseptic liquid tank end caps

Energy

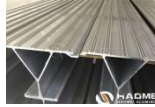
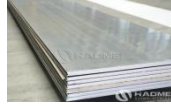
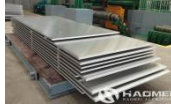
- Cooling system vessels for nuclear power plants
- Compressed Natural Gas (CNG) Tanks

Aerospace

- Rocket fuel tank headers
- Aircraft Hydraulic System Vessels

Shipbuilding

- Desalination equipment end caps
- Marine Fuel Tanks



Electronics Industry

- Vacuum chamber for semiconductor processing
- Coolant circulation system container

Construction

- Central air conditioning refrigerant storage tank
- Firefighting Tank Heads

