



Beer Bottle Caps

Beer bottle caps are a popular closure option for beer bottles, offering convenience and efficiency in sealing. They are typically made from materials like aluminum and come in various designs and colors.

Base Structure of Beer Bottle Caps:

- Cover body: made of aluminum 3105 or 8011 with embossed threads on the inside.
- Sealing gasket: food-grade PE or PVC to ensure airtightness.
- Anti-theft ring (optional): disposable break ring for tamper-proofing.

Beer Bottle Cap Common Size:

1. Standard Diameter

- Outer diameter: usually 32.1mm (diameter covering the outer edge of the bottle neck).
- Inner diameter: approx. 26.6mm (to fit the bottle neck thread).
- Scenario: Suitable for most industrial beer bottles (e.g. 330ml, 500ml glass bottles).

2. International bottle neck specifications

PCO 1881: A global standard for caps with a diameter of approximately 26mm, commonly used for bottles of carbonated beverages such as cola and beer.

PCO 1716: Another common standard, the pitch design is slightly different and needs to be matched with the bottle neck thread.

3. Special design

Craft Beer Caps: Some high-end craft beer brands use wider bottle necks (29mm) and require customized caps to enhance sealing and decoration.

Production process of Beer Bottle Screw Caps:

1. Stamping: Aluminum coil or tinplate coil is cut and stretched into cover body by punching machine, thread precision should be controlled $\pm 0.1\text{mm}$.
2. Gasket lamination: hot melt or adhesive process to fix PE/PVC gasket, peel strength $\geq 1.5\text{N}/15\text{mm}$.
3. Surface treatment:
Printing: screen printing brand logo or bottle pattern.



Plating: aluminum cap anodized to enhance wear resistance, tinplate cap chrome plated to prevent rust.

4. Quality Test:

Air tightness test: pressurized to 5 bar, hold pressure for 30 seconds without leakage (ASTM D4991).

Torque test: opening torque 0.8-1.5N-m to ensure easy opening and sealing balance.

Application of Beer Bottle Caps:

- Craft Beer

Aluminum screw caps are commonly used in craft beer categories such as IPA and Saito (e.g., some Stone Brewing products) due to their lightweight and high-end texture.

- Non-alcoholic/low-alcohol beers

Plastic screw caps are suitable for low carbonation or non-sparkling products as they do not need to withstand high pressure.

- Ready-to-drink packaging

Small bottles under 330ml are packaged with screw caps for quick drinking in outdoor scenes.

Key Features of Beer Bottle Caps:

- Seal Integrity: Screw caps provide an airtight seal that helps preserve the freshness and carbonation of the beer, preventing oxidation and contamination.

- Ease of Use: They are easy to open and reseal, allowing consumers to enjoy their beer at their own pace without worrying about spoilage.

- Versatility: Screw caps can fit various bottle sizes and styles, making them suitable for different types of beer, including craft beers and larger formats.

- Customization: Many manufacturers offer customization options for screw caps, including printing logos or designs, which can enhance brand visibility.

- Recyclability: Depending on the material, many screw caps can be recycled, making them a more environmentally friendly option compared to some traditional closures.

- Tamper Evidence: Some screw caps come with tamper-evident features, providing assurance to consumers that the product has not been opened before purchase.