



Roll Stamping Milling Tamper Evident Caps

Roll stamping milling tamper evident cap is a kind of aluminum bottle cap that achieves anti-counterfeiting through the surface processing process, combining Roll Stamping and Milled Engraving technologies to form a logo that is difficult to replicate.

Process Principle of Roll Stamping Milling Tamper Evident Caps:

1. Roll printing technology:

- Continuous relief patterns (e.g. brand logos, wave patterns) are embossed on the surface of the aluminum cover by engraved copper molds, and the depth of the roller printing can reach 0.1-0.3mm.

- Advantage: strong pattern continuity, suitable for large-area texture processing.

2. Milling process:

- Use CNC milling machine to mill the recessed text/numbers (e.g. production date, batch number) in the designated area, the milling depth is accurate to 0.05mm.

- Advantage: Strong three-dimensional text, sharp edges and unique touch.

Tamper Evident Design Details:

- Composite Texture:

Roll-printed background texture (e.g. very fine grid pattern) + milled character main message, double process to increase the difficulty of imitation.

- Microscopic letters:

Embedded 0.2mm high miniature letters in the milled area, which need to be viewed with a magnifying glass.

- Dynamic angle effect:

Combined with the 3D curved design of the rolled print, changes in light and dark can be seen from different angles.

Core Advantages of Roll Stamping Milling Tamper Evident Caps:

1. High imitation threshold

Need to master both roller printing and milling process equipment, and imitation precision requirements are extremely high.

2. Intuitive Identification

Tactile (bumpy texture) and visual (fine milling) double verification, consumers can quickly identify.

3. Flexible Customization



Supports brand-specific patterns, dynamic coding (e.g., different milling logic for each batch).

4. Strong compatibility

Can be superimposed with other anti-counterfeiting technologies (e.g. thermochromic ink, QR code) to form multi-layer protection.

Application of Roll Stamping Milling Tamper Evident Caps:

1. High-end alcohol: Maotai, whiskey bottle caps with roll-on batch number + milling brand totem.
2. Pharmaceutical packaging: pharmaceutical bottle caps with roll-on production date + milled anti-counterfeiting microcode to meet regulatory requirements.
3. Luxury cosmetics: aluminum cap surface milling pattern + roller printing LOGO, both artistic and anti-counterfeiting function.