China's Leading Exporter of 60ml Cartridges: Universal 1K & 2K Caulk Gun Compatibility for Efficient Seaming

Dongguan, Guangdong May 7, 2026 (Issuewire.com**)** - The industrial adhesive landscape is undergoing a significant shift as manufacturers seek to balance high-performance bonding with operational cost-efficiency. A primary challenge in this sector has been the technical barrier between single-component (1K) and two-component (2K) application systems. Traditionally, utilizing high-strength structural adhesives required specialized, high-cost pneumatic or manual 2K dispensers, creating a "tooling silo" that limited the accessibility of advanced materials. Addressing this gap, COHUI, a **Professional Exporter in China of 60ml Cartridge Compatible with Both Two-Component and One-Component Caulk Guns**, has introduced an integrated storage and mixing solution designed to bridge the gap between industrial-grade performance and universal tool compatibility.

Addressing the Equipment Barrier in Structural Bonding

For decades, the adoption of two-component structural adhesives in medium-sized enterprises and on-site maintenance has been hindered by the high entry cost of specialized equipment. While standard single-component caulk guns are ubiquitous—with an estimated global inventory exceeding 500 million units—they have historically been incompatible with the 10:1 or 1:1 mixing ratios required by structural epoxies and acrylics. This incompatibility often forced users to invest in dedicated 2K guns, which can be five to ten times more expensive than their 1K counterparts.

The development of a universal 60ml cartridge represents a structural breakthrough in adhesive packaging. By integrating a passive mechanical proportioning system, the axial force of a standard, low-cost 1K caulk gun is converted into a synchronized dual-piston thrust. This innovation effectively "democratizes" high-performance bonding, allowing users to achieve professional-grade results without the capital expenditure typically associated with structural adhesive systems.

Technical Innovations in Material Durability and Mixing Precision

The efficacy of a two-component system relies heavily on the chemical resistance of the cartridge material and the precision of the mixing interface. Conventional cartridges made from HDPE or PP often face challenges when storing highly active monomers like acrylic acid, which can lead to swelling, deformation, or premature curing within three to six months.

To counter these issues, the new 60ml cartridge utilizes a high-performance Polybutylene Terephthalate (PBT) matrix reinforced with core-shell toughening agents. This material base is further enhanced by an internal fluorine coating (PTFE/PVDF) applied via plasma surface treatment. This "triple-layer" protection system creates a chemical barrier that extends the shelf life of sensitive adhesives to 24 months, even under challenging environmental conditions.

Beyond storage, the mixing precision of this integrated system is controlled through a dual-piston linkage mechanism with a 10:1 volume ratio. While industry standards for manual mixing typically allow for a 5% margin of error, this universal cartridge achieves a mixing precision of within ±1.5%. This is facilitated by a 3D helical static mixing unit integrated directly into the bottle nozzle, ensuring a homogeneous blend across a short flow path of only 50 mm.

Core Technical Specifications and Performance Standards

The reliability of the 60ml universal cartridge is backed by rigorous testing against international and national standards. These parameters ensure that the product meets the high-stress demands of automotive manufacturing, electronic packaging, and industrial sealing.

- **Material Strength:** The PBT-based body exhibits a tensile strength of ≥55 MPa and a notched impact strength of ≥8.0 kJ/m², providing the necessary rigidity to withstand high extrusion pressures.
- **Chemical Stability:** The cartridge maintains structural integrity after 72 hours of immersion in 98% acrylic acid, showing no signs of swelling or cracking.
- **Mixing Quality:** Achieving a mixing uniformity of ≥98%, the system minimizes material waste. Traditional external mixing tubes often result in significant residual glue—averaging 19.1mL per nozzle—whereas the integrated 3D helical unit optimizes flow and reduces retention.
- **Airtightness and Pressure:** The system is rated for a maximum discharge pressure of 1.2 MPa with an airtight leakage rate of ≤0.01mL/min at 50kPa, ensuring consistent performance during long-duration applications.

Strategic Integration into Global Supply Chains

The development of such precision-engineered hardware is a reflection of the broader expertise found within China’s advanced material hubs. **COHUI**, founded in 2007 and headquartered in the manufacturing center of Dongguan, operates at the intersection of material science R&D and large-scale production. The company’s strategic location near Guangzhou and Shenzhen allows for rapid integration into international logistics networks, supporting its role as a key exporter to global markets.

Specializing in high-performance adhesive and sealing solutions, the organization focuses on providing chemical-mechanical systems that solve specific industrial pain points. The universal cartridge is not merely a container but a mechanical tool that integrates storage, transport, and mixing into a closed-loop system. This reduces assembly errors and leakage risks associated with traditional external mixing tubes, providing a more reliable "plug-and-play" experience for the end-user.

Versatility Across Industrial and Civil Applications

The "de-equipment" strategy enabled by this universal cartridge opens new avenues for adhesive application. In the automotive sector, it supports the trend toward lightweighting by making structural bonding more accessible for assembly and repair. In the electronics and construction sectors, the dual-mode interface—compatible with major brands like Bosch, Stanley, and COX—allows for seamless integration into existing toolkits.

The inclusion of human-centric design elements, such as permanent scale markings and anti-misoperation locks, further enhances the reliability of the system in high-stakes environments. By lowering the equipment cost by over 90%, this technology allows small and medium-sized enterprises (SMEs) to adopt the same high-standard bonding techniques used by large-scale aerospace or automotive manufacturers.

Conclusion: Driving the Future of Adhesive Application

As the global structural adhesive market continues to expand—with a projected growth rate exceeding 9% in major manufacturing regions—the demand for efficient, low-waste, and tool-agnostic packaging is paramount. The shift from "specialized equipment dependence" to "universal tool compatibility" represents a critical evolution in industrial seaming and bonding.

Through the combination of advanced PBT material science and innovative mechanical engineering, the 60ml universal cartridge provides a sustainable and high-precision solution for the modern manufacturer. By eliminating the need for expensive dedicated dispensers while maintaining superior mixing accuracy and long-term storage stability, this system sets a new benchmark for the industry.

For more information on high-performance adhesive solutions and universal dispensing technology, please visit: https://cohui.cn/

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