

Pelnox Launches ONE-HAND MIXING®, a Two-Part Electrically Conductive Epoxy Adhesive for Consistent Bonding

No weighing, measuring, or manual mixing: ONE-HAND MIXING® delivers consistent conductive bonding for electronics, sensors, and large-area electrodes.

HADANO-SHI, KANAGAWA, JAPAN, July 17, 2026 /EINPresswire.com/ -- Pelnox, Ltd. (Headquarters: Hadano City, Kanagawa Prefecture; President: Tatsuya Okumura) announced the full-scale North American launch of ONE-HAND MIXING®, a two-part electrically conductive epoxy adhesive, beginning in July 2026.

The product features a cartridge prefilled with both resin and hardener, which are automatically mixed inside a built-in static mixer during dispensing. This design eliminates weighing, measuring, and manual mixing while making application of a highly reliable electrically conductive adhesive as simple as drawing a line.

The concept is straightforward. Mixing takes place entirely inside the cartridge, so the result does not depend on the operator.

One Hand, One Action, Consistent Bonding Quality



Two-component room-temperature curing conductive adhesive- no mixing required! Cured and stored at room-temperature. Twist and bend it! ONE-HAND MIXING® is flexible with high adhesion, Resistant to scratching



ONE-HAND MIXING® automatically mixes resin and hardener inside the cartridge during dispensing, eliminating weighing and manual mixing.

Conventional two-component conductive adhesive systems require operators to weigh the resin and hardener, mix them at the specified ratio, and complete application before curing begins.

Although manageable in laboratory environments, these procedures become increasingly burdensome as application areas grow larger, production frequency increases, and more personnel become involved. Even slight differences in mixing quality or operating procedures can produce variations in cured performance.

ONE-HAND MIXING® eliminates these steps entirely. Its prefilled cartridge and integrated mixer allow a single operator to dispense a fully mixed, ready-to-cure adhesive in one action.

Rather than viewing this solely as a convenience feature, Pelnox, Ltd. positions the design as an approach to improving process repeatability. The product is engineered to provide consistent bonding quality regardless of operator experience or working environment.

User Comment

"Our laboratory uses ONE-HAND MIXING® for harness connections in micromodules. These connections are typically made through soldering or wire bonding, both of which can be challenging for students with limited experience and often produce inconsistent results.

Because ONE-HAND MIXING® eliminates weighing and mixing while providing electrical conductivity in a single room-temperature application, consistent results can be achieved regardless of the operator. Both its ease of use and connection performance have met our expectations."

Professor at a Japanese University

Why It Matters

Two-component electrically conductive adhesive systems create electrical connections without applying heat. This makes them suitable for heat-sensitive components and materials that are difficult to solder.



ONE-HAND MIXING® offers one-push dispensing, room-temperature curing, and fast-curing capabilities for efficient, high-performance bonding solutions.

For applications requiring high reliability, two-component systems are often selected over solvent-drying single-component products, despite the latter requiring less preparation. While single-component materials simplify handling, they may not always satisfy demanding requirements for adhesion or solvent resistance.

Despite these advantages, adoption has not fully reflected the material's technical capabilities. One of the primary barriers has been practical usability in manufacturing environments rather than adhesive performance itself.

Pelnox, Ltd. developed ONE-HAND MIXING® while evaluating conductive adhesive for large-area electrode applications.

Large electrodes are commonly secured mechanically using bolts or clamps. However, as bonding areas increase, localized contact variations and inconsistent adhesion become more likely.

During development, the greatest challenge proved to be not the adhesive itself, but the work process—including variations in contact resistance and process repeatability.

ONE-HAND MIXING® was developed as the company's solution to these operational challenges.

Intended Applications

ONE-HAND MIXING® is designed for a wide range of conductive adhesive applications, including:

- Electronic component assembly
- Sensor assembly
- Electrode attachment
- Large-area electrode bonding

The product is particularly suited to applications where weighing and manual mixing increase workload, helping reduce processing time while improving repeatability.

Performance Evaluation

According to in-house testing by Pelnox, Ltd., ONE-HAND MIXING® completed the entire process—from attaching the mixer through mixing and applying adhesive over the full surface of a 25 mm × 25 mm metal plate—in 25 seconds.

Under the same conditions, a conventional U.S.-made two-component epoxy adhesive required 3 minutes and 10 seconds, including weighing, mixing, and application.

The evaluation demonstrated an approximate 87% reduction in working time.

After curing for 24 hours at 25°C, both adhesives exhibited satisfactory bond strength, while electrical resistance remained below 0.1 Ω .

The evaluation indicates that ONE-HAND MIXING® maintains the adhesion and electrical conductivity expected of two-component conductive adhesive systems while reducing workload and minimizing variation associated with weighing and manual mixing.

As a result, the product is well suited to environments where specialized equipment or highly experienced technicians are not always available, including:

- Research and development
- Prototype production
- Maintenance and repair
- Educational laboratories

Unlike traditional cold solder alternatives that often depend heavily on operator technique, ONE-HAND MIXING® emphasizes process consistency through automated mixing.

Availability

See additional information on the ONE-HAND MIXING® website:

<https://sites.google.com/view/one-handmixing/language-english>

Media Opportunities

Pelnox, Ltd. welcomes media inquiries and can arrange English-speaking spokespersons for interviews. Online interviews with executive-level representatives are available with consideration for international time zones.

A media kit containing high-resolution photographs, vertical short-form videos, a cutaway model of the mixer mechanism, company logos, and product fact sheets is available upon request.

About Pelnox, Ltd.

Founded in 1970, Pelnox, Ltd. manufactures and supplies epoxy resins, polyurethane resins, silicone materials, and conductive resin products primarily for electrical and electronic applications. The company serves customers globally with operations centered in Japan and Asia.

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