



UZHI

Your Adhesive Partner

UZHI | Your Adhesive & Thermal Partner

**Comprehensive Solutions for
Electronics, LED, Solar, Battery &
Automotive**

UZHI is dedicated to delivering world-class Potting, Thermal Interface, Sealants & Adhesives, meticulously tailored for the demanding requirements of EV and Electronics applications. We bring you trusted technology from Jolic, now proudly Made in India.

Explore UZHI's product families to discover innovative solutions designed for peak performance and reliability.



UZHI Manufacturing Excellence

UZHI operates a state-of-the-art manufacturing facility in India, a testament to our commitment to the "Made in India" initiative and a strategic partnership with Jolic, bringing trusted technology to the local market.

Made in India: Commitment to Local Production

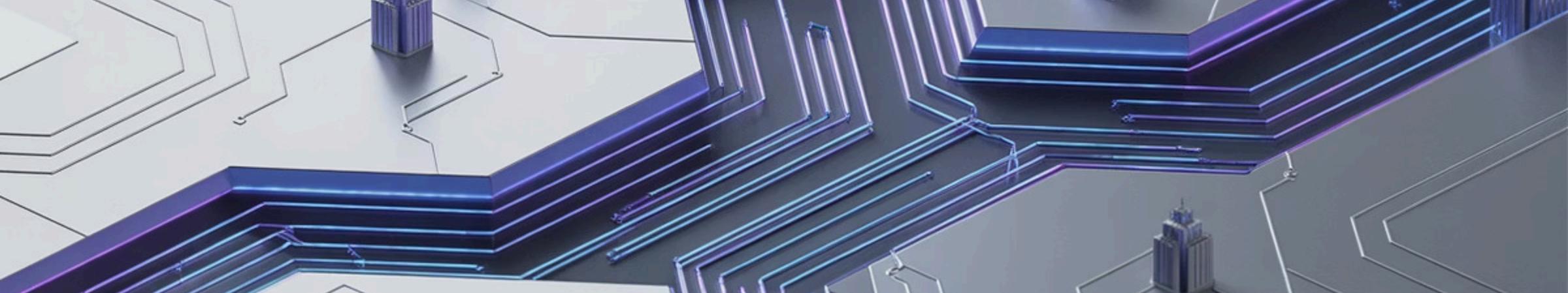
Our facility underscores UZHI's dedication to domestic manufacturing, fostering local talent, and contributing to India's economic growth while serving the global market with high-quality products.

World-Class Manufacturing & Quality Standards

Equipped with advanced technology and adhering to stringent quality control processes, UZHI ensures that every product meets international standards for performance, reliability, and durability.

Strategic Partnership with Jolic

Our collaboration with Jolic New Materials (China) enables us to leverage their cutting-edge technology and expertise, integrating it with our manufacturing prowess to deliver innovative solutions to our customers.



Industries We Serve

UZHI provides advanced conformal coating solutions across a diverse range of sectors, ensuring optimal performance and protection.



Automotive & EV

Battery modules, BMS, OBC, chargers



LED & Lighting

Drivers, lamp modules, displays



Energy Storage

Inverters, solar, power electronics



Consumer Electronics

Smart devices, controllers



Industrial Electronics

Motors, relays, transformers

Ready to partner with UZHI? Contact us for your specific application needs

Explore UZHI's Solutions for EV & Electronics

UZHI provides advanced conformal coating solutions across a diverse range of sectors, ensuring optimal performance and protection.



Thermal Interface Materials (TIMs)

Pads, Gels, Putty, Grease,
Conductive Rubber for efficient
heat dissipation.



Potting Compounds

Silicone & Epoxy protection for
modules, PCBs, and chargers.



Structural Adhesives

Epoxy, PU & Acrylic bonding
solutions for EV modules.



Silicone Sealants

One & two-component RTVs for
robust EV & energy systems.



Conformal Coatings

Protective varnishes for PCBs &
modules, enhancing durability.

Learn more about each solution in the detailed sections below.

UZHI TIMs – Thermal Interface Materials (Overview)

UZHI Thermal Interface Materials (TIMs) are engineered to optimize heat transfer in demanding applications, especially in the rapidly evolving EV and electronics sectors. They are critical for ensuring the longevity and stable operation of sensitive components.



Optimized Thermal Paths

TIMs create low-impedance thermal paths between devices and heat spreaders/cold plates, maximizing heat dissipation from critical components.



Enhanced Module Reliability

They significantly improve the reliability of OBC, DC-DC, BMS & IGBT modules, crucial for compact 2W/3W EVs, by maintaining optimal operating temperatures and preventing thermal degradation.

UZHI's Product Range Includes:



Pads

Pre-formed, compliant materials for easy application and robust thermal contact.



Gels (1K/2K)

Flowable materials that conform perfectly to irregular surfaces, available in single and two-component systems.



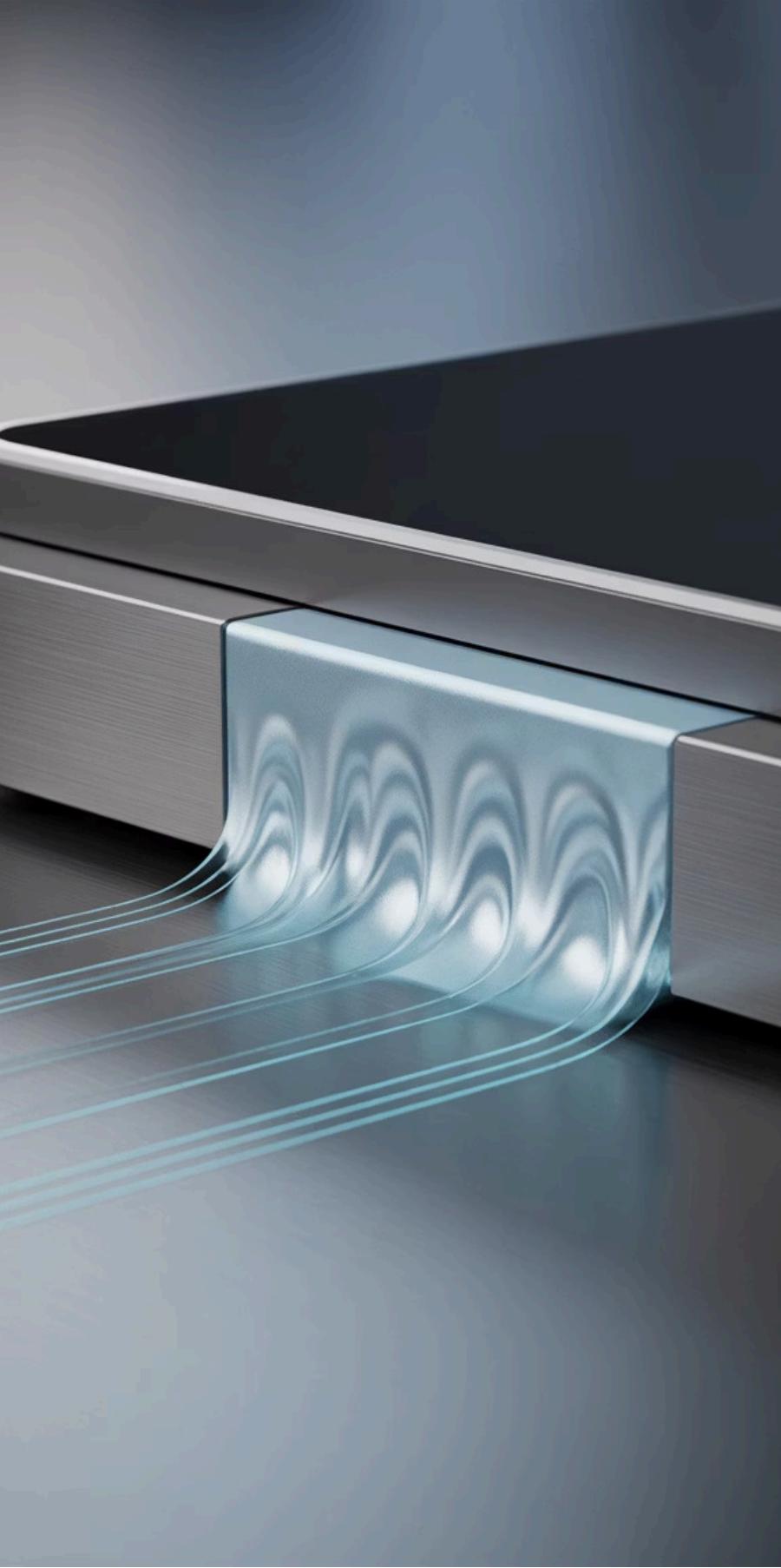
Putty

Moldable compounds offering excellent gap filling and thermal conductivity.



Grease

High-performance, non-curing formulations for direct contact applications.



UZHI's TIMs – Specifications (Summary)

UZHI's Thermal Interface Materials are designed with a broad range of specifications and features to meet diverse and demanding thermal management requirements across EV and electronics industries.

Thermal Specifications

- Thermal Conductivity: 0.5 – 12 W/m·K
- Viscosity Range: Paste-like gels → highly flowable putty
- System Type: 1K & 2K options
- Hardness: Shore 20 – 80 (rubber & pads)
- Surface: Sticky / Non-sticky available

Key Features

- Excellent electrical insulation
- UL94 V-0 flame retardant grades
- Options for reworkable gels & soft compliance
- Wide thickness: 0.3 – 12 mm

Next: Discover UZHI's Potting Compounds for comprehensive electronic protection

UZHI's Thermal Pads – Highlight

UZHI's Thermal Pads are engineered to provide superior heat management solutions, crucial for the demanding environments of EV and advanced electronics. Our pads offer a blend of high performance and flexibility, ensuring optimal operation and longevity of critical components.

Key Specifications

- Thermal Conductivity: 1 – 10 W/m·K
- Form factor: Sheets/Rolls, 0.3 – 12 mm thick
- Hardness: Shore A 20 – 80 (soft → firm)
- Surface: Sticky / Non-sticky options

Advanced Features

- Highly compressible
- Electrically insulating
- UL94 V-0 grades
- Low oil seepage
- Stable performance

Typical EV Uses

- Battery module  cooling plate interface
- Power module/transformer top pad
- OBC & inverter module isolation + heat path

Thermal Gels (1K & 2K) – Highlight

UZHI's thermal gels provide superior gap filling and heat dissipation for critical EV and electronics applications. Available in both 1K and 2K formulations, they offer excellent conformability and reliable thermal management.



Specifications

- Thermal Conductivity: 1 – 10 W/m·K (1K & 2K options)
- Rheology: Paste-like, anti-sag, good wetting; fills micro-gaps
- Compliance: Soft, stress-relieving; reworkable gel options



Cure & Features

- Cure: 1K (no mix) / 2K (mix), room or heat assist
- Tack-free: typically 10–30 min (grade dependent)
- Features: Electrically insulating, UL94 V-0 grades available



Typical EV Uses

- Between cells/modules and cold plate
- MOSFET/IGBT power stage interface in OBC/DC-DC
- BMS & power inductors where low pump-out is needed

Thermal Putty – Highlight

UZHI's thermal putty offers a versatile and high-performance solution for thermal management in EV and electronics applications. Its unique thixotropic properties allow for excellent conformability and repositionability, making it ideal for critical interfaces.

Specifications

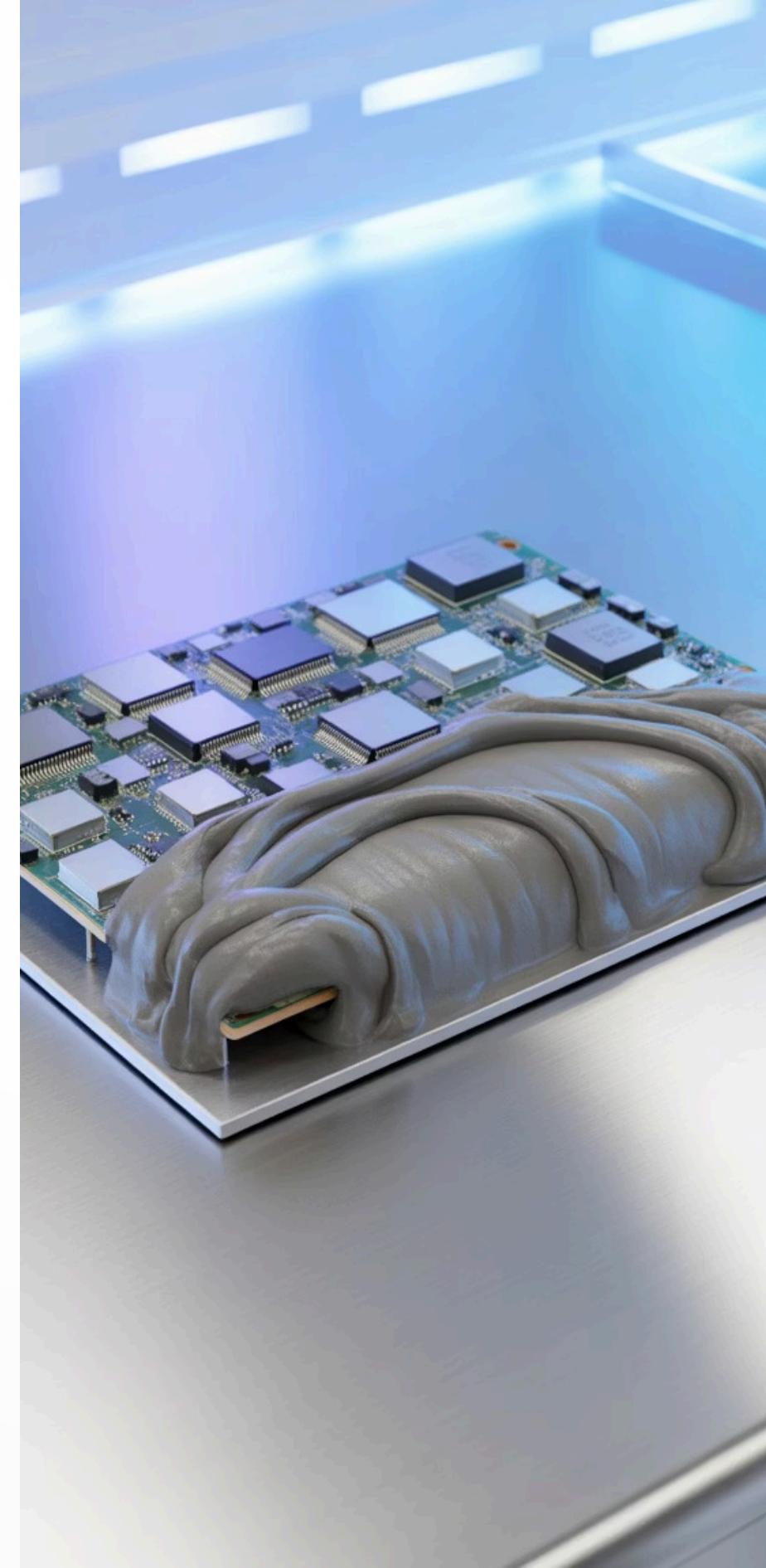
- Thermal Conductivity: 0.7 – 5 W/m·K
- Behavior: Thixotropic, non-curing / semi-curing, repositionable
- Surface contact: Excellent conformability on uneven surfaces

Advantages

- Low thermal impedance
- Low volatility
- Aging-resistant

Typical EV Uses

- Adapter/charger cavities, lamp cup filling
- Vehicle electronic control power supplies
- Gap filling where assembly serviceability is required





Thermal Silicone Grease – Highlight

UZHI's thermal silicone grease offers an exceptional solution for thermal management, ensuring efficient heat transfer and stability for critical electronic components in demanding environments such as EVs.

Key Specifications

- Thermal Conductivity: 1 – 5 W/mK
- Consistency (penetration): ~150 – 400 (grade dependent)

Properties & Features

- Behavior: Non-curing, very low oil separation (<1.5% typical)
- Electrical: High volume resistivity, insulating
- Features: Excellent surface wetting, stable under cycling/aging

Typical EV Uses

- IGBT/MOSFET to heatsink interfaces
- LED modules, inverter & heat pump electronics
- Serviceable joints requiring easy reapplication



Thermal Conductive Silicone Adhesive— Highlight

UZHI's Thermal Conductive Silicone Rubber provides a robust solution for heat dissipation and bonding in demanding EV and electronic applications, ensuring component stability and longevity.

Specifications



- Thermal Conductivity: 0.5 – 3.5 W/m·K
- System: Typically 1K RTV, tack-free ~15–30 min (by grade)
- Hardness: Shore A 50 – 85

Features



- Moisture-proof, non-swelling
- High compressive strength
- UL94 V-0 options
- Strong adhesion

Typical EV Uses



- ECU & driver IC bonding to heatsinks
- Transformer and power supply thermal bonding
- Lamp module bonding with thermal path + fixation

Potting Compounds – Overview

UZHI's potting compounds are essential for enhancing the durability and performance of electronic systems in Electric Vehicles (EVs) and other demanding applications. They provide comprehensive protection and contribute significantly to the long-term reliability of critical components.

Specifications (Summary)

- System Type: Silicone & Epoxy, 2K
- Thermal Conductivity: 0.6 – 3.0 W/m·K
- Viscosity Range: 2,000 – 20,000 mPa·s
- Cure: Room / Heat cure, tack-free 30–80 min
- Hardness: Shore A 20 – 60 / Shore D 70 – 90

Key Features

- Flame retardant UL94 V-0 (selected grades)
- Excellent insulation & moisture proofing
- Flexible modulus to absorb stress
- Wide operating temperature: -50 to 200 °C



Environmental Protection

Potting compounds effectively shield delicate electronic components from harsh environmental factors such as vibration, moisture, and dust, ensuring their integrity and functionality in challenging operating conditions.



Electrical Insulation & Thermal Management

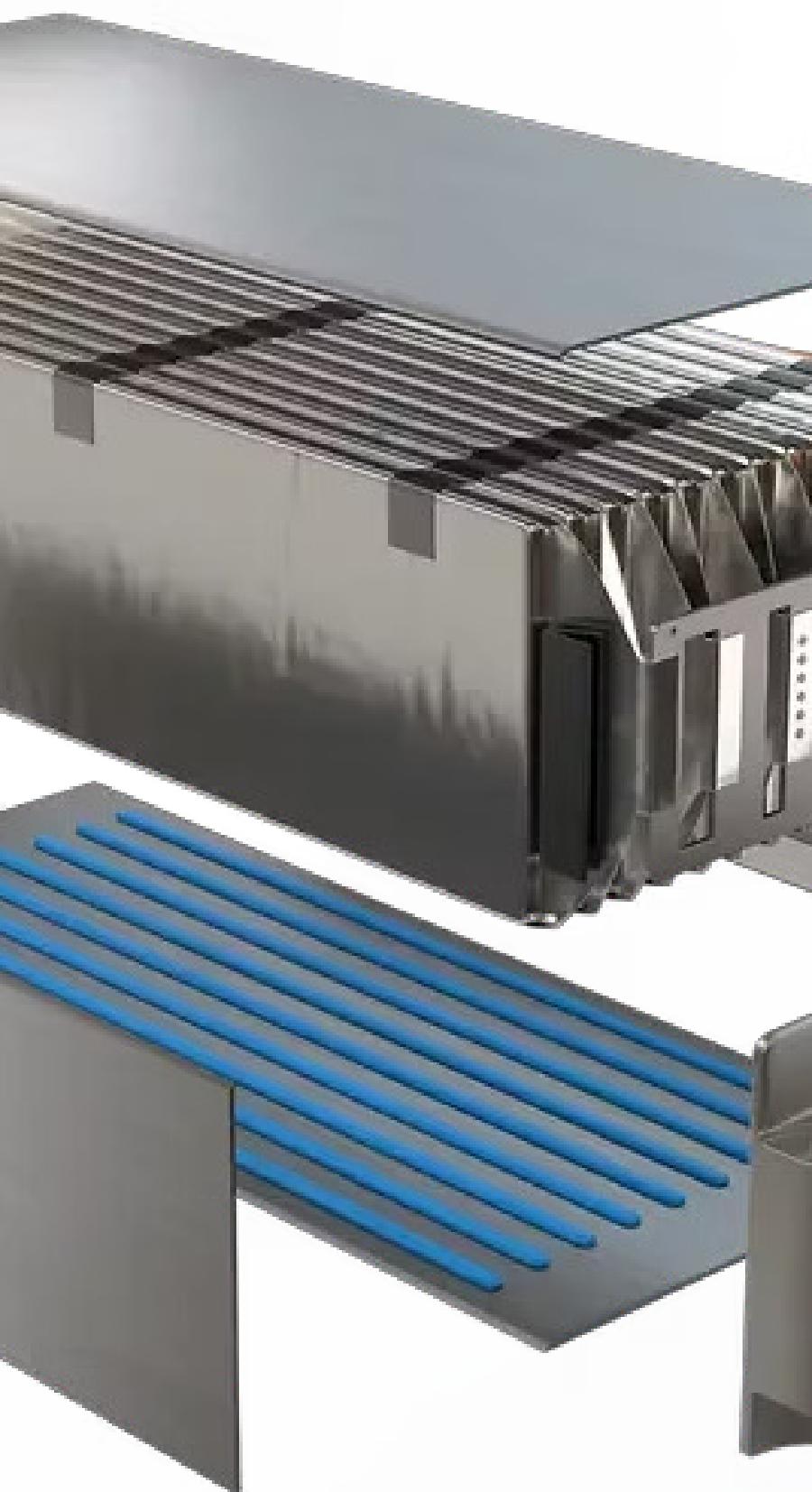
These compounds offer superior electrical insulation, preventing short circuits and electrical breakdowns. Additionally, they contribute to thermal management by facilitating heat dissipation, maintaining optimal operating temperatures for improved performance.



Long-Term Reliability

By protecting against physical and environmental stressors, potting compounds significantly extend the lifespan and ensure the long-term reliability of EV and electronics modules, even when subjected to continuous stress in harsh environments.

UZHI Structural Adhesives – Overview



UZHI Structural adhesives play a critical role in the Electric Vehicle (EV) industry, providing robust bonding solutions that ensure the structural integrity, safety, and longevity of various components, especially within battery packs.



Enhanced Structural Integrity in Battery Packs

UZHI's structural adhesives are essential for maintaining the overall structural integrity of EV battery packs, providing robust connections that withstand mechanical stresses and enhance safety during operation and in crash scenarios.



Reliable Bonding of Modules to Cooling Plates

UZHI Structural adhesives are utilized to securely bond battery modules to cooling plates, facilitating efficient heat transfer away from critical components and contributing to optimal thermal management of the battery system.



UZHI: High Strength, Vibration & Fatigue Resistance

Designed for demanding conditions, UZHI's adhesives offer exceptional strength, superior resistance to vibration, and excellent fatigue resistance, ensuring reliable performance and extended lifespan for EV components.

UZHI Structural Adhesives – Specifications (Summary)

Technical Specifications

- Chemistry: Epoxy (1K & 2K), Polyurethane, Acrylic
- Shear Strength: 12 – 18 MPa
- Cure: Room / heat cure, fast set (Acrylic)
- Temperature Range: -40 to 180 °C

Key Features

- High bond strength, impact resistant
- Chemical & fatigue resistance
- Thermal conductive options (PU)
- Good adhesion to metals, plastics & glass

Next: Learn about UZHI's Silicone Sealants for superior environmental protection

Structural Adhesives – Chemistries & Applications

Epoxy Adhesives (1K & 2K)

- **Shear Strength:** 12–18 MPa
- **Thermal Range:** -40 °C to +180 °C
- **Features:** Excellent chemical & fatigue resistance, strong adhesion to metals & composites
- **Uses:** Battery module bonding, cooling plate attachment, motor housings

Polyurethane (PU) Adhesives

- **Flexible & impact-resistant bonding**
- **Thermal Range:** -40 °C to +120 °C
- **Features:** Elastic, vibration damping, good peel strength, available in thermal conductive grades
- **Uses:** EV battery pack assembly, lightweight enclosures, sealing with bonding

Acrylic Adhesives (MMA / Structural Acrylics)

- **Fast curing at room temperature**
- **High bond strength to metals, plastics & glass**
- **Features:** Tough, fatigue resistant, very fast fixture times
- **Uses:** Quick assembly of EV module covers, automotive parts, serviceable assemblies

Thermal Conductive Structural Adhesives

- **Thermal Conductivity:** 1.0 – 3.0 W/m·K
- **Shear Strength:** 10–15 MPa
- **Features:** Combines bonding + heat dissipation, stable under thermal cycling
- **Uses:** Attaching battery cells to cooling plates, bonding power electronics, thermal pathway reinforcement in EV packs

Key Benefits Across All Chemistries:

- Strong, durable bonding for EV modules & packs
- Resistance to vibration, fatigue & harsh environments
- Options: rigid high-strength, flexible damping, fast-curing, or thermally conductive grades depending on design need



UZHI Silicone Sealants – Overview

Silicone sealants are indispensable in Electric Vehicle (EV) applications for their exceptional sealing capabilities, flexibility, and resistance to harsh environmental conditions, ensuring the long-term reliability and safety of critical components.



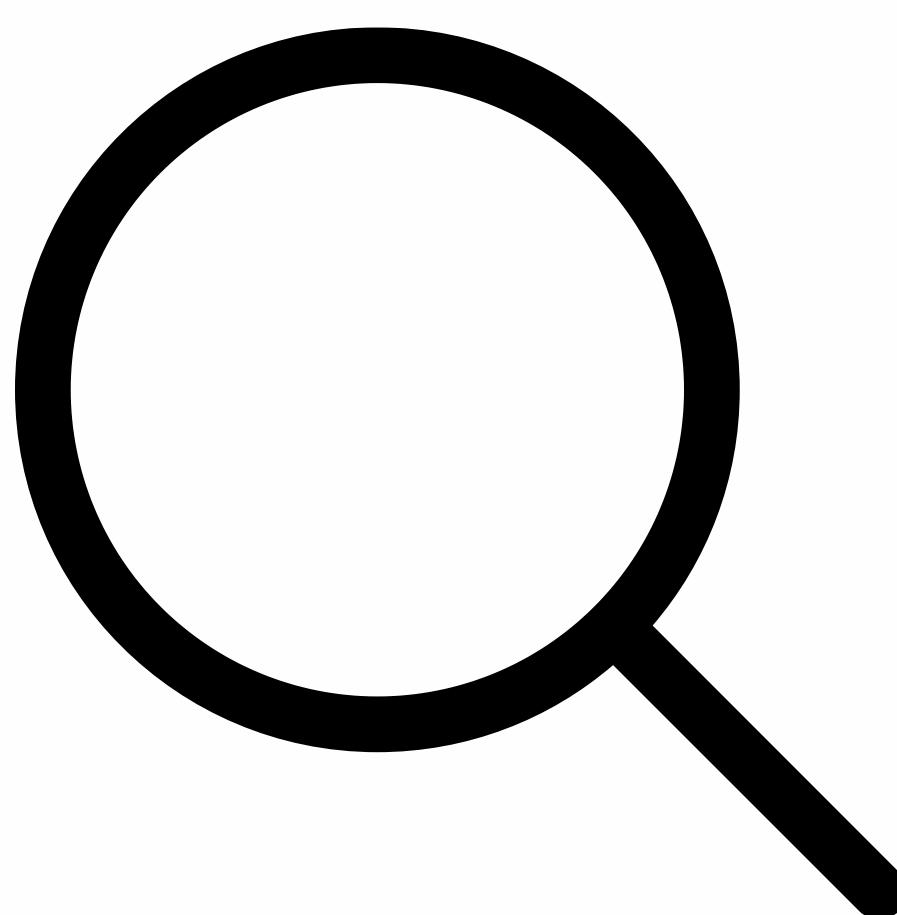
Enclosure Sealing for Battery Packs

Silicone sealants provide robust, flexible sealing for EV battery enclosures, protecting sensitive components from moisture, dust, and contaminants.



Waterproofing Electronics & Connectors

Ensures critical electronic systems and connectors remain impervious to water ingress, vital for vehicle reliability in diverse environmental conditions.



Stress Relief in Thermal Cycling

The flexibility of silicone sealants absorbs stress from thermal expansion and contraction, preventing cracks and maintaining integrity under extreme temperature fluctuations.

Silicone Sealants – Chemistries & Applications

Chemistry Types Covered:



1K Addition-Cure Silicone

- Platinum-catalyzed, neutral cure, tack-free ~10–20 min
- Shore A 20–50 | Thermal Range – 50 °C to +200 °C
- Features: Low shrinkage, high tensile/tear strength, safe for electronics
- Uses: EV battery module gasketing, high-temp electronics



2K Addition-Cure Silicone

- Two-part system (10:1 or 1:1), fast room/heat curing
- Shore A 25–60 | Thermal Range – 50 °C to +200 °C
- Features: High resilience, anti-vibration, stable under cycling
- Uses: Large EV battery pack sealing, ECU housings, displays



1K RTV Sealants (Oxime / Alkoxy / Methanol)

- Neutral cure, tack-free ~10–30 min
- Shore A 20–50 | Thermal Range – 50 °C to +180 °C
- Features: Non-corrosive (Oxime), low odor (Alkoxy), economical (Methanol)
- Uses: PV junction boxes, EV connectors, LED drivers, consumer appliances

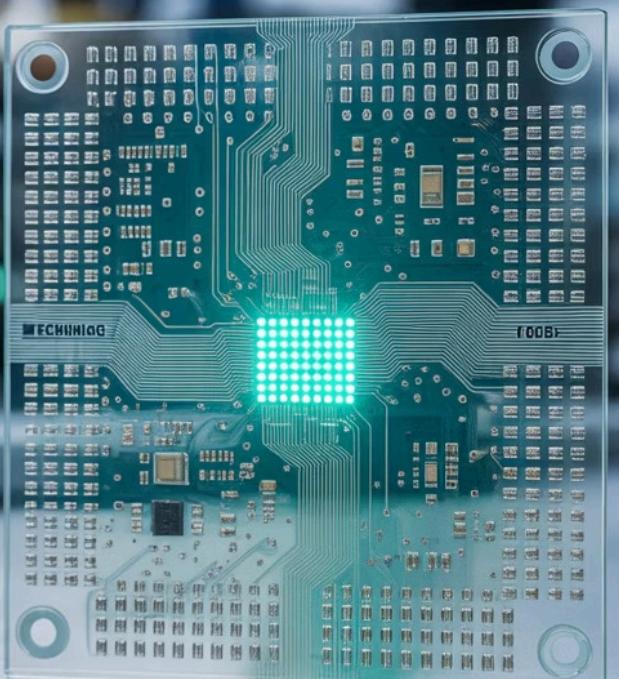
Key Benefits Across All Chemistries:

→ Excellent adhesion to metals, plastics, and glass

→ Electrical insulation & waterproofing

→ Flame retardant UL94 V-0 grades available

→ Flexible options from premium addition cure → cost-effective RTV



UZHI Conformal Coatings – Overview

UZHI's advanced conformal coatings are vital for enhancing the resilience and longevity of electronic components, particularly in demanding applications like Electric Vehicles (EVs). These specialized polymer films provide a protective barrier against various environmental stressors, ensuring the consistent performance and reliability of critical circuitry.

Advanced PCB Protection

Conformal coatings form a protective barrier over printed circuit boards (PCBs), safeguarding them from environmental threats such as moisture, dust, and corrosive chemicals, ensuring robust performance in challenging conditions.

Extended Service Life

By mitigating environmental damage, conformal coatings significantly extend the operational lifespan of critical electronic modules and controllers within Electric Vehicles, enhancing reliability and reducing maintenance needs.

UZHI Conformal Coatings – Specifications (Summary)

Our conformal coatings are meticulously designed to meet the rigorous demands of modern electronics, especially within Electric Vehicle applications. Below is a summary of their technical specifications, key features, and typical use cases.

Product Visual



A visual representation of UZHI conformal coating applied to a circuit board, highlighting its protective nature and transparency.

Technical Specifications



- Chemistries: Silicone, Acrylic, Polyurethane, Epoxy
- Dielectric Strength: >20 kV/mm
- Operating Temperature: -65 to 200 °C
- Moisture Protection: MIL-I-46058C, IPC-CC-830, IEC 61086
- Thermal Cycling Resistance: -40°C to +150°C, 1000 cycles

Key Features

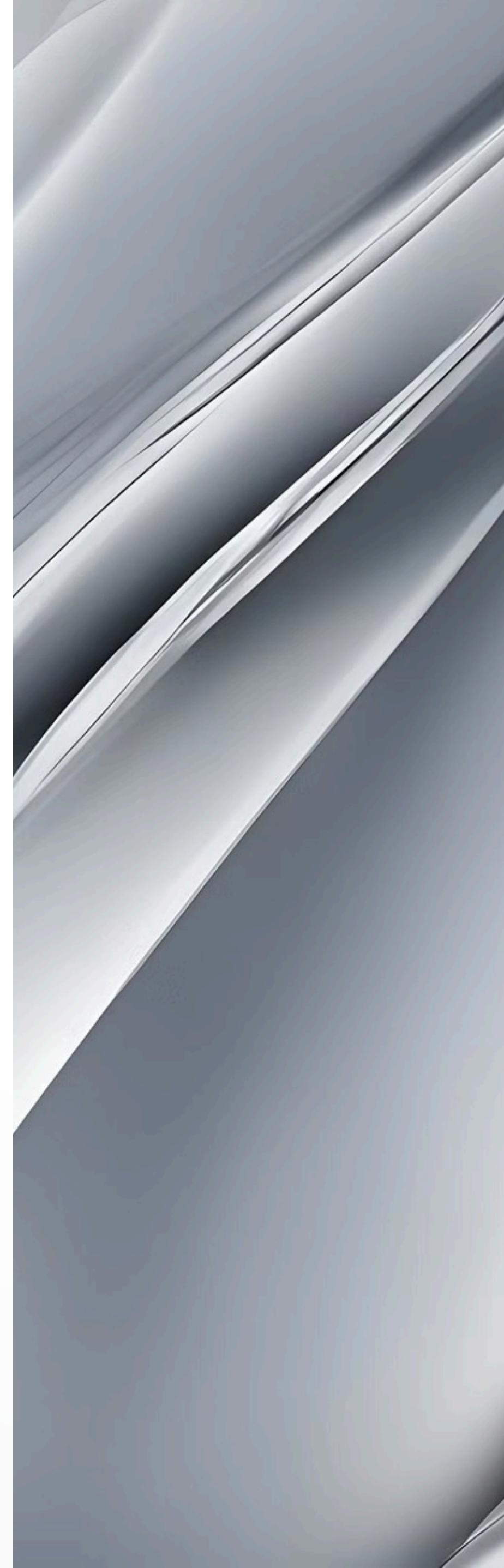


- Transparent, flexible coatings with excellent clarity
- Fast UV/moisture curing options for rapid processing
- Superior adhesion to diverse substrates (metals, plastics, ceramics)
- Outstanding toughness and abrasion resistance
- Exceptional weather and aging resistance
- RoHS and REACH compliant

Typical EV Applications



- Battery Management Systems (BMS)
- On-board Chargers (OBC)
- DC/DC Converters
- Motor Control Units
- Power Inverters
- Sensors and Connectors



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