

Lead-free Liquid Rubber-to-Metal Bonding Adhesive Thinkbond 27MS with Broad Elastomer Compatibility and 150-220°C Bonding Range

Our Product Introduction

Basic Information

- Place of Origin: Shanghai, China
- Brand Name: Thinkbond
- Certification: ISO 9001:2015
- Model Number: 27MS
- Minimum Order Quantity: 20 kg
- Price: USD 15-35 / kg
- Packaging Details: 5kg/can, 20kg/pail, or customized packaging available
- Delivery Time: 7-15 working days
- Payment Terms: T/T
- Supply Ability: 5000 kg per month



Product Specification

- Application: Rubber To Metal Bonding Under Vulcanization, One-coat Or Cover Cement Over Primer
- Appearance: Oliver-green To Black Liquid
- Form: Liquid
- Non-Volatile Solids: 22.0-25.0% (1h At 105°C)
- Density At 25°C: 0.96-1.02 G/cm³
- Viscosity At 25°C: 200-500 MPa-s (Brookfield)
- Diluents: Xylene Or Solvent
- Bonding Temperature: 150 To 220°C
- Lead Content: Lead-free Formulation
- Shelf Life: 1 Year In Closed Can Below 25°C
- Highlight: **lead-free rubber metal adhesive, rubber to metal bonding agent, vulcanization bonding adhesive**

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Product Description

Liquid Rubber-to-Metal Bonding Adhesive Thinkbond 27MS for NR NBR SBR EPDM Vulcanization

Thinkbond 27MS is a high-performance lead-free liquid adhesive specifically formulated for bonding rubber compounds to metals and other solid substrates under vulcanization conditions. As environmental regulations increasingly restrict the use of lead-containing compounds in industrial manufacturing, Thinkbond 27MS provides manufacturers with a fully compliant alternative that delivers uncompromised bonding performance. This advanced adhesive is particularly effective for rubber compounds that present bonding challenges, including those with low hardness, high oil extension, or difficult-to-bond polymer matrices. Its versatile formulation allows use as either a standalone one-coat bonding agent or as a cover cement applied over a primer layer such as Thinkbond 11H, providing manufacturers with flexible integration options across diverse production configurations.

Developed through extensive research into the interfacial chemistry of rubber-to-metal adhesion, Thinkbond 27MS forms strong, durable bonds that withstand the mechanical, thermal, and environmental stresses encountered in demanding applications including automotive engine mounts, suspension bushings, industrial vibration isolators, and marine components. The lead-free formulation ensures compliance with ELV (End-of-Life Vehicles), RoHS, and REACH regulations, making it suitable for supply chains serving European, North American, and other regulated markets. Its broad compatibility across natural rubber (NR), nitrile (NBR), styrene-butadiene (SBR), EPDM, polybutadiene (BR), polyisoprene (IR), butyl (IIR), and polychloroprene (CR) compounds makes Thinkbond 27MS a single-adhesive solution that can replace multiple legacy bonding agents in multi-compound production facilities.

Key Features

- Lead-Free Environmentally Compliant Formula:** Fully compliant with ELV, RoHS, and REACH environmental regulations, eliminating lead-related workplace exposure risks and waste disposal concerns while maintaining professional-grade bonding performance.
- Exceptional Bond Strength:** Delivers strong, reliable rubber-to-metal adhesion under vulcanization conditions, with proven performance on difficult-to-bond compounds including low-hardness and highly oil-extended rubber formulations.
- Versatile Application Methods:** Functions effectively as a standalone one-coat bonding agent or as a cover cement over primer layers, with compatibility for brushing, spraying, and dipping application techniques.
- Broad Elastomer Compatibility:** Proven bonding performance across natural rubber (NR), nitrile (NBR), styrene-butadiene (SBR), EPDM, polybutadiene (BR), polyisoprene (IR), butyl (IIR), and polychloroprene (CR) compounds.
- Wide Bonding Temperature Range:** Effective across a vulcanization temperature range of 150 to 220°C, accommodating diverse rubber curing profiles and mold temperature conditions.
- Excellent Storage Stability:** One-year shelf life in properly sealed containers stored below 25°C, with extended stability achievable through refrigerated storage below 10°C.
- Compatible Surface Treatments:** Bonds reliably to metal surfaces prepared by grit blasting, chemical treatments including galvanizing, phosphating, and KTL coating processes common in automotive manufacturing.

Technical Specifications

Parameter	Specification
Product Code	Thinkbond 27MS
Appearance	Oliver-green to black liquid
Non-Volatile Solids (1h at 105°C)	22.0 - 25.0%
Density at 25°C	0.96 - 1.02 g/cm ³
Viscosity Brookfield at 25°C	200 - 500 mPa·s
Diluents	Xylene or compatible solvent
Bonding Temperature Range	150 to 220°C
Lead Content	Lead-free
Shelf Life	1 year in closed can below 25°C

Applications

Thinkbond 27MS is engineered for rubber-to-metal bonding applications where strong, durable adhesion under vulcanization conditions is essential. Primary application areas include automotive anti-vibration components such as engine mounts, torque struts, and suspension bushings where rubber is bonded to steel or aluminum inserts; industrial machinery vibration isolators and mounting pads; marine propeller shaft bearings and dock fender components; railway suspension elements and track fastening systems; and general industrial rubber-to-metal bonded assemblies requiring lead-free compliance. The adhesive is compatible with all common metal substrates including carbon steel, stainless steel, aluminum, brass, and treated surfaces. For optimal results, metal surfaces should be prepared by grit blasting to achieve roughness greater than 15 µm followed by thorough cleaning to remove all dust, oil, and grease residues.

Packaging & Quality Assurance

Thinkbond 27MS is supplied in standard 5kg/can and 20kg/pail packaging configurations with secure, vapor-tight closures to maintain product integrity during storage and transport. Customized packaging solutions are available for high-volume manufacturing operations. Rigorous quality control testing is performed on every production batch including bond strength evaluation using standard rubber-to-metal adhesion test methods, viscosity and solids content verification, density measurement, and shelf-life stability assessment under controlled storage conditions. Manufactured in an ISO 9001:2015 certified facility, Thinkbond 27MS delivers consistent, reliable bonding performance batch after batch. Shanghai LoreChem Co., Ltd. provides comprehensive technical support including substrate preparation consultation, application process optimization, and compatibility testing with customer-specific rubber compounds and metal substrates.



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