

High-Performance Injection-Molded PU Sealer Adhesive for Exceptional Metal-to-PU Bonding

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: LubeKote
- Certification: ISO 9001
- Model Number: Thinkbond 45T
- Minimum Order Quantity: none
- Price: Negotiable
- Packaging Details: 20L, 200L
- Delivery Time: 15-20 work days
- Payment Terms: T/T



Product Specification

- Highlight: **High-Performance PU Sealer Adhesive, Injection-Molded Polyurethane Adhesive, Exceptional Metal-to-PU Bonding Adhesive**

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Product Description

High-Performance Adhesive for Injection-Molded PU Sealer

Product Description

TB45T is a specialized PU sealer adhesive grade meticulously formulated for the robust bonding of injection-molded polyurethane components, specifically seals and gaskets, to metal substrates. This advanced polyurethane system is engineered to deliver exceptional adhesion strength when processed according to the Cast Polyurethane (CPU) manufacturing process. It is the ideal solution for creating high-integrity, composite parts where a flexible, durable polyurethane seal is permanently bonded to a rigid metal insert or housing. TB45 is designed for applications demanding reliable, long-lasting performance under challenging environmental and mechanical stress conditions, making it a cornerstone material for the automotive, industrial machinery, and appliance industries.

Key Features & Advantages

- Exceptional Metal-to-PU Bonding:** Provides superior, permanent adhesion between injection-molded polyurethane and various metals, creating a unified, high-strength component.
- Optimized for CPU Processing:** Specifically designed to work within the Cast Polyurethane (CPU) process parameters, ensuring optimal flow, curing, and final bond integrity.
- Simplified Production Process:** By enabling the direct bonding of PU during the injection molding stage, it eliminates the need for secondary adhesive application processes, streamlining production and reducing labor costs.
- Creates a Robust, Sealed Unit:** The resulting product is a single, integrated assembly where the polyurethane acts as both a functional seal and a structurally bonded component, enhancing overall part reliability and leak prevention.
- Excellent Environmental Resistance:** Bonds formed with TB45 exhibit strong resistance to oils, chemicals, vibration, and a wide range of temperatures, ensuring long-term performance in demanding applications.
- Versatile Substrate Compatibility:** Effective for bonding with various metal types commonly used in industrial settings, including steel, aluminum, and treated surfaces.

Technical Specifications (At a Glance)

Property	Specification / Description
Product Grade	Thinkbond 45T
Industry Segment	Polyurethane Adhesives
Product Name	Injection-Molded Polyurethane Seals
Primary Application	Bonding PU to metal within a CPU process.
Key Feature	Excellent adhesion strength for composite parts.

Application Guidelines

For optimum bonding performance, the metal substrate must be meticulously prepared. It should be clean, free of oil, grease, rust, and other contaminants. Surface treatments such as sandblasting or chemical priming may be recommended for specific metals to maximize bond strength.

- Material Preparation:** Ensure the TB45T polyurethane system is prepared according to the manufacturer's specifications.
- Metal Preparation:** Clean and pre-treat the metal insert as required.
- Molding & Curing:** Place the prepared metal insert into the mold. Inject the TB45T PU system and cure according to the standard CPU process cycle. The adhesive bond forms in-situ during the polyurethane curing process.
- Demolding:** Once fully cured, the finished part--a metal component with a permanently bonded polyurethane seal--can be demolded.



FAQ (Frequently Asked Questions)

Q: What is a PU sealer adhesive, and how is TB45T different?

A: A PU sealer adhesive is a material that both seals a joint and adhesively bonds two surfaces. TB45T is unique because it is not a separate adhesive applied after molding; it is the polyurethane material itself, formulated to inherently possess powerful adhesive properties towards metal when processed via the CPU route.

Q: What types of metal can TB45T bond to?

A: TB45T is designed to bond effectively with common industrial metals like steel and aluminum. For optimal performance, especially with passive metals like stainless steel or plated surfaces, consultation on surface preparation is recommended.

Q: Why is the CPU process important for achieving a good bond with TB45T?

A: The Cast Polyurethane (CPU) process allows for precise control over the reaction and flow of the liquid polyurethane system. This ensures it can intimately wet the metal surface before curing, which is critical for forming a strong, void-free adhesive bond directly during the part formation.

Q: Can TB45T be used for bonding other materials besides metal?

A: Its primary design and optimization are for metal substrates. While it may adhere to some plastics, its performance is guaranteed and validated for metal-to-PU applications.

Q: What are the typical applications for a product like TB45T?

A: It is ideal for manufacturing bonded seals used in hydraulic cylinders, oil seals with metal casings, vibration-damping mounts, and any application where a flexible, sealed polyurethane component must be permanently and reliably fixed to a metal part.

About Shanghai LoreChem Co., Ltd.

Established in 2008, Shanghai LoreChem Co., Ltd. is a high-tech enterprise specializing in release products including semi-permanent release agents, anti-sticking solutions, surface lubricants, and thermal reactive adhesives. With 15 years of continuous quality improvement, our Lubekote release agents and Thinkbond adhesives are well-recognized brands in the industry.

We serve domestic and international high-end manufacturing enterprises with professional technical solutions. Our long-term goal is to become one of Asia's premier release agent suppliers.



Shanghai Lorechem Company Limited



15901891635



export@lorechem.com



shlorechem.com

Floor 2-3, Building 20, Hongxing International Plaza, Lane 1818, Lianhang Road, Pujiang, Shanghai