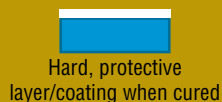
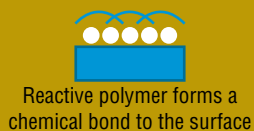




HOW MOLD RELEASE WORKS

Imparts a physical and chemical barrier between the mold surface and compound being molded

Prevents the elastomer from adhering to the mold.



FOCUSED SELLING RUBBER TO METAL / ANTI-VIBRATION

- Natural rubber and EPDM predominate in this sector
- Generally done by injection molding
- Significant user of our semi-permanent DiamondKote™ release agents
- Major competitors are Chemtrend (Monocoat) and Frekote
- Key Accounts: Bridgestone APM, Hutchinson, Tenneco, Boge, DTR, Cooper Standard, ZF, Hubbell, Toyo Rubber, Trelleborg, Flexible (AirBoss)

AVB / RTM FAILURE MODES (PAIN POINTS)

- **Weld Lines** - In anti-vibration and rubber-to-metal molding, Weld lines (aka Knit or Meld lines) can form at the junction of two flow points. Due to pressure and geometric variables, a line forms because the two separate flows of elastomer are unable to properly bond during the molding process. Knit lines are points of weakness in a component.
- **Bond Failure** - During anti-vibration component molding, a bond failure occurs if the rubber fails to properly adhere to a metal insert. The failure can be a result of the process aides used in the rubber compounding process and/or during the molding process as a result of the release agent used.
- **Flow Cracks** - If rubber is obstructed or does not flow evenly into the mold, then it can become brittle and break open. Flow cracks vary based on durometer, injection speed, and temperature; however, they can be addressed via process aides and/or mold release aides.
- **Dirty Molds** - Tool cleanliness can impact many points of the operational process. The molds themselves have different surface finishes, drafts, draws, and undercuts which impact how dirty a mold can become, what materials can adhere to it, and how effectively a part can be demolded. When a tool becomes 'fouled', operations will see an increase in scrap as a result of rubber material not flowing properly, and release issues with subsequent parts. Operations will have to shut down and clean the mold, costing hours of production time.



CONTACT YOUR ITW PRO BRANDS REPRESENTATIVE TODAY!
 800.241.8334 | www.franklynnusa.com

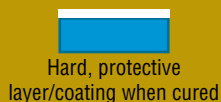
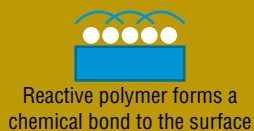
©2019 ITW Pro Brands • DiamondKote™ is a trademark of Illinois Tool Works • Printed in U.S.A. • All Rights Reserved • 190925



HOW MOLD RELEASE WORKS

Imparts a physical and chemical barrier between the mold surface and compound being molded

Prevents the elastomer from adhering to the mold.



VALUE PROP FOR ANTI-VIBRATION SEGMENT

- **Anti-Vibration Market Segment needs:**
 - Increase throughput and optimize their production process to meet/exceed customer order demands.
 - Ensure the highest level of finished part quality by eliminating rubber-to-metal bond failures which can result in returns and lost or decreased business.
 - Optimize mold flow to reduce defects from knit lines, finish, and flow cracks.
 - Decrease mold release usage and decrease per-unit costs to stay competitive with other AVB part suppliers.
 - Decrease scrap to ensure operational excellence, and reduce/eliminate rework costs.
 - Decrease operational downtime by reducing need for mold cleaning.
- ITW's Diamondkote™ Mold Release Agents provide an average \$550,000 in savings for a typical Tier 2 supplier. The cost savings are derived from an average 50% reduction in mold release consumption, 3-10% increase in production throughput, and a 20% reduction in scrap. Specifically, we are able to address the top pain points in the AVB industry that drive these operational costs by:
 - Reducing the spray frequency by an average of 59% and mold release consumption by an average of 50% per molding cycle.
 - Reducing open clamp time by an average of 3% to allow more cycles per shift.
 - Reduce mold heat loss (which causes scrap and rework) by reducing spray frequency.
 - Reduce/eliminate scrap resulting from rubber process aides (adhesive residue & by-products of off-gassing) building up on the mold by an average of 48%.
 - Reduce the number of mold cleanings by an average of 20% which will increase production efficiency and increase tool life.
- Unlike ChemTrend and Frekote, our solutions are all:
 - Water-based, ensuring the AVB facility does not exceed its VOC limits and does not expose operators to hazardous chemicals.
 - Use high performance materials in our formulas that meet the highest standards of the AVB market. Our superior formulations easily pass "flood" and "destruction" tests.
 - Our products are designed and supported by a highly trained and experienced technical team. Our Field Sales Representatives and Technical Service Specialists are always there to answer your questions and assist you with application
- As demonstrated by ITW Pro Brands: ISO-9001 Certification, competitive lab and field testing, over 100 years of collective experience in Mold Release Coatings, experience as a preferred supplier to the largest companies in the AVB Segment, and validated ROIs for our release formulas **(Confidential)**



CONTACT YOUR ITW PRO BRANDS REPRESENTATIVE TODAY!
 800.241.8334 | www.franklynnusa.com

©2019 ITW Pro Brands • DiamondKote™ is a trademark of Illinois Tool Works • Printed in U.S.A. • All Rights Reserved • 190925