

LORD® In-Mold Bonding Adhesives

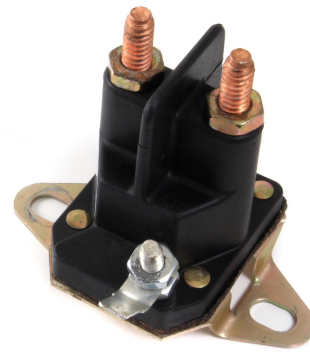
Plastic Assemblies Re-Imagined with LORD Adhesives

LORD® In-Mold Bonding (IMB™) Adhesive Technology is a ground-breaking innovation in plastic component assembly. IMB Adhesives are non-tacky polymer-based materials that, when applied to a rigid substrate, provide a structural bond to a thermoplastic which is formed under heat and pressure. This technology enables assemblies between plastic and metal, plastic and other non-compatible plastics during the molding process. In many different applications, we have seen this enable greater design flexibility, increased manufacturing efficiencies, and air/moisture/fluid sealing between different materials.

LORD IMB™ Adhesives utilize patented chemistries and know-how in combination with over 90 years of accumulated experience in developing, commercializing, and supporting world leading in-mold bonding adhesives of other non-plastic materials.

AUTOMOTIVE APPLICATIONS

- Sealing over-molded sensitive electronics:
 - Ignition coils, injectors, pumps, solenoids
 - Electrical connectors
- Plastic to substrate component assemblies:
 - Under-hood, exterior, interior applications
- Hybrid material components



Automotive Starter Solenoid

ADVANTAGES

- **Design Flexibility:** Structurally bonding non-compatible materials during the molding process enables curved, thin, lighter, new differentiated designs.
- **Manufacturing Efficiencies:** Eliminate secondary process cost associated with application of PSA Tapes and Structural Adhesives. Remove labor associated with assembling mechanical locking features like clips and screws.
- **Sealing Assemblies:** Maintain resistance to liquid or gas ingress/egress in a plastic to rigid substrate assembly at temperature and pressure over time.
- **Versatile and Easy-to-Use:** Ability to bond a wide variety of thermoplastic materials with one-component systems that apply easily by spray, brush, or dip methods without pot life issues associated with two-component systems.

COMPATIBLE MATERIALS

Thermoplastic Materials

- PC, PC/ABS
- Nylon
- PBT
- TPSiV
- TPU
- PPSU
- PEEK / PAEK
- TPE

Substrates

- Aluminum
- Steel / Stainless Steel
- Magnesium
- Glass
- PC

Many areas of active development are underway to expand to new materials combinations.

LORD IMB ADHESIVES

PRODUCT	DESCRIPTION	APPEARANCE	TYPICAL VISCOSITY, CPS @ 25°C (77°F)	DENSITY RANGE, KG/M ³ (LB/GAL)
IMB 1000	Designed for bonding thermoplastic polymers to a variety of substrates (SEBS, Nylon).	Clear liquid	50-200	810 (6.71)
IMB 1010	Designed for bonding thermoplastic polymers to metals and other rigid substrates (TPU, Nylon, PC, PC/ABS).	Clear to yellow liquid	100-200	910-950 (7.6-7.9)
IMB 1020	Designed to bond a wide range of thermoplastic polymers to stainless steel, other metals and rigid substrates (TPU, TPSiV).	Clear liquid	100-300	870-910 (7.3-7.6)
IMB 1040	Designed for bonding thermoplastic polymers to metals and other rigid substrates (TPU, nylon, PC, PC/ABS, PBT). Provides enhanced humidity and high temperature performance.	Clear to yellow liquid	2000-6000	970-1010 (8.1-8.4)
IMB 2000	Aqueous adhesive system designed for bonding thermoplastic materials to metals and other rigid substrates (SEBS, Nylon).	Colorless liquid	40-70	946-979 (7.9-8.2)
IMB 2010	Aqueous adhesive designed for bonding thermoplastic elastomers such as polyurethanes, polyesters and TPSiV. It will also bond some engineering thermoplastics such as nylon and PC.	White emulsion	200-600	1019-1066 (8.5-8.9)
IMB 3000	Designed for bonding platinum-cured liquid silicone rubber to plastics such as PC, polyester and nylon. It will also bond to some metals, including aluminum and stainless steel.	Milky liquid	70-100	851-869 (7.1-7.25)

ABOUT LORD CORPORATION

LORD Corporation is a diversified technology and manufacturing company developing highly reliable adhesives, coatings, motion management devices, and sensing technologies that significantly reduce risk and improve product performance. For more than 90 years, LORD has worked in collaboration with our customers to provide innovative oil and gas, aerospace, defense, automotive and industrial solutions. With world headquarters in Cary, N.C. and 2014 revenues in excess of \$890 million, LORD has approximately 3,000 employees in 26 countries and operates 17 manufacturing facilities and nine R&D centers worldwide. LORD actively promotes STEM education and many other community engagement initiatives. For more information, visit <http://www.lord.com>.

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