



Press Release

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Material formulated for lead frame and laminate packages across a wide die size range

Henkel non-conductive die attach film offers broad wirebond package flexibility for high-reliability applications

Irvine, CA – Henkel today announced the commercialization of a high-performance non-conductive die attach film (ncDAF) engineered to address the demands of contemporary packaging device designs. Loctite Ablestik ATB 125GR is a high-reliability ncDAF suitable for wirebond laminate and lead frame packages, compatible with small- to medium-sized die, and formulated to provide excellent workability and processability.

As 3D packaging miniaturization accelerates across the microelectronics market, smaller, thinner, high-density package structures are the norm. For these reasons, many packaging specialists opt for die attach film materials instead of pastes to enable more challenging dimensions. Compared to pastes, die attach films offer controlled thickness and flow, no resin bleed, consistent fillet formation and bond line stability before and after cure. Loctite Ablestik ATB 125GR provides these proven advantages in addition to high-reliability, Automotive Grade 0 performance for both laminate and lead frame designs, making it a good candidate for demanding applications across consumer, automotive and industrial.

“Developing a material that is ubiquitous across varied types of metal lead frames and laminate substrates, with optimized bonding and curing performance for die sizes ranging from 0.5 mm x 0.5 mm to 3.0 mm x 3.0 mm is challenging,” said Henkel’s Ramachandran Trichur, Global Market Segment Head for Semiconductor Packaging Materials. “Loctite Ablestik ATB 125GR has bridged this gap, allowing supply chain simplification, while also delivering exceptional reliability with its ability to pass a demanding 1,000 cycles of thermal testing (-60°C to 150°C).”

Among the unique attributes of Loctite Ablestik ATB 125GR are its low modulus and low coefficient of thermal expansion (CTE) properties at room temperature, with a high modulus at wire bonding temperature to ensure high-reliability performance. The material has

demonstrated strong adhesion on Ag, Cu and PPF metal lead frames and laminate substrates, has low ionics to facilitate Cu wire bonding, and provides excellent processability and workability for all processing steps (lamination, dicing and die pick-up) on dies ranging in size from 0.5 mm x 0.5 mm to 3.0 mm x 3.0 mm.

As Trichur noted in summary, "Loctite Ablestik ATB 125GR marks a significant advancement for ncDAF materials, allowing package integrators to source a single material that can meet the requirements of many challenging semiconductor applications within varied end devices."

Loctite Ablestik ATB 125GR is currently available in a 25 µm thickness, with custom thicknesses available on request. For more information, visit www.henkel-adhesives.com/electronics.

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2021, Henkel reported sales of more than 20 billion euros and adjusted operating profit of about 2.7 billion euros. Henkel employs about 53,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

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