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SHAPING THE FUTURE OF SILICONE PSAS: TECHNOLOGY CHOICES DRIVING MARKET TRANSFORMATION

ABSTRACT

Over the past decades, silicone pressure-sensitive adhesives (PSAs) have established themselves as essential materials for demanding applications, driven primarily by their unique performance in extreme environments. Historically, innovation in this field has focused on optimizing structure–property relationships and achieving higher levels of adhesion, cohesion and reliability.

Today, however, the silicone PSA landscape is entering a new phase. Beyond performance, factors such as sustainability, process efficiency, regulatory constraints and evolving application requirements are increasingly shaping technology development, challenging the long-standing dominance of solvent-based systems.

Among the available alternatives, solventless silicone PSAs have already reached significant industrial maturity in several regions of the world, offering a scalable pathway toward more sustainable processes. At the same time, emerging solutions based on waterborne and UV-curable systems are attracting growing interest, although their large-scale implementation still presents challenges in terms of process robustness and curing efficiency.

Building on both material science expertise and industrial experience, this presentation will provide a market-oriented perspective on these evolving technology platforms. It will address a central question: what will drive the next generation of silicone PSA technologies? Through an analysis of current trends and technology options, it aims to highlight the key factors that will shape future developments and support informed technology choices across the industry.

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