Si-TPV 3100-85A: A New Silicone-Based Thermoplastic Elastomer for Premium Soft-Touch Consumer Electronics and Wearables

Chengdu, Sichuan Jun 11, 2026 (Issuewire.com) - The Growing Demand for Better Soft-Touch Materials

As consumer electronics, smart wearable devices, and automotive interiors continue moving toward

more premium tactile experiences, manufacturers are under increasing pressure to develop products that not only look refined, but also maintain long-term comfort, durability, and surface stability. Traditional soft-touch materials often struggle to meet these evolving expectations. Conventional TPU materials can provide excellent mechanical strength and abrasion resistance, yet their surfaces may gradually become sticky, attract dust, or lose their pleasant feel after prolonged use. Standard TPE compounds may rely on plasticizers that can migrate over time, causing blooming, oil bleeding, or unstable surface performance. Liquid silicone rubber offers excellent softness and skin comfort, but its complex curing processes and higher manufacturing costs can limit production efficiency.

To address these challenges, SILIKE developed Si-TPV 3100-85A, a next-generation silicone-based thermoplastic elastomer engineered to combine silicone-like tactile comfort with the processing advantages of thermoplastic materials.

Silicone-Like Touch with Long-Term Surface Stability

Si-TPV 3100-85A is designed using a dynamic vulcanized structure in which fully cross-linked silicone rubber particles are uniformly dispersed within a TPU continuous phase. This advanced microstructure allows the material to balance the durability and processing flexibility of TPU with the silky touch and surface comfort commonly associated with silicone rubber.

One of the most significant advantages of Si-TPV 3100-85A is its ability to maintain a long-term silky skin-friendly feel without relying on sprayed coatings, surface oils, or additional tactile treatments. Unlike many traditional soft elastomers that become tacky or glossy after extended handling, the soft-touch effect of Si-TPV 3100-85A is built directly into the material itself. As a result, the surface remains dry, smooth, and comfortable even during prolonged contact with skin or repeated daily use. This characteristic is becoming increasingly important as consumers place greater value on tactile quality and premium surface experience in electronic devices and wearable products.

Non-Sticky Performance Without Plasticizers

Surface cleanliness and appearance retention are also major considerations for manufacturers developing high-end consumer products. Dark-colored TPU and TPE materials often suffer from dust adsorption, fingerprint visibility, and sweat mark accumulation, especially in applications involving frequent handling. Si-TPV 3100-85A helps reduce these common issues by offering improved stain resistance and lower dust attraction while maintaining a clean matte appearance. The material's non-sticky surface performance makes it particularly attractive for products such as smartwatch straps, wireless earbuds, VR accessories, smartphone protective components, and portable electronics where long-term appearance stability directly influences perceived product quality.

Another important feature of Si-TPV 3100-85A is its formulation without plasticizers or softening oils. Many conventional elastomers depend on these additives to achieve softness and flexibility, but over time they may migrate to the material surface, resulting in oil bleeding, sticky feel, or reduced durability. By eliminating these additives, Si-TPV 3100-85A helps manufacturers achieve lower VOC emissions, cleaner surfaces, and more stable long-term tactile performance. These characteristics are especially valuable in wearable devices, automotive interiors, and skin-contact applications where comfort, environmental stability, and material safety are increasingly important.

In addition to its tactile benefits, Si-TPV 3100-85A offers a balanced combination of mechanical performance and flexibility suitable for demanding applications. With a Shore A hardness around 83A, the material provides a stronger structural feel than ultra-soft elastomers while still maintaining excellent

comfort and elasticity. Its tensile strength, tear resistance, and elongation performance allow designers to create products that combine ergonomic comfort with reliable durability, making the material suitable for both soft-touch decorative components and functional structural applications.

Excellent Overmolding and Processing Efficiency

The material also supports advanced overmolding and multi-material product designs. Si-TPV 3100-85A demonstrates excellent bonding compatibility with engineering plastics including PC, ABS, PC/ABS, TPU, and PA, enabling efficient two-shot injection molding and integrated soft-touch overmolding processes. For manufacturers seeking to eliminate secondary coating operations while improving product durability, this capability offers substantial production advantages. The material allows designers to create seamless soft-touch interfaces and ergonomic grip structures without relying on adhesives or additional finishing processes.

Compared with traditional liquid silicone rubber, Si-TPV 3100-85A also delivers significant manufacturing efficiency advantages. The material can be processed using standard thermoplastic manufacturing methods such as injection molding, extrusion, co-extrusion, and two-shot molding. Unlike LSR systems that require vulcanization curing stages and more complex production control, Si-TPV 3100-85A enables faster production cycles, easier recyclability, and simplified processing conditions. These benefits help manufacturers reduce processing complexity while supporting high-volume production efficiency for modern consumer electronics and wearable products.

Expanding Opportunities for Next-Generation Applications

Si-TPV 3100-85A is designed for a wide range of premium soft-touch applications where tactile comfort, durability, and surface stability are equally important. Its silicone-like feel, non-sticky surface performance, and efficient thermoplastic processing make it highly suitable for next-generation consumer and industrial products.

In consumer electronics, the material can be used for smartphone protective components, tablet accessories, wireless earbuds, charging device housings, portable gaming accessories, and smart device covers that require a clean matte appearance and comfortable hand feel during long-term use.

For smart wearable devices, Si-TPV 3100-85A is particularly suitable for smartwatch straps, fitness tracker bands, VR accessories, AR wearable components, and skin-contact electronic products where softness, low VOC performance, and long-lasting comfort are critical.

In automotive interiors, the material offers an ideal solution for soft-touch decorative parts, center console surfaces, armrests, steering-related grip areas, and interior trim components that demand both premium tactile experience and long-term durability.

The material is also well suited for ergonomic tool grips, sports equipment handles, portable device grips, and overmolded structural components where designers need a balance of elasticity, mechanical strength, and comfortable touch.

Thanks to its excellent bonding compatibility with PC, ABS, PC/ABS, TPU, and PA, Si-TPV 3100-85A supports advanced overmolding and multi-material product designs, enabling manufacturers to create seamless soft-touch structures while simplifying production processes.

By combining silicone comfort with thermoplastic manufacturability, Si-TPV 3100-85A opens new

possibilities for high-end applications requiring premium aesthetics, durable performance, and scalable industrial production.

By combining long-term silky touch, non-sticky performance, low VOC characteristics, excellent overmolding capability, and engineering-level durability, Si-TPV 3100-85A provides manufacturers with a versatile solution for developing next-generation products that deliver both premium user experience and efficient industrial production.

Contact Information

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