

Application Note – Shipping, Storage, and Shelf Life of Secure®

Secure® 1500FG and Secure® 1500KT2 products are adhesive films made of uncured silicone rubber with functional additives that have been formulated to deliver a specific set of thermal, physical and electrical properties and processing characteristics. A component of the formulation is an adhesion promoter package that promotes chemical adhesion between the product and substrates during cure. The adhesion promoter package is temperature sensitive and must be maintained at 7°C +/- 3°C for optimum stability and adhesion.

Arlon recommends the following conditions for Secure® adhesives to ensure 6 months of usability.

- Shipping: refrigerated at 7°C +/- 3°C
- Storage: refrigerated at 7°C +/- 3°C

Shipping or storing of Secure® 1500FG and Secure® 1500KT2 products below 4°C is not recommended. Different rates of contraction caused by the individual coefficients of thermal expansion (CTE) of the product components and its release liners may result in product wrinkles that would be expected to have a negative impact on performance in the final application.

Shipping or storing of Secure® 1500FG and Secure® 1500KT2 products above 10°C for prolonged periods of time is not recommended because the rate of degradation of the adhesion promoter package will accelerate. Accelerating the degradation rate of the adhesion promoter will result in usable shelf life less than the 6 months.

Shipping by other methods, including overnight express carrier, carries some risk of exposure to elevated temperature that could jeopardize adhesion strength.

The following charts were developed from shear strength data collected on the Secure® adhesion promoter system in various adhesive formulations. These charts serve as a guide to predict the effect of exposing Secure® to temperatures outside the recommended conditions. Shear strength data was collected on single-joint aluminum-to-aluminum coupons according to ASTM D1002.

