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Shelf Life of Secure® 1500KT2

This guide gives recommendations for shelf life and storage conditions of Rogers Elastomeric Material product Secure® 1500KT2.

Secure® 1500KT2 is electronic film adhesive made of uncured silicone rubber with incorporated bonding agents. The bonding agents serve to promote adhesion between the silicone polymer chains and functional groups on various surfaces. Over time, the bonding agents can react with other ingredients in the adhesive, hence their bonding effectiveness decreases over time. This occurs more readily at elevated temperatures.

In order to study the reduction of bond with time, Rogers has performed a set of lap shear strength experiments based on ASTM D 1002. Secure® 1500KT2 was stored with various time/temperature exposure prior to lap shear sample layup.

In Figure 1, the lap shear strength remains the same after being stored at 45 °F for 6 months. Storage at 75 °F led to lap shear strength reduction to 80% after 50 days. Rogers suggests using 80% retention of lap shear strength as a guideline of shelf life. As expected, 95°F led to faster reduction. Based on the results, Rogers recommends

1) Refrigerated shipment and storage near 45°F

2) 6 months shelf life from the date of manufacture at 45 °F

3) Use Figure 1 to guide further testing when elevated temperature exposure has occurred.

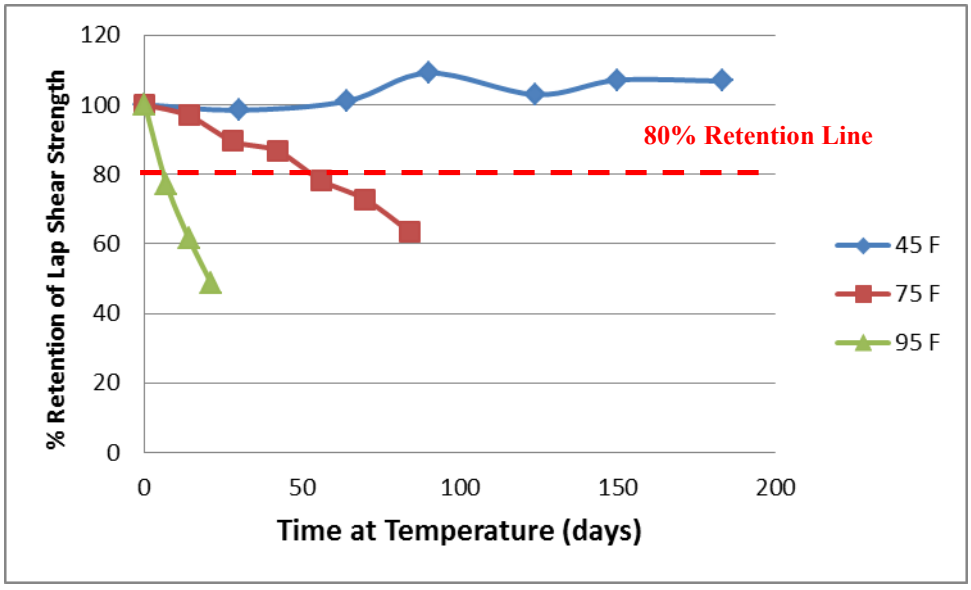

Figure 1. Secure® 1500KT2 stability at temperature (0-180 days)