

# 熱硬化性薄膜フィルム接着剤

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## Thin Thermosetting Adhesive Films

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### Abstract

The advantages and limitations of extremely thin thermosetting adhesive film (TTAF) are discussed. The properties of TTAF with a thickness range between 5 and 35 micrometers were investigated. The strength of adhesion was found to strongly depend on the film thickness below 10 micrometers. These behaviors can be explained by the Kaelble's equation and Goland-Reissner analysis. Effect of adhesive thickness on the solder heat resistance was also measured. A model based on fracture mechanical analyses for blister test was introduced to predict the adhesive debonding during solder reflow. The model predicted little thickness dependence of the solder heat resistance. On the other hand, higher solder heat resistance was observed for thinner adhesive samples. Since the ultimate adhesive thickness depends on the bonding process, the flow study for TTAF is important. Novel analytical method of the adhesive flow is developed.

**Key Words:** *Thin Thermosetting Adhesive Film, Adhesive Strength, Solder Heat Resistance, Effect of Thickness, Flow Analysis*