NEL SYSTEM® for Ultra-Thin Wafers

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Summary

In this paper we introduce the technology utilized in the NEL SYSTEM®, which is designed to handle thin, large-diameter wafers. The NEL SYSTEM® is an equipment series used to apply and remove the adhesive tape that protects and holds wafers in the backgrinding and dicing stages of the LSI package manufacturing process. The NEL®-DR3000-III is a protective tape applicator that is compatible with 300mm wafers and has an integrated tensionless application control mechanism that minimizes wafer warpage after backgrinding by minimizing tape tension prior to application.

The NEL®-MA3000-III is a wafer mounter that is compatible with 300mm wafers. This unit removes protective tape after wafer mounting and has a tape buffer that eliminates the risk of the peeling tape and dicing tape coming into contact. Furthermore, it is compatible with 50μm wafers and can transfer them from the wafer alignment stage to the wafer chuck table in a flat position. Although the use of a Hard-substrate Wafer Support System (H-WSS) is being trialed for MEMS wafers and discrete packages requiring electrode formation on the back after wafer backgrinding, we already have equipment and NWS® tape that use thermal release technology on the market.