

# Optical Bonding Success Stories

## E-Paper Display Optical Bonding

One of our clients manufactures a wearable medical device. They employed a 1.1" e-Paper display in their product and sought optical bonding of Gorilla glass onto it. The optical bonding in this case is challenging because of the product's small size and the high precision required for the bonding fixture. Additionally, the thin bottom glass of the e-paper display makes it susceptible to breakage if excessive or uneven pressure is applied during the optical bonding process. AMT utilizes our proprietary bonding fixture, ensuring complete bonding for the client's product. Our samples have passed the customer tests, and mass production is underway!



## Successful Open Cell Display Optical Bonding

A client needed optical bonding of a cover glass onto a 21.5" Open Cell display. Their previous efforts in using Optical Clear Resin (OCR) for optical bonding were problematic due to the lack of borders around the Open Cell display and LCD driving board circuits around its perimeter. In addition, using OCR requires building a DAM to create the frame, which is prone to adhesive overflow and results in poor product quality. Using solid Optical Clear Adhesive (OCA), AMT's optical bonding eliminates the risk of adhesive overflow. Moreover, our bonding and bubble removal are done at lower pressures, which could prevent the Open Cell display from fracturing during bonding.



## Metal Frame LCD Panel Optical Bonding

Typically, the height of the metal frame on an LCD panel ranges from 0.3mm to 0.6mm. Some LCD panels have thicker metal frames, reaching heights of 1.0mm to 1.3mm, making them challenging to bind using standard OCA bonding (thickness 0.2mm to 0.5mm). A client in the medical industry uses a 21.5" LCD panel with a thick metal frame and requires optical bonding between the LCD panel and the touch panel. AMT's optical bonding utilizes Lucent Gel, a solid OCA with a thickness ranging from 0.5mm to 1.5mm. We met the bonding requirements for LCD panels with thick metal frames using our Lucent gel and AMT's unique optical bonding technology.



## Tape-Sealed Frame LCD Panel Optical Bonding

To reduce cost, some LCD panels are designed without metal frames and are sealed by tape instead. The biggest challenge of tape-sealed LCD panels is that the surface flatness is seriously affected by the tape-sealing condition, and it is difficult to make a dam around it, so OCR bonding becomes unattainable. AMT's optical bonding employs a dry bonding process, utilizing our self-developed Lucent Gel solid OCA. The OCA is soft and elastic, filling gaps and enabling a tight bond even on uneven LCD panel surfaces without the delay bubbles. We have successfully mass-produced the optical bonding of 13.3" tape-sealed LCD panels.



AMT Optical Bonding provides comprehensive pre-sales and after-sales services, supporting all types of displays. The optical bonding process is conducted in-house with high-quality production, ensuring rapid completion of bonding projects. We offer customers complete technical support and a one-stop service. With flexible order quantities and short lead times, our services cater to industrial and medical markets with low-volume, high-variety demands. If you want to learn more about AMT Optical Bonding, please get in touch with us anytime!