Popular Consumer Electronics Utilize 3M Innovation Without Being Seen

From your cell phone, to your favorite music device and ebook reader more and more companies are relying on 3M's family of Optically Clear Adhesives (OCAs) used in today's most popular consumer mobile devices for enhancing the user's view, aesthetics and appearance of the device as well as for touch sensor bonding. OCAs are a highly specialized film that offers excellent clarity and adhesion to various types of transparent substrates.

Known for its innovative culture and strong roots in adhesives, 3M has the ability to be more flexible with their adhesives technologies, allowing for an ebb and flow of quick design of the next generation of consumer electronics. 3M OCAs bring both function and value to the mobile device customer by taking a simple adhesive and making it more complex by engineering the adhesives optical properties to enable extra electronic function such as touch sensor bonding.

"3M's innovation in the development of OCAs has been unmatched in the industry," said T.S. Kim, business development manager at 3M. "Our breadth and high-quality of OCA solutions, coupled with our responsiveness and technical ability to serve customers' needs will continue to be a priority to help further the industry's most popular consumer mobile devices."

One of 3M's hallmarks of innovation is creating behind-the-scene components that improve products used by consumers. 3M OCAs are an excellent example of this. These clear adhesives are applied in transparent applications where the greatest advantage is not being seen, such as in displays, touch panels and other devices requiring an optically clear bond. Generally, adhesives yellow in such applications, but 3M know-how in optical science allows the company to become the first to eliminate the yellowish tint in electronic devices and keep the white light.

The pioneering research done on OCAs is a classic example of 3M's ability to mix, match, and migrate technologies from one industry to another. The development of OCAs began 15 years ago as 3M scientists engineered an environmentally sound adhesive. Variations of the adhesive were initially used in industrial assembling applications for bonding a host of substrates with the first application being in industrial welding helmets. 3M researchers took the next generation of OCAs into consumer electronics to fulfill the industry's need for adhesives used in mobile phone touch circuits. OCAs were the solution. Researchers advanced product development to a clean room environment for the demanding electronics application.

The challenge was to put an adhesive in the front of the LCD display without the tiniest of defects disturbing the device function or disrupting the users' visual view. Plus, researchers sought to create an adhesive that will survive the day-to-day abuses that mobile cell phones undergo. The display had to stay bonded even after thousands of touches. Adhesive needed to stand up to extreme conditions such as humidity, heat, harsh arctic temperatures and high-pressure environments in airplane cabins. OCA could improve the viewability, correct color and provide a shield to display and to inhibit corrosion – all this without delaminating.

3M is the only manufacturer to offer in-house customization and die cutting to provide device designers more control over quality and ensure specifications are met. 3M's comprehensive family of OCAs are available in a variety of thicknesses for standard and custom applications including:

3M Contrast Enhancement Film is designed for assembly of critical display parts including attachment of touch interface layers and gap filling between LCD and lens to improve brightness and contrast.
3M Liquid Optically Clear Adhesive is designed for gap filling of large display parts or curved/non-flat surfaces, or

any other applications that require optical bonding.
3M Broadband Anti-Reflection Film is designed for laminating to lens and LCD to reduce reflection at interfaces over the entire visible spectrum without shifting color space.

For more information about 3M's family of OCAs visit 3M's booth # 36526 during the CES show in Las Vegas, Nev. from January 6-9, 2011 or visit www.3M.com/opticiallyclearadhesives.

About 3M
A recognized leader in research and development, 3M produces thousands of innovative products for dozens of diverse markets. 3M's core strength is applying its more than 40 distinct technology platforms – often in combination – to a wide array of customer needs. With $23 billion in sales, 3M employs 75,000 people worldwide and has operations in more than 65 countries. For more information, visit www.3m.com or follow @3MNews on Twitter.

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