

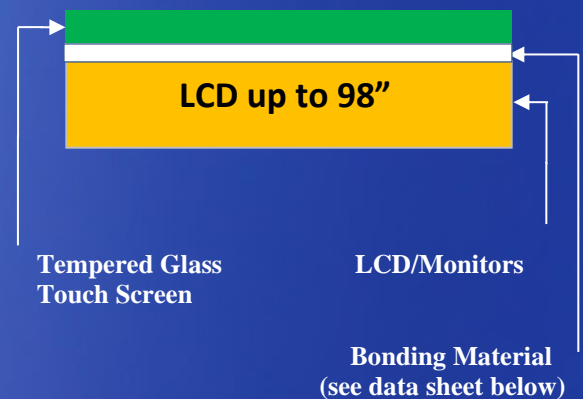
# Insync Optical Bonding

- Specialize Wet & Dry Bond, From 1.5" to 98"
  - Medical, Industrial, Military
  - No Yellowing, No Delamination
  - Low Cost



W/O Optical Bonding

W Optical Bonding



## Technical Data

Insync "T bond" optical bonding is a proprietary process. It is clear, tough silicone. It provides excellent optical clarity and environmental properties shown in the data sheet below.

It is designed specifically to bond an anti-reflective (AR) glass or a touch screen onto a monitor for outdoor viewing in direct sunlight. These monitors can be digital signage for outdoor advertisement, butted LCD for display wall, which comprise many 55" narrow border LCDs (continued next page)

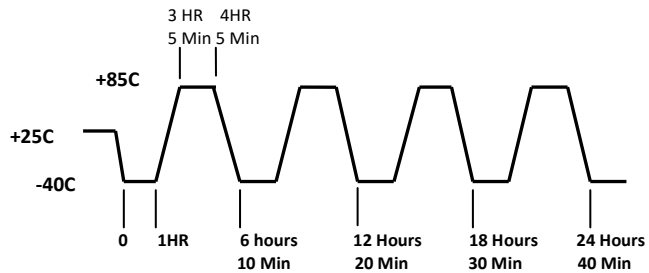
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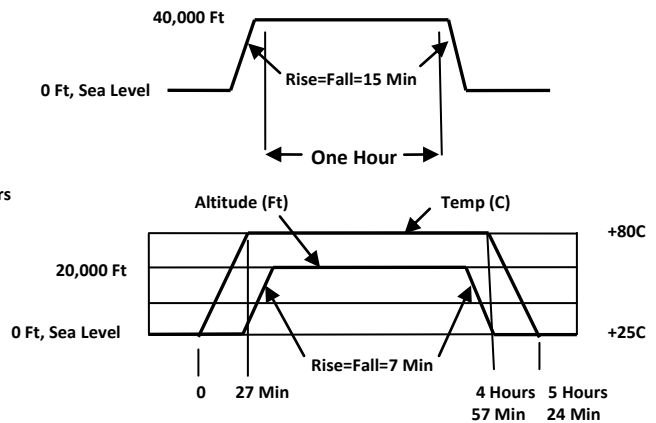
<ul style="list-style-type: none"> <li>• Color: Clear</li> <li>• Thickness: 0.2mm to 1.0mm</li> <li>• Bonding display Size: 3" to 98", See Note 3</li> <li>• Transparency: Greater than 99% Light Transmission</li> <li>• Haze: Negligible</li> <li>• Index of Refraction: 1.419</li> <li>• Operating Temperature: -55C to +150C</li> <li>• Humidity: Less than 5 NTU when subjected to +85C and 85 RH</li> <li>• UV Resistance: Notes 1, 2,</li> <li>• Yellowing: None, See Notes 2</li> </ul>	<ul style="list-style-type: none"> <li>• Electrical Properties: Excellent Dielectric Strength</li> <li>• Hardness: Durometer=37, Shore 00</li> </ul> <p><u>Environmental Test</u></p> <ul style="list-style-type: none"> <li>• Temperature Cycle: Bonded 12.1" LCD/Touch Screen survived 4 cycles of -40C to +85C, see Figure #1 below.</li> <li>• Altitude Cycle: Bonded 12.1" LCD/Touch Screen survived one cycle of 40,000 Ft at +25C; 20,000 ft at +80C, see Figure #2 below.</li> </ul>
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**Insync Field Reports and Facts.**

- Note 1 The bonding material is used to bond an LCD to an anti-reflective (AR) glass or a touch screen. Since the AR glass or the touch screen is facing the sun; therefore majority of UV from the sun is absorbed by the AR glass or the touch screen.
- Note 2 Insync had delivered 15,000, 19" bonded monitors for gasoline since 2007, 7 years. Negligible field returns and no yellowing has been reported.
- Note 3 In 2016, Insync has successfully bonded a 98" Monitor with an anti-reflective glass. It is a 4K resolution monitor, the bonded monitor produced crisp sharp images when view in high ambient lighting conditions.



**Figure #1 4 Cycles of Non-Operating**



**Figure #2 Altitude and Temperature Test**



**Work in Progress  
Optical Bonding Area**

File: Insync Bonding November 2016



**Clean Room Class 100  
Horizontal Flow Bench Class 100**



**Optical Bonding Area**



**Another view of  
Optical Bonding Area**