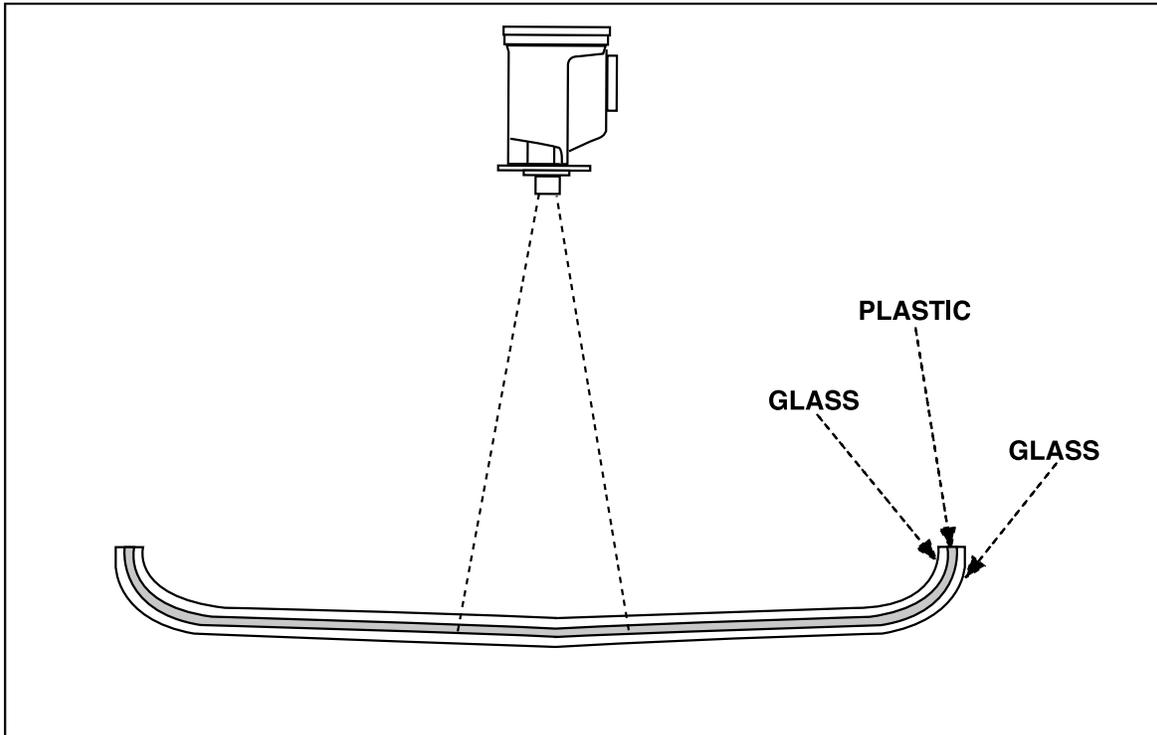


Application Notes – AN105

Lamination of Windshields (Windscreens)



The lamination of windshields is the process of bonding a layer of special plastic film between two layers of glass. The plastic film is a safety barrier should the glass be broken in an accident.

The process requires that the plastic be inserted between the two layers of glass and then heated in a warm air oven to about 65°C (150°F). This critical temperature has to occur at the interface between the glass and the plastic film. The only way to measure this temperature is to use a non-contact infrared thermometer at the proper wavelength.

The best choice of instruments to use is a thermometer that operates at 3.4 microns. At this specific wavelength, the glass is basically transparent, which means it emits very little infrared energy. In addition, at this wavelength the plastic film is totally opaque so that the infrared thermometer is basically measuring the temperature of the surface of the film, which is the point at where the temperature is the most critical to assure proper bonding.

The instrument is installed at the exit of the oven and requires the use of a Peak-Picker to measure the wind-shields and not the spaces between the pieces of glass. In addition, we suggest the use of an air purge to keep the lens clean. Gasses from the plastic will coat the lens and cause errors in the indication.

Ircon can provide one of several instruments for this application. They include the Modline 4, 43 Series. These instruments are available with linear 4-20 mA outputs, alarms and digital indication.

Call Ircon and request a demonstration on your line.



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