

## #91: DISPOSABLE WINDOW

A not uncommon problem in some industrial environments, such as foundries, is maintaining optical cleanliness during washdown, or protecting the lens from debris when air purge is impractical or insufficient. In addition, sometimes a barrier is necessary between the process to be monitored and the IRt/c.

Windows made of common materials such as glass, etc. will significantly attenuate infrared radiation from targets below about 540°C (1000°F) and are not generally suitable for low temperature service. However, windows made of polyethylene will transmit very efficiently at all temperatures if they are thin enough. "Thin" means generally less than about 0,1 mm (0.005").

An excellent material is a commonly available plastic wrap brand called Glad Cling Wrap®, which can easily be wrapped around the IRt/c for cleanliness, or formed into a window. If the polyethylene is dirty or damaged, it can easily be replaced. With maximum temperature rating at about 100°C (212°F), this material can be used in many processes.

The transmission coefficient of such thin polyethylene is in the neighborhood of 90%, and therefore only a small recalibration of the readout device may be required. Other brands of plastic wrap are not recommended, unless you can confirm that they are made from polyethylene.

