

Reusable protection system blocks wind

By **Chris Santilli** and **Ward Malisch**

In the northern United States, winters can be rough on construction crews. Contractors often use vinyl or polyethylene sheeting during cold weather to block winds and enclose a heated work area. These enclosure products normally range from inexpensive 3-mil poly sheeting that's good for only one use to reusable vinyl sheets that cost more but last longer.

Now there's a new higher priced sheeting product which, with its fasteners, is being marketed as a complete protection system. The sheeting can be reused several times, and the fastening method speeds up the enclosure-building process.

Mesh reinforcing resists tearing

The sheeting is made by sandwiching fibrous mesh reinforcing between two sheets of polyethylene and heat-welding them to create an 11-mil-thick sheet. Plastic doughnut grommets also are heat-welded as the sheet is formed.

Used to join multiple sheets, the grommets are placed so they overlap perfectly, permitting plastic connectors and wedges to connect adjacent sheets. With no gaps from mismatched grommets, the connectors create a tight seal that keeps out wind and holds down high heating costs caused by air leakage.

The clear product allows 80% light transmission, reducing lighting costs. It can be cut with a common utility knife but is tear resistant even in 45-mph winds. A stronger version can re-

sist 75-mph winds. Resistant to ultraviolet rays, the sheeting can be used in cold weather without becoming brittle.

The sheeting comes in 13x157-foot rolls that weigh about 140 pounds. Because of the 13-foot width, the product can be cut into two 6½-foot pieces, making it fit exactly for scaffolding enclosures. The grommets run along all edges at three-foot intervals, and through the middle of the sheet in a double row. There's also a double row of grommets spaced every 10 feet as the material is unrolled. The double row permits cutting a roll into smaller pieces and still having grommets at each edge of the cut sheet.

You don't have to use rope or wire to tie up the sheets. A flexible tie attachment system makes installation faster and easier. Because the ties are stretchable, sheeting can be attached to 2x4 framing members regardless of the member spacing.



Clear plastic sheeting allows the sun to light the enclosed work area. Grommets are used to join sheets or attach the sheeting to scaffolding or 2x4 framing.

The product also comes in colors and can be imprinted with a company name or logo.


Labor savings a big plus

Users of the product point to labor savings as a major reason for justifying the higher initial cost. The product goes up 50% faster than vinyl

sheeting, says Paul Dionne, the transit system superintendent for new construction being done at the international terminal of Chicago's O'Hare Airport. Labor costs are important when enclosures have to be moved repeatedly as they are at O'Hare.

Low life-cycle costs were a selling point for Dionne when he was evaluating enclosure systems. Besides saving on labor costs, the sheeting can be used five or more times. Its tear resistance meant that crews didn't spend valuable time repairing damaged sheets.

Durability of the sheeting also was a major concern at a church repair site in Lewiston, Maine (see photos). To repair deteriorated precast concrete on the 50-year-old building exterior, workers are making molds of the pieces, then using the molds to make cast-in-place repairs. Because the repairs take so long, enclosures built around scaffolding have to stay in place for several months at a time. During that time, the sheeting must resist tearing and maintain a tight enough seal around the building to hold in heat.

Fast erection of the system around the church towers was an added bonus. Frank Morrison, head of the in-house construction department for the Diocese of Portland, says the scaffolding erection for one tower took a month, but building the shelter took only five days. The project superintendent says doing the same thing with vinyl sheeting or rolls of conventional polyethylene would have taken much longer. 



Flexible ties and cords attach the sheeting to scaffolding rails, planks, or timber framing for the enclosure.

PUBLICATION #C920207
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