

# Variety of applications for polycarbonate multiwall sheets

SEE-THROUGHS

by Amit Israeli

**P**olycarbonate multiwall sheets can be used for a wide variety of applications: skylights, roofing, curtain walls, office dividers, swimming pool enclosures, greenhouses, point-of-purchase, displays and signage. Polycarbonate sheets have been used throughout Europe for many years because of its energy-saving properties. It is mandatory in that part of the world to show the amount of energy saved regarding any construction. The main advantages of multiwall polycarbonate are the following: it is lightweight, high-impact resistant, UV protected, works well in a wide range of temperatures, and has excellent fire resistance.

Following are some examples of the variety of uses of polycarbonate multiwall sheets:

## Skylight application

The first example of the use of polycarbonate is an application for a skylight in an indoor water park in Wisconsin on Lake Michigan. The requirement for this project was a large skylight where there was a wide distance between purling and rafters. The material needed to be able to span the distance and be light in weight to reduce the cost of construction. It was also required that the material needed to have a high insulation factor and be resistant to heavy snow and wind loads. The solution was using polycarbonate "7-layers 32 mm" clear.



The material used in this skylight application was Gallina policarb 32 mm – 7 layers, clear.

## Roofing application

Another example of the use of polycarbonate was for an office and industrial building in San Francisco, CA. For this project, the requirement was to maximize the amount of natural light inside the building while keeping the insulation value high and maintaining the appearance of the existing exterior walls. The solution was using corrugated twin wall material that allows overlapping so that the two materials, the old and the new, fit perfectly. It allows a lot of light to go through these "windows" while keeping the high insulation. The easy installation saved the contractor about one-third of the labor costs that he would have had with alternative materials.



The material used in this application was Gallina arcoPlus Onda, clear.

## Window application

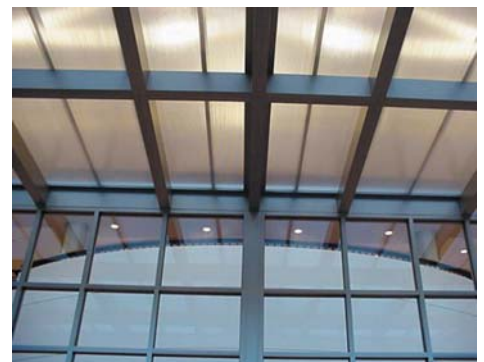
Another example of the use of polycarbonate multiwall sheets is a window application in a manufacturing facility. The requirement for this was to allow as much light as possible in a very dark production facility without interrupting the work area and to keep the insulation factor high. They also wanted the area covered by the polycarbonate to match as best as possible the color of the existing exterior wall. The solution was to use a polycarbonate "tongue and groove" system with one-foot-wide panels which allowed the constructor to follow the visual line of the building, and make the installation very simple. This allowed them to open small areas at a time without interrupting the work inside the building.



Gallina arcoPlus 323 was the material used for the windows in this manufacturing facility.

## Ceiling application

Polycarbonate was also used in the project of a decorative hanging ceiling in the DuPage County Court House in Illinois. The requirements for this project were lightweight material, easy installation, attractive appearance and cost-effectiveness. The solution was to use a special 20 mm polycarbonate system with battens and an aluminum connector on the top side which met all the requirements for the project.



The material used in this ceiling application was Gallina arcoPlus 626.

## Greenhouse application

The requirement for a greenhouse facility project was an 8 mm polycarbonate material that was resistant to the ultraviolet light with high insulation. Their biggest

concern for the project was saving energy. The solution was to use "8 mm polycarbonate four-layer" sheets to achieve the high insulation value, and the panels are warranted for UV protection for at least 10 years.



The polycarbonate material chosen for the construction of this greenhouse was Gallina SUV: 8 mm four layers.

### Signage application

Another application example is an elaborate storefront in Texas that wanted a vehicle to market their store with a very large screen for advertising. They wanted to create a curtain with as little metal as possible that could withstand heavy winds, with UV protection on both sides. The solution was to use an 8 mm batten system with a plastic connector to meet these requirements.



Gallina arcoPlus 684 was used in this large screen for advertising a store in Texas.

### Lightweight panel application

Another example is the use of polycarbonate multiwall sheets as point-of-purchase (P-O-P) displays and signage. The requirement for this application was a lightweight panel that could carry the printed vinyl film as an alternative to the traditionally used material. It needed to be cut-to-size in the field and easily installed to the framing. The material would also be backlit for an attractive appearance. The solution was to use a 6 mm diffused opal twin-wall sheet.



The material used for the Kentucky Churchill Downs sign was Gallina policarb 6 mm opal.

### Digital printing application

A final example was a project for a printing company. The requirement was to digitally print directly on the sheets and later take the huge picture/display apart for easy storage and shipping. The solution for this application was a 10 mm "tongue and groove" system in different colors which allowed digital printing to be done on the sheets when they were connected one to the other. After the printing, they were able to take it apart for shipping and storage and to reconnect as needed. The result was to be able to put the sheets together without seeing any interruption in the picture. ■



Gallina arcoPlus 613 was the material of choice for this digital printing application.

Amit Israeli is president and CEO of Gallina USA LLC. For more information, contact Gallina USA LLC, 245 E. Madison Avenue, Milton, WI 53563 USA; (888) 825-4872, (608) 868-4215, fax (608) 868-4253; e-mail: amit@gallinausa.com, www.gallinausa.com.



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