

CASE STUDY

SOLAR CONTROL - MAY 2016

SCHOOL PUTS DAYLIGHTING ON THE SHELF



Photo: Flexwave Light Shelf & Motorized FlexShades. Dealer: Shadeology. Photographer: Al Marx of Shadeology.
Insert: This close-up drawing shows how the shade bracket is integrated with the FlexWave bracket on an inside mount.

- Bringing daylight to interior spaces without glare is challenging. Draper's FlexWave Light Shelf is placed above eye-level and is used to reflect light onto the ceiling, bringing light deeper into the space.

When the Glen Ellyn Elementary School District, Illinois, decided it was time to build four new elementary schools, the architects who designed the building were very specific about their choice of solar control.

First of all, classroom windows in the new schools had to be furnished with motorized shades. The main reason for this is rather sobering.

"One of the concerns is that should there ever be a need to lock down a school, they wanted to be able to quickly throw a switch to lower the shades, so your movements can't be seen," said Al Marx of Shadeology, who won the bid to do the installation. "You don't have time to be running to the windows to pull chains, while you're trying to take care of a classroom of elementary children."

However, the plan also called for interior light shelves on the same windows. A light shelf is just that—a horizontal

shelf placed above eye-level, and used to reflect light onto the ceiling, bringing it deeper into the space. This distribution of light reduces "hot spots" and allows a deeper penetration of glare-free natural light.

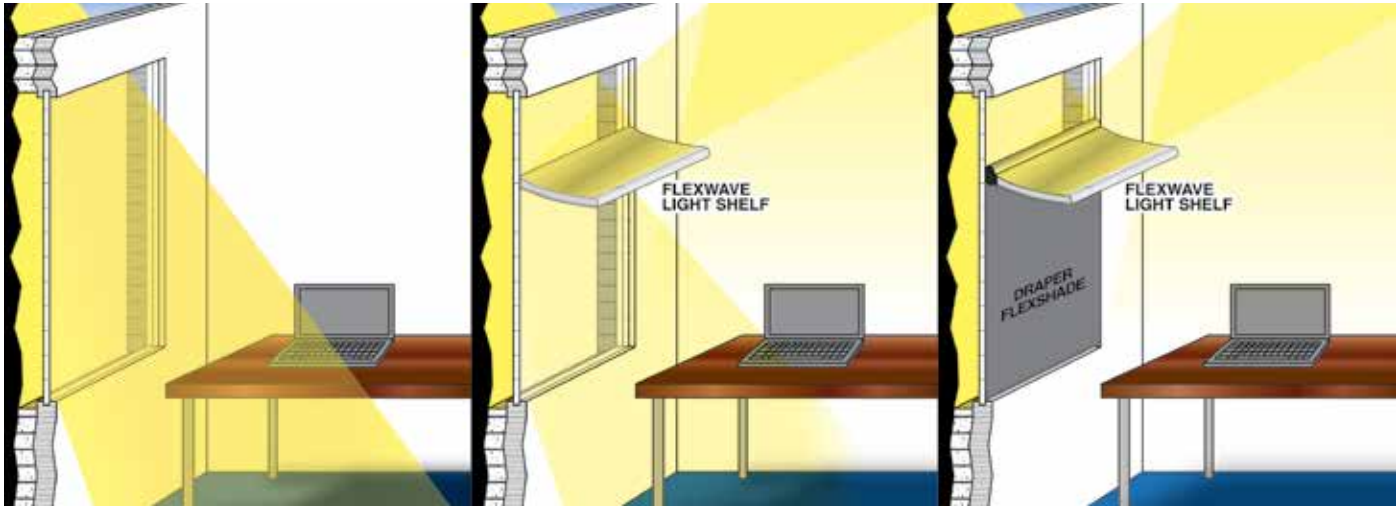
But how to combine both products on the same window? Marx decided to go with Draper's FlexWave Light Shelf, with a special mounting bracket that incorporates brackets for a motorized shade.

"I visited the plant to understand exactly what the product was, how it was constructed, and how it needed to be installed," Marx said. After meeting with the Draper engineer who designed the bracket, he decided it was the way to go.

Because these classroom pods were designed with technology-driven educational applications in mind, there was also the need for additional shades above the FlexWave units.

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This illustration shows how the FlexWave diverts natural light further into the room, while the integrated shade blocks direct sunlight and glare. The FlexWave is also available without the integrated shade bracket.

That way light can be kept out both below and above the shelf when there are AV presentations or movies.

There's also more and more need to shade not just the exterior windows, but the inside windows, according to Marx, citing the safety concerns about masking movement inside the classroom. Though those windows facing the hallway are manually operated.

Marx said installation of the FlexWave/Motorized FlexShade combos went smoothly.

“The light shelves go up very nicely. The motorized shade has an adjustable leveling device, so you can level the shade with an Allen wrench adjustment, which works very well. Even if the shelves are hung level, some adjustment may still be needed and that was a great idea.”

The light shelves are working well to divert natural light into the building further—especially on the south side of the buildings—reducing the need for artificial lighting. Light shelves have also been proven to increase productivity

and attention—especially further in from the windows—by allowing more natural light to be used. And while the FlexWave is designed to resist dust collection, if one does get dirty the shelf can be easily rotated down, without the use of tools, for cleaning.

Everyone seems pleased with the light shelves and motorized shades, even the kids.

“The kids love to throw the switch on the shades,” Marx said. “They like having the teacher dispense the control. They’re always asking whose turn it is to throw the switch!”

For more information on Draper’s FlexWave, visit draperinc.com/go/FlexWave.htm.

Details about Draper’s line of Motorized FlexShades can be found at draperinc.com/go/MotorizedFlexShades.htm.

To learn more about Shadeology, you can go to shadeology.com.

draperinc.com/whitepapers_casestudies.aspx