

# LEDOLAS

Lighting | Energy | Decontamination



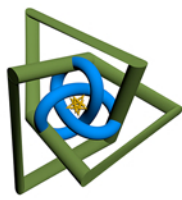
## THIN FILM SOLAR CURTAIN WALL SYSTEM

G-P LLC's Solar Curtain Wall is a thin film solar panel curtain wall system. Designed by our engineers, the modular frame system gives a variety of different finishes and accent lines thicknesses, plus the option of attaching the solid material panels (like stone, steel, etc.). In combination with different colors and transparency values of the thin film solar panels, the possibilities with the pattern combinations are endless.



And besides the obvious financial and environmental advantages of having the solar panel curtain wall, we also integrated the heat recovery system which pushes efficiency to another level.

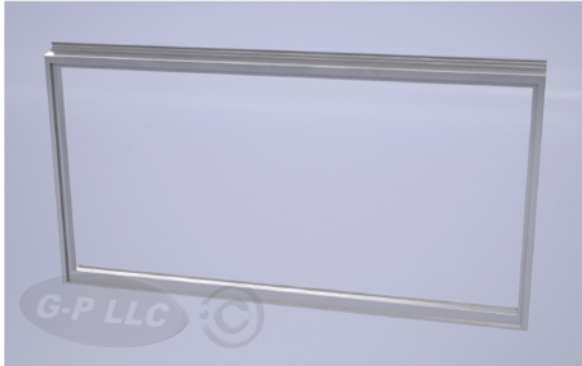
G-P LLC's Solar Curtain Wall is a super-efficient solution in both a financial and environmental sense, with the beautiful modern design, and design variations, which our clients can incorporate into any building.



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## CURTAIN WALL - FRAMING SYSTEM



### ALUMINIUM FRAME DESIGN

Intuitive, lightweight and modular - our aluminum frame enables a number of different curtain wall looks. Different parts that can be attached are giving our clients the possibility of changing the thickness of the accent lines between the rows and columns, and different aluminum finishes enable the look and color that the client wants.



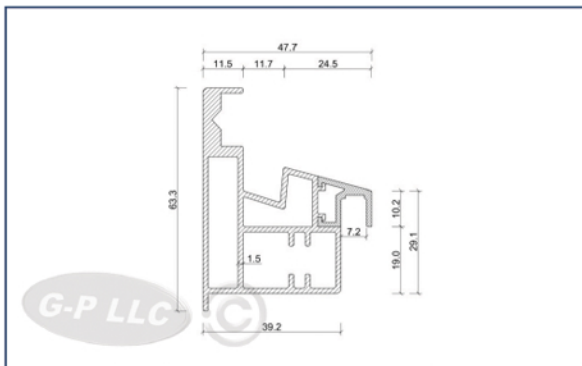
### EASY TO MOUNT

Each panel has its own preassembled aluminum frame, which makes the mounting process fast and easy, and gives the client unlimited number of curtain wall patterns. Aluminum frame is designed so it can be assembled and dissembled with speed and efficiency. Kits are included with non-powered, non-tempered solar glass and framing for custom fits.



### STUD SYSTEM FOR FRAMES ATTACHMENT

Studs specifically designed for our aluminum frame attachment, enable easy mounting on any wall type. Attachment of the stud is required only in two positions per level of the building.



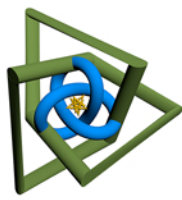
FRAME TOP - ASSEMBLY EXAMPLE

### BUILT FOR BOTH THIN FILM SOLAR AND OTHER FINISHES

Our modular frame design enables attachment of thin film solar panels, with different transparency values and different colors. Beside thin film solar, our clients can use our honeycomb solid panel system to give their curtain wall stone, metal, or any other look.

### STANDARDIZED AND CUSTOM FRAME SIZES

Besides the standard frame size of 48" x 24", meant to be used with our CdTe thin film panel sizes, we offer custom frame sizes, to adapt to any size thin film panel (in any orientation.)

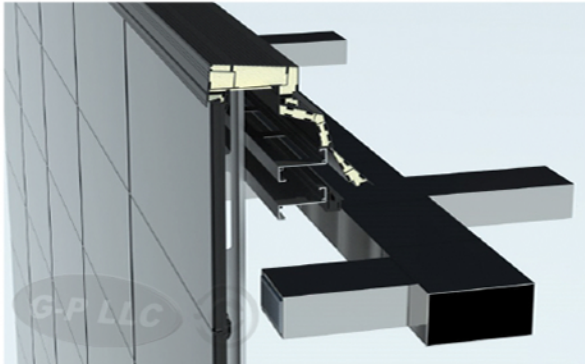


## CURTAIN WALL - THIN FILM SOLAR PANEL SPECIFICATION

| THK-10300 Thin Film Solar Panel  |                      |   |
|--|----------------------|---|
|  |                      |   |
| <b>WARRANTY:</b> <ul style="list-style-type: none"> <li>• 10 years materials and workmanship</li> <li>• 25 years power output guarantee for 90% of nominal output during first 10 years and 80% over 25 years</li> </ul> |                      |   |
| Electrical Specifications (performance at STC: 1000W/m <sup>2</sup> , 25°C, AM1.5)   |                      |   |
| Nominal Power(P <sub>m</sub> )   |                      | 85W   |
| Open Circuit Voltage(V <sub>oc</sub> )   |                      | 60.2V   |
| Short Circuit Current (I <sub>sc</sub> )   |                      | 1.97A   |
| Voltage at max. Power(V <sub>m</sub> )   |                      | 48.3V   |
| Current at max. Power(I <sub>m</sub> )   |                      | 1.76A   |
| System Properties (at STC)   |                      |   |
| Maximum System Voltage   | V <sub>sys</sub> (V) | 1000(600UL)   |
| Limiting Reverse Current   | I <sub>r</sub> (A)   | 3.5   |
| Maximum Series Fuse  | I <sub>cr</sub> (A)  | 3.5   |
| Temperature Coefficients (at STC)  |                      |   |
| Temperature Coefficients of I <sub>sc</sub>  |                      | α=0.060%/°C   |
| Temperature Coefficients of V <sub>oc</sub>  |                      | β=-0.321%/°C  |
| Temperature Coefficients of P <sub>m</sub>   |                      | γ=-0.214%/°C  |
| Mechanical Specifications  |                      |   |
| Length   |                      | 1200mm  |
| Width  |                      | 600mm   |
| Thickness  |                      | 6.8mm   |
| Area   |                      | 0.72m <sup>2</sup>                                    |
| Weight   |                      | 11.8kg  |
| Frame  |                      | None  |
| Lead Cable   |                      | 2.5mm <sup>2</sup> 650mm                              |
| Connectors   |                      | MC4   |
| Bypass Diode   |                      | 10A   |
| Cell Type  |                      | Cadmium Telluride (CdTe)                              |
| Cover Type   |                      | 3.2mm normal glass laminated to 3.2mm normal/tempered |
| Encapsulation  |                      | PVB   |

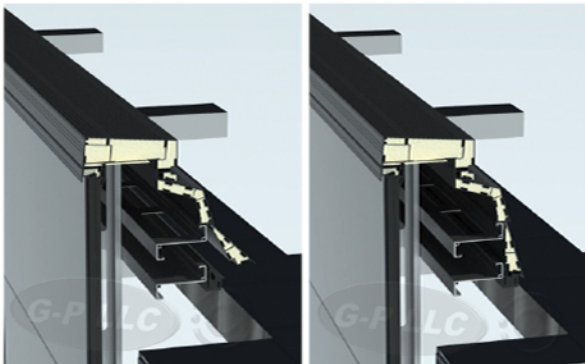


## CURTAIN WALL - SOLAR HEAT RECOVERY SYSTEM



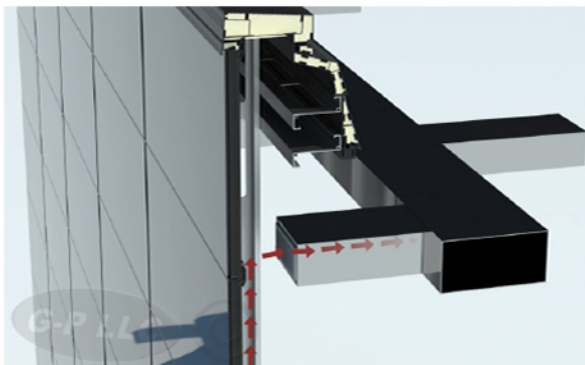
### WHAT IS SOLAR HEAT RECOVERY SYSTEM?

Solar heat recovery system is a heating technology that uses hot air produced by solar panels and conducts it to the ventilation system of the building. It delivers huge life-cycle cost savings and require no maintenance over the panels 25+ year lifespan. Solar heat recovery system can be used on walls of most building types, from residential to commercial (including high rise) and industrial buildings.



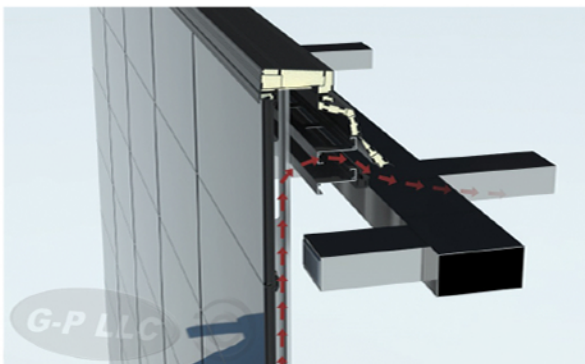
### HINGED LID SYSTEM

Our specifically designed roof covers incorporate the hinged lid system, which can, depending on the weather conditions, be opened and closed automatically, thus preserving the hot air when it is cold, and exhausting the hot air over the rooftop in warm weather.



### COLD CLIMATE / WINTER

In the cold months, the hinged lid system on the top cover closes, preheating the cold air intake system, reducing heating cost and improving fresh air circulation.



### HOT CLIMATE / SUMMER

During the hot months, the hinged lid system on the top cover closes, venting the hot air out. Solar powered exhaust fans can be added to cool the inner wall. Expect lower HVAC demands if the G-P LLC's curtain wall system is covering brick, concrete or steel building.