MUROX VENTILATED THERMAL PANEL
FREQUENTLY ASKED QUESTIONS

Can the solar collector be installed on an existing building?
A: The ventilated thermal panel can only be installed on a new construction or an extension to a building. It cannot be installed on an existing conventional building.

Can the solar collector be installed on all industrial buildings?
A: It can be installed on all new buildings equipped with an HVAC system. The ventilation unit must bring in an adequate, continuous supply of fresh outdoor air in order to maintain good indoor air quality. Even today, many industrial buildings do not have an HVAC system, and so installing a solar collector in these buildings would be a waste of time.

Are there standards or laws governing air exchange rates (air quality)?
A: Mechanical engineers refer to ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) standards, which specify different air exchange rates for different types of spaces in a building. In Quebec, air quality in buildings is governed by the Regulation respecting the quality of the work environment instituted by the Quebec Government.

What information is essential to designing a ventilated thermal panel?
A: 1 - The building’s air exchange rate. If this information is not available, it is important to know what the different spaces in the building will be used for. The more air changes the building requires, the longer the thermal panel will be and the greater the energy savings will be as well.
2 - The city where the building will be located and the building’s orientation. Orientation is a very important factor: a wall facing east or west is 40% less energy-efficient than a south-facing wall.
3 - The building’s operating schedule. The longer the building’s operating time, the greater the annual savings will be.
4 - The height of the panel. The greater the height of the panel, the more energy-efficient it will be.

Does Murox’s thermal panel have the same thickness as its standard panel?
A: Murox’s ventilated thermal panel is 1.5 inches (3.8 cm) thicker than its standard panel. This added thickness is required to create the air gap between the wall’s air barrier and exterior cladding. This is where incoming fresh air will be preheated before entering the building. This extra thickness is virtually invisible once construction is completed and does not impact the foundation wall thickness.
Is the thermal panel available in different colors?
A: Murox offers an assortment of cladding colors. However, black yields the best energy output. The darker the panel color, the more energy-efficient the panel will be. For instance, a dark brown wall will capture 5% less solar energy than a black one. Similarly, a dark blue wall will capture 15% less solar energy than a black one.

Is the exterior cladding perforated?
A: The cladding used for the ventilated thermal panel is standard Murox cladding (M-156R) and is not perforated. The Murox ventilated thermal panel is a backpass-type solar collector. Outside air is drawn at the base of the wall and is warmed by the thermal panel as it rises to the top of the wall.

In winter, can snow accumulation at the base of the panel prevent fresh air from entering the wall?
A: Fresh air enters the wall at the base of the exterior metal cladding, which is located three feet (90 cm) above the ground. Any snow or ice buildup at ground level will therefore not block air entry.

Is there a device installed at the base of the panel to prevent pests/birds from entering?
A: An expanded metal closure strip is installed at the base of the solar collector.

Can the ventilated thermal wall be used 365 days a year?
A: It depends where the building is geographically located. When the temperature in the ventilated thermal wall is higher than the building’s desired temperature (the temperature at which the controller is set), the ventilation unit allows for the optimum mix of fresh air to solar-heated air. However, when the outside temperature is equal to or higher than the building’s desired temperature, the ventilation unit only draws outside air. The admission of fresh air and solar-heated air into the ventilation unit is modulated by temperature sensors and a motorized damper inside the unit.

How is air distributed throughout the building?
A: The air is collected by a ventilation duct connected at various points to the ventilated thermal panel and is then ducted into the building.

Can there be openings (doors, windows) in a ventilated thermal wall?
A: Doors and/or windows can easily be integrated into a ventilated thermal wall without decreasing the wall’s overall energy efficiency, as long as a pre-determined amount of the wall’s square footage is used for ventilated thermal paneling.

What energy savings can the ventilated thermal wall generate?
A: The Murox thermal panel can reduce fresh air heating bills by up to 25%*. This represents a savings of approximately 10% on total heating costs. Get a realistic picture of the savings you can achieve for your building by using our Energy Savings Calculator.