



What is Solar Ready?

Solar Ready is a concept that has been developed to address the issue of installing a SolarWall® perforated Transpired Solar Collector (pTSC) to building which is to be constructed speculatively. This concept provides building developers & architects with the advantage of utilising the SolarWall® system as a third “skin” on the planned building envelope to deliver a viable, renewable energy solution.

The SolarWall® is a **fresh** air heating system, which heats outside air via a perforated plate absorber. The principle of the SolarWall® is simple. Thousands of tiny perforations are uniformly spaced across the face of the collector. As sunlight strikes the surface of the SolarWall® and is absorbed, solar heat conducts to the thermal boundary layer of air which lines the outer surface of the panel. This heated boundary layer of air is then drawn through the perforations (by means of a ventilation fan) into the cavity space behind, from where it can then be distributed inside the building.

SolarWall® systems are specifically engineered for each individual application based on information received from either the building owner or tenant. For speculative buildings however, these specific details are very rarely known, therefore the **Solar Ready** concept has been developed to overcome this hurdle.

During the early stages of a development, the most beneficial size & location of a **Solar Ready** SolarWall® system would be determined based on the initial orientation & layout of the building. This area would then be over clad with a specially designed SolarWall® panel that would enable the collector to cater for a variety of different air flow rates & requirements.

The **Solar Ready** concept can also be applied over many existing structurally sound wall materials, from traditional brick, to metal or precast concrete (see Figure 1). This allows for a wide range of materials to be used within the building envelope and gives the building developer and architect the freedom to design modern buildings which fit in with surrounding environments.



Figure 1 - SolarWall® panels mounted over Twin-Therm® wall

The Benefits

1. The Developer

- Enhances the image of the developer as they demonstrate their contribution to reduce the impact of CO₂ on the environment.
- Offers a renewable energy saving solution to the building envelope at minimal cost when compared to the overall cost of the development.
- No M&E fit out is required as this is left for the tenant to undertake.
- No more complicated to install than regular profile cladding systems delivering minimal installation costs.
- Provides a solution that will be used for the life of the building with minimal maintenance requirements.
- Offers the tenant the opportunity to take advantage of a technology which can reduce their fuel consumption.
- Enables easier compliance with Part L & simplifies planning applications.

2. The Architect

- Able to demonstrate their commitment to environmental issues by promoting renewable technologies which are integrated into the building.
- Can offer a solution for renewable technologies which fits in with existing and new building designs.
- Is able to introduce a renewable energy solution to both the developer and the tenant.
- Maintains the aesthetic appearance / design of the building.

3. The Tenant

- Can be utilised either as a stand alone system or integrated into planned M&E package.
- Is able to introduce pre-heated **fresh** air into the building.
- Reduces fuel consumption and CO₂ levels.