



SOUTH AFRICA/AFRICA
Midrand / Dev Bank of SA
Vulindlela Academy
 realized 2010

Holms and Friends



DOMESTIC HOT WATER & UNDERFLOOR HEATING SYSTEM

The system provides hot water for the gym, the office toilet facilities and a prep kitchen. The low temperature (30° C) required for the under-floor heating (UFH) system creates the opportunity for very high solar water heating (SWH) system efficiency. Both the collector and domestic water system are direct and connected to the fresh water. This in itself leads to high energy transfer efficiencies. The UFH system (500m²) has a heat exchanger of 15kWth. A peak demand of 30Watt/m² floor area is only required in extreme cold weather, as the building as excellent solar passive performance. The building is also ventilated by a pre-heated earth tube system. As the UFH system warms the well-insulated structure (which has a high energy capacity), the continuous opening and closing of doors has very little effect on the thermal comfort. The water heated by the solar panels is stored in the 2 500 litre high pressure steel vessel with enamel coating. Backup heating is supplied through 2 x 9kW resistive elements. The domestic hot water system is circulated through a well-insulated circulation pipe loop, which avails hot water instantaneously when the water efficient taps are opened.





Geographical position:

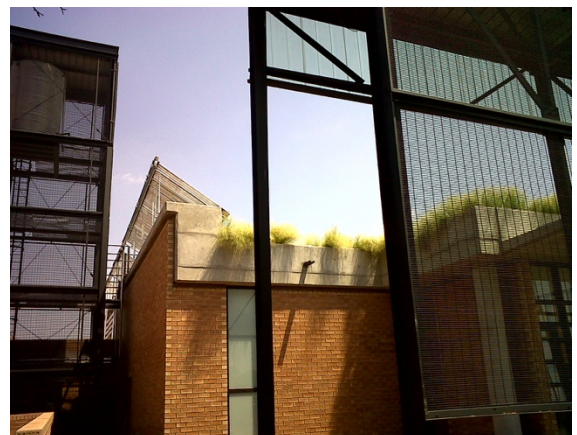
Lines of latitude: S: -25 d 56.344819

Lines of longitude: E: 28d 08.175440



KEY DATA

<p>COLLECTOR AREA</p> <p>28,3 m²</p> 	<p>SOLAR PEAK PERFORMANCE</p> <p>19,81 kW_{th}</p> 
<p>ENERGY SAVINGS kWh</p> <p>26 880</p> 	<p>STORAGE CAPACITY</p> <p>2 500 liters</p> 



For more information go to:
www.holmsandfriends.co.za