



SOUTH AFRICA/AFRICA
Johannesburg / Lifestyle Garden Centre
Randparkridge
 realized 2007

Holms and Friends



SOLAR WATER HEATING SYSTEM
FLAT PLATE COLLECTORS

Description:

Through passive design, smart equipment choice, a building management system (BMS), night time ice storage and large scale solar water heating (SWH) system, the total demand could be reduced by more than 60% and energy consumption was halved. The under floor heating system of more than 1 200 m², is divided in different zones. The zones can be individually controlled to achieve the optimum temperature. Temperatures of between 40 - 50 degrees C can be pumped into the floor and return temperatures are typically at 25°C. This means the system has no freeze protection glycol in the solar loop, but drains all water after sundown into the main hot water storage vessel, ensuring that no freeze damage can occur. This strategy has major advantages in terms of maintenance and running cost, but requires special design and initial installation skills. THIS WAS ONE OF THE VERY FIRST LARGE SCALE SYSTEMS (AND AS SUCH A SOUTH AFRICAN RECORD FOR A LONG TIME) USED IN THE BUILT ENVIRONMENT. DUE TO THE HIGH ENERGY DEMAND & CONSUMPTION SAVINGS, THE SYSTEM REACHED PAYBACK ALREADY IN THE THIRD YEAR.

Geographical position:

Lines of latitude: -26.095232

Lines of longitude:, 27.942805



KEY DATA

COLLECTOR AREA

480 m²



SOLAR PEAK PERFORMANCE
336 kW_{th}



ENERGY SAVINGS
P/a
240 000 kWh



STORAGE CAPACITY
30 000 liters



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