



SOUTH AFRICA/AFRICA
Pretoria / Uni Pretoria
Boekenhout & Olienhout Residences
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Holms and Friends



SOLAR WATER HEATING SYSTEM

Description:

The 409 x 2 m² collectors for this system were installed on top of the building roofs. The collectors cover a total of 818 m² roof space and linked to eight systems, each feeding a central duct. On the roof, 3 collectors are always connected in parallel. Two parallel strings are then connected in series, resulting in a thermal length of 12 m. Each array charges its own hot water storage vessel through a solar charging station.

The solar charging stations have a collective heat exchanger capacity of just under 600kWth which load the storage vessels in layers.

The solar loops are charged with a water-glycol solution (20%), protecting against freezing conditions. In addition the system is designed to handle full stagnation during the sunny summer holidays, when consumption might be very little. This is done through Membrane Expansion Vessels (MEV) with a total capacity of over 3500-litre.

There are 2 x 1 600-, 4 x 7 200- and 2 x 10 000 liter buffer tanks. These are steel vessels without any internal protective coating. As no oxygen gets into the tank, no rust can occur. The vessels are well insulated with Rockwool of between 120 – 150 mm thickness. Galvanized metal sheeting protects the insulation from outside moisture & damage.

The water is distributed through pump circulation, via 20 – 40 mm diameter, heavily insulated copper pipes. These are mounted inside the service ducts at each block, supplying instantaneous hot water to all hand wash basins, sinks and showers.

Geographical position:

Lines of latitude: -25.756571

Lines of longitude: 28.245204



KEY DATA

COLLECTOR AREA

818 m²



SOLAR PEAK PERFORMANCE
572,6 kW_{th}



ENERGY SAVINGS



STORAGE CAPACITY

52 000 liters



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