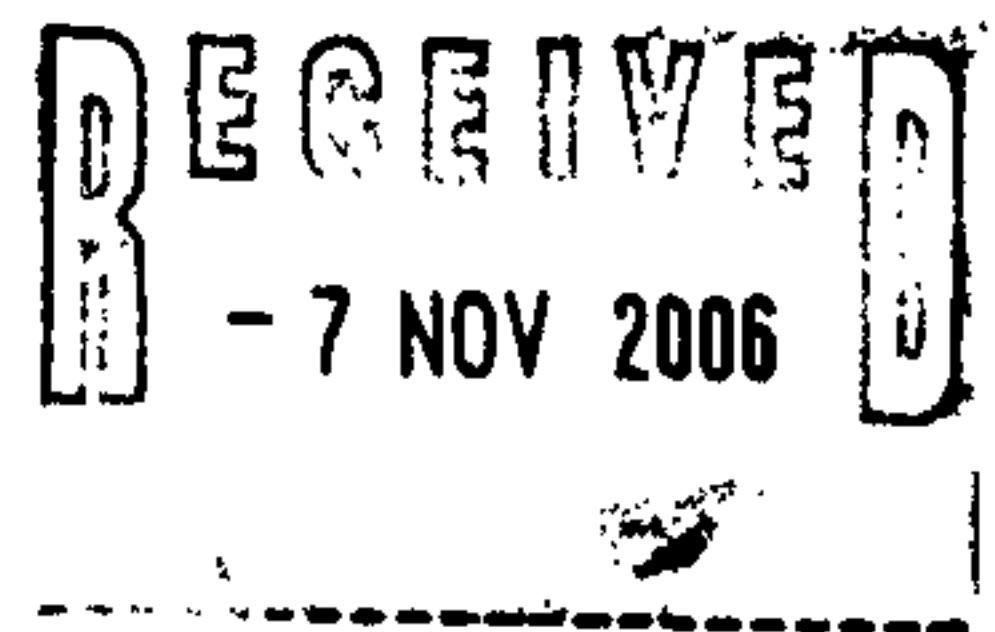


WEBB ARCHITECTS LIMITED

Solar control glass

14a Redington Road

Pilkington Suncool High Performance is a range of off-line coated, energy management glass combining high light transmission with solar control performance. It is used as part of an insulating glass unit where it's coating also provides the highest level of thermal insulation.



WEBB ARCHITECTS LIMITED

Solar Collectors

14a Redington Road

Much of the hot water in the new house will be preheated via solar panels (with evacuated tubes) that are coloured to blend into the roof finish and have low reflective properties.

The panels would be located horizontally flat on the top roof. Here they will be open to the sun in the south which will maximize their performance. They will be recessed into the green roof build-up and concealed by the parapets.

The solar thermal system would utilize 'evacuated tube' type roof mounted solar collectors via a pump circuit to serve heat to the domestic hot water storage cylinder via a secondary internal coil. The hot water storage cylinder would increase in size to allow solar thermal heat storage.

9.0m² of panels (with an active aperture area of 6.0m²) would be installed to achieve the required 10% carbon reduction target.

Solar collectors use twin-glass selectively coated solar tubes as the solar absorber. Each solar tube is fitted with a pair of metal heat transfer fins, which serve two purposes, firstly to aid heat transfer, and secondly to secure the copper heat transfer heat pipes tightly against the inner wall of the solar tube. The copper heat pipes are evacuated and contain a small volume of purified H₂O, which, due to the vacuum, at low temperatures (>30°C) boils and vaporizes. The excellent heat transfer properties of the heat pipes facilitate the transfer of thermal energy from within the solar tubes to the collector header.

