



Case Study – Solar Water Heating Solution for High Density Flats in London

Filsol installer partner, Southern Solar Limited, were appointed by developers Wates to design, supply and install solar water heating systems for new-build high density apartment blocks in Kennington, South London. Due for completion in September 2009, the development is being constructed for London & Quadrant (L&Q) Housing Association, and consists of 75 mixed tenure apartments split over five floors and two blocks.

System Requirements

A central design requirement of the solar water heating systems was to enable the development to achieve a minimum 10% cut in carbon emissions through on-site renewable energy generation, whilst also helping to meet Code for Sustainable Homes Level 3.

In addition, the Filsol systems needed to provide a robust and reliable solution for L&Q which would require minimal maintenance for the lifetime of the systems. Finally, the housing association wanted to give their tenants the benefit of significant savings on their heating bills.

Innovative Design Solutions

The Filsol and Southern Solar design team worked closely with Wates and their consultants to calculate the renewable energy input that the solar water heating systems would contribute to meet the necessary planning requirements. A key design consideration also lay in the optimum method for fixing the frame-mounted collector arrays to the flat roofs in a way that would cope with wind-loadings whilst also not damaging the integrity of the roof structure. A ballast approach has

subsequently been designed that avoids the need for roof fixings.

The system design also incorporates multi-floor circulation loops which negate the need for individual heat transfer circuits running from the solar collectors to the hot water cylinders in individual apartments. With this solution, a series of 14 separate collector arrays have been positioned across the different roof areas, with each array connected to a large circulation loop running vertically through the floors of the blocks. Individual circulating loops then connect to the unvented dual-coil cylinders installed in the airing cupboards of the apartments.

In total, 104 Filsol solar collectors with a combined absorber area of around 208m² have been installed.



As part of the service, we also managed the application process on behalf of L&Q Housing Association to secure substantial grant funding from the Low Carbon Buildings Programme Phase 2 scheme.

