

Reading Borough Council

Private sector housing Reading Berkshire UK Latitude : 51N

Five solid walled Victorian (nineteenth century) terraced houses, privately owned, in a considerable state of disrepair have been refurbished in an energy efficient manner. The following improvements have been made: wall, floor and loft insulation, double glazing, a condensing combi boiler, heat recovery ventilation, solar hot water heating and a conservatory/ buffer space of circa 4 square meters.



- Glazed sunspaces

More of a buffer space than a highly passive solar space. Fully glazed roof and clear glazed back elevation. Aspect ratio of about 1:4 (glazed/unglazed). Floor area, circa 4 square meters.

- Sunspaces oriented South, west and north.

Windows and Doors, Low E double glazing between outside and conservatory and between conservatory and house. Roof glazed using twin wall polycarbonate sheeting on wooden rafters.

- Frame Type

Timber in all locations.

- Full Height Glazing

- Description of shading

No shading devices. Sunspaces are inset between back extensions to houses, thus limiting solar availability to particular hours. No shading

- Ventilation

Conservatory door, some have small windows. House has mechanical ventilation with heat recovery for winter use.



- Mechanical services in sunspace

None

Ventilation is natural

- Floor type

Concrete

- Floor covering

4 sunspaces have tiles on concrete as the finish. One had carpet on the tiles.

- Monitoring

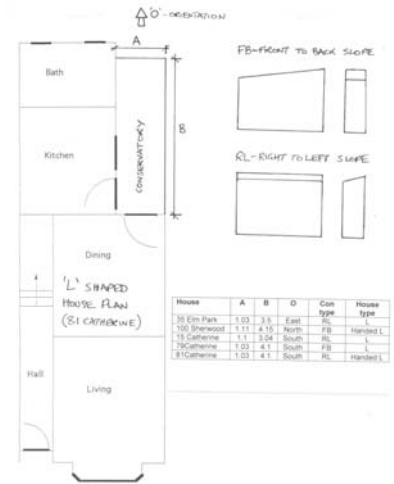
Due to shape and orientation sunspaces are not used for sitting. Typical uses are for storage, washing machines and fridges.

2 occupants noted overheating on sunny or hot days, the other 3 did not. No evidence of condensation.

Some inappropriate use of windows between the house and sunspace in the winter. The house has mechanical ventilation with heat recovery, opening windows in the winter short circuits this.

A negative consequence of the sunspace is reduced light levels in the rooms behind it.

This type of hybrid conservatory/ buffer space has a lower potential benefit from solar gain, but is less likely to be heated while occupied. Occupants need advice about how to use the space in conjunction with whole house mechanical ventilation and heat recovery.



Comparative summer temperatures measured in two conservatories.

