

Clearline[®]



its time

to put your roof
to work[™]



WORLD FIRST FOR
SOLAR



solar never looked so good™

- Supplies 50 - 60% of annual hot water
- Helps you lead a greener lifestyle
- Increases the energy efficiency of your home
- Robust and simple
- Good looking



With an expected design life in excess of 25 years, Clearline comes with a 10 year warranty

great looks

Now you can do your bit for the environment without spoiling the appearance of your home. Clearline solar panels form an integrated part of the roof covering, replacing the tiles and sitting lower on the roofline. This allows a more professional looking installation compared to other systems which sit on top of the tiles with pipe-work out in the open.

Only 80mm thin, Clearline is flush or slightly proud of the roof covering, and blends more harmoniously with the building.

Three panel sizes are available, which can be combined to build up sufficient area in the most sensitive way to the overall aesthetic of the building.



"I love it. I've hardly had the boiler on – I'd recommend it to anyone"

Claire
Viridian Householder



re-roofing?

An ideal time to install solar is when you have invested in scaffolding and roofing work is in progress.

If you don't have a roofing project planned, don't worry, Clearline can be retrofitted into an existing roof - a roofing contractor can just remove a patch of tiles, fix the Clearline solar panel and tile back up to the edges.

confidence

Clearline neatly separates roofing work from plumbing work to enable professional trades-people to work with what they know best.

Since there are no plumbing connections to make outside the building, Clearline enables a roofing contractor to complete all of the roofing works. You benefit from the knowledge that the weather tightness of your roof has not been compromised .



The plumbing contractor does not need to go on the roof and can attend at a convenient time to complete the connections to the hot water cylinder.

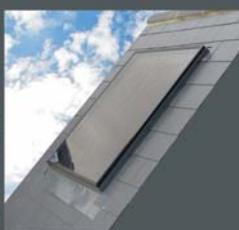


tested to higher levels

While the technology of solar water heating is well established, Viridian Solar has gone further than any other supplier to prove its products. In common with other quality solar panels, Clearline has passed tests to the European standard for solar panels (EN12975), but Viridian wanted to go further. Clearline is the first solar panel to achieve certification from the British Board of Agrément and approval from the NHBC for the durability and effectiveness of the integration between the solar panel and the building to which it is fitted.



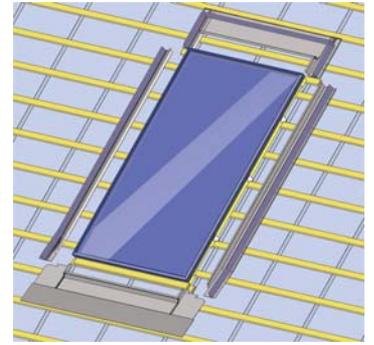
the NHBC for the durability and effectiveness of the integration between the solar panel and the building to which it is fitted.



Integrates into both tiled and slated roofs - just select the right flashing kit.

how it works

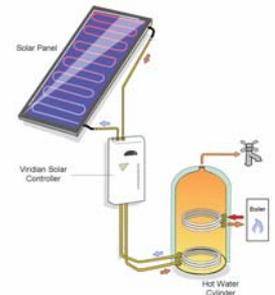
1



The panel replaces tiles on the roof and comes complete with a flashing kit to integrate with surrounding tiles or slates just like those that fit around roof windows. Flexible hose connections are passed through the roofing felt before the kit is fitted. This way there is no need for pipes or fixing brackets to pass through the tiles - a common weak point of other systems.

A frame mounting kit is available for installation on flat roofs.

2

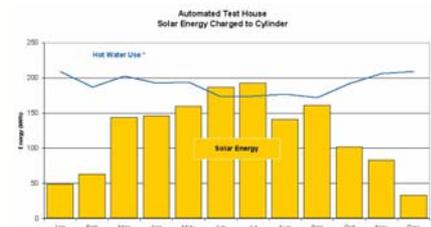


A black metal plate in the solar panel absorbs light and heats up. The glazing and insulated casing trap this heat inside the panel. The control unit senses the temperature rise and pumps the fluid in the solar circuit through pipes in the solar panel where it warms. The heated liquid flows back to the cylinder and heats the water inside by flowing around a heat exchanger coil at the bottom of the cylinder.

For those days when the solar energy is not sufficient to heat the cylinder to a high enough temperature, an alternative heat source is necessary - a boiler or immersion heater, controlled in the normal way by the cylinder thermostat.

It is likely that you will need to upgrade your cylinder to a "twin coil" model with heat exchanger coils for both solar and conventional heating

3



Averaged out over a 12 month period, a properly sized system will provide around 50-60% of household hot water energy. In the winter, the solar heating system will pre-warm the water for the auxiliary heater to raise to a useful temperature. In summer the auxiliary heater will be hardly used at all.

(The graph shows real measurements of monthly energy from the Viridian Solar Automated Test House, Cambridge 2006-7)

technical

Solar Panel Type		V30	V20	V15
Installation				
Nominal Area	m ²	3.0	2.0	1.5
Area of tiles replaced	m ²	4.0	2.5	2.0
Width (across roof)	mm	1,164	1,164	1,164
Height (up roof)	mm	2,889	2,043	1,479
Thickness	mm	82	82	82
Weight	kg	62	42	31
Weight (filled)	kg	64	43	32
Roof angle	20-60 degrees			
Tile compatibility	Interlocking or plain tiles, slate			
Regulatory				
Exposure Limitations	Anywhere in UK			
Fire rating to BS 476-3	AA			
Thermal Performance for SAP				
Absorber Area	m ²	3.0	2.10	1.49
Zero Loss Efficiency		0.81	0.81	0.81
Heat Loss Coefficient		3.9	3.9	3.9
Control Unit				
Height	mm	730		
Width	mm	340		
Depth	mm	200		
Weight (filled)	kg	20		
Weight (empty)	kg	16		

Viridian Solar has a policy of continuous improvement, and reserves the right to alter specifications without notice. Viridian Solar has made every effort to ensure the accuracy of information but does not accept liability for any errors or omissions.

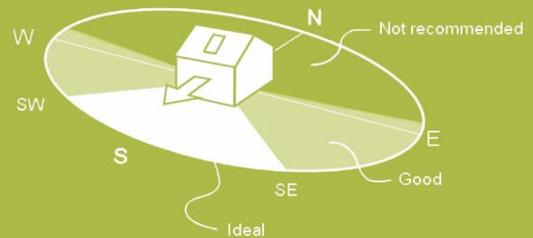
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Is Solar Heating Right for Me?

Orientation

It is a common misconception that solar panels must face South. Anywhere between East and West through South is perfectly acceptable.

Of greater concern is shading - avoid a position where the panel will be shaded by trees, other buildings or other parts of the same building. Remember that the position of the sun will change through the day and through the year.



While solar water heating is the most cost-effective form of renewable energy generation, there are a number of energy saving measures that could be done in addition:

- Loft Insulation
- Double glazing
- Modern gas boiler
- Cavity wall insulation
- Energy efficient light bulbs

Available from

