Solstice Energy Ltd
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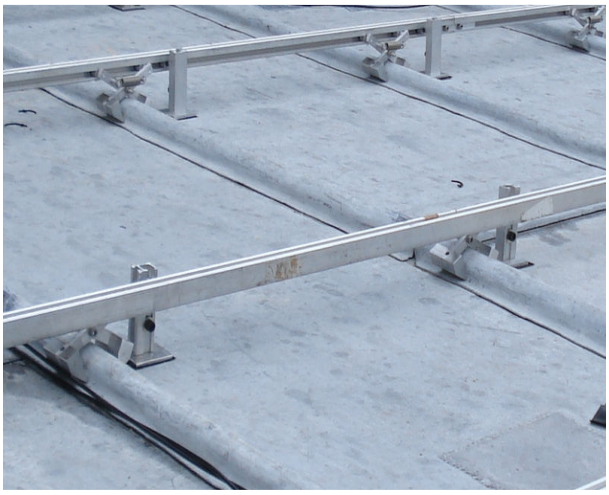
LEAD ROLL CLAMP



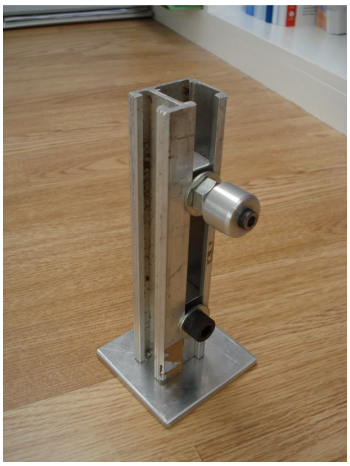


Fig 1 Clamp

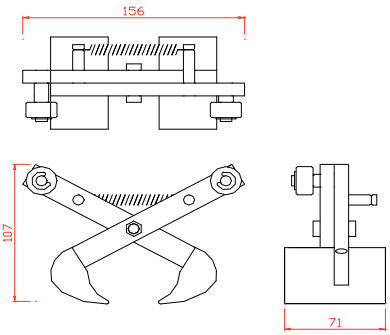
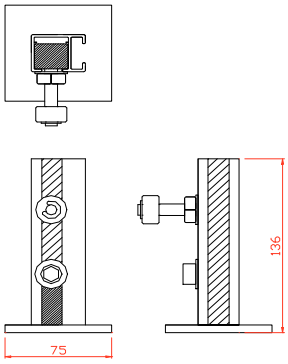


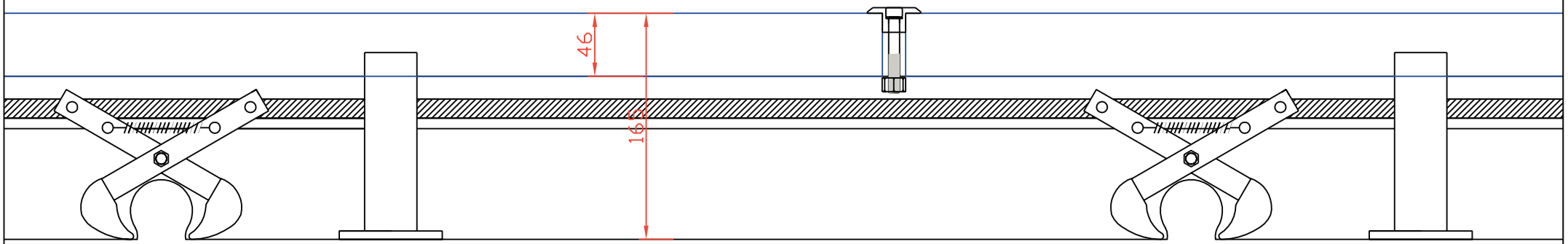
Fig 2 Prop



Designed for church buildings, the lead roll clamp offers a means of mounting on lead rolled roofs without requiring ballast, or the need to fix through, constrict, or cause damage to the lead.

- Simple engineering
- No conventional constant clamping force on the lead roll - the clamp is responsive to wind lift
- Rounded jaw tips cause minimal damage
- Allows the lead to expand and contract as it would normally
- Entirely aluminium – strong, lightweight, and no adverse reaction to the lead
- Successfully tested at the Building Research Establishment (report available on request)
- Very powerful – exceeded strength of BRE test rig and given rated wind force per clamp of 1605N
- Satisfies heritage and listing requirements not to permanently alter existing roof

Note: As with any mounting system, the lead roll clamp is only as strong as the point it is fixed to.



Roof Surface

Solstice Energy Lead Roll Clamp with prop including Sharp (46mm thick) module

Scale 1:4 @A4

Date - 5-6-08

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Lead roll clamp mounting instructions

1/ Assemble the two arms of the clamps using the M8 bolt and 'nylock' nut. Tight enough to stop any side-to-side movement, but loose enough to allow the arms to move freely.
2/ Fit the springs to the two pins above the hinge.
3/ After setting out the rail position, fit a clamp over the first lead roll at one end of the array. Note – fit all clamps with springs on as it will be very hard to fit the springs afterwards.
4/ Slide a section of rail onto the clamp
5/ Slide the connecting roller from a prop into the rail channel (the main body of the prop can be fitted later
6/ Slide another clamp along the rail and fit over the second lead roll. Be careful that you don't force the first clamp when lifting the rail to get the second one on. It may be better to fit the clamp then slide the rail onto it.
7/ Slide another prop roller along next to the clamp and continue the process. If laying modules straight onto these rails, you may need to consider where the module frames will land as the props protrude above the tops of the rails.
8/ Fit rail joints as you get to them – as in point 6, it's probably better to fit the clamp on the new section before sliding the rail back over the joint piece. As you lay the rail, be aware of where the joints will land as they share the main channel with the clamps and prop rollers. You may need to fit the prop on the other side of the clamp, or cut a rail where it's joining piece lands within 50mm of the clamp rollers.

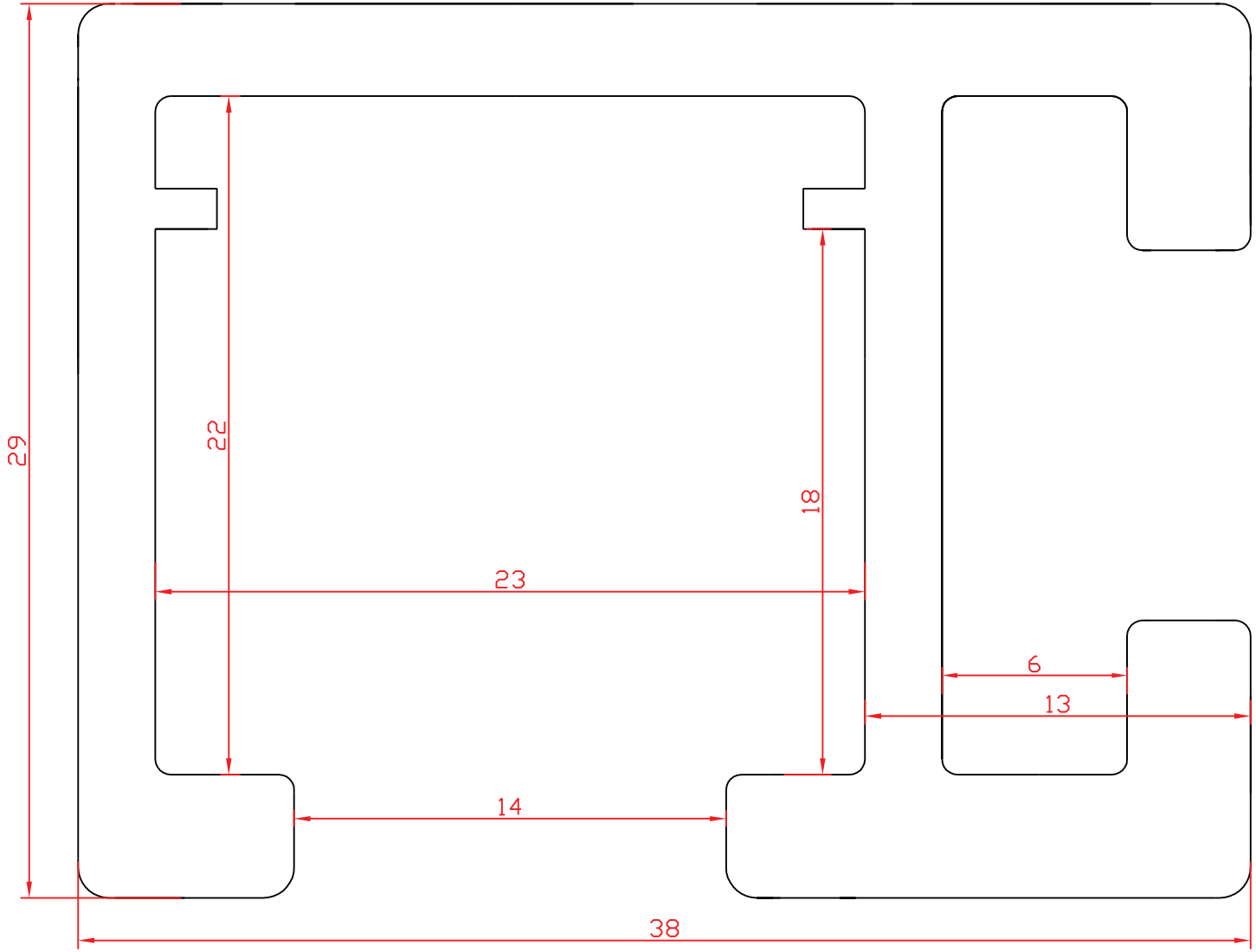
9/ When the rails and clamps are all fitted, slide the props over their aluminium blocks. The Props should be set close to their partner clamps, but at least 50mm from the nearest clamp roller. Place a square (larger than the prop base) of 1mm thick neoprene rubber under each prop.
10/ Tighten the nut and washer onto the prop while keeping a firm upward pressure on the rail and downward pressure on the prop (see photo). Ensure the base of the prop is flat on the roof as you do this. The props are the supports for the array, and it is important that these nuts are tight.

Other issues

If using the diamond shaped nut in the top channel to connect modules or framework, make sure they are fitted the right way and engage fully in the channel when the bolt is tightened (below).

If tying dc cables to the rails, they should be run on the opposite side to the clamps and props with no cables or ties impeding the action of the clamps.

We recommend that you leave no more than 300mm of overhanging rail after the last clamps.



	Old Ubbink rail	Scale Date - 3-12-08	Solstice energy 14 Gladwyn Road, London SW15 1JY 020 8789 4717 www.solsticeenergy.co.uk