

Household energy saving pack – Instructions

Welcome to your energy saving pack. The pack will allow you to trim your electricity bills by giving your home an energy makeover.

There are hot water savers, lights, draught proofing materials and some miscellaneous items. Below are some instructions to assist with the installation of some of the materials.

Health and Safety

Installing some materials and upgrades assumes some level of competence. Please only undertake any job if you feel competent.

Hot water savers

Showerhead

When replacing showerhead, water to property does not need to be turned off.

Handheld showerhead replacement

The handheld unit supplied has a mounting bracket and holder which can be used to convert a high rise shower head to a hand held one. Note that the bracket plate can only be used when the shower pipe is high on the wall.

If existing hand held unit is being upgraded, then only the hose (if replacing) and hand unit are required. The base plate can be disposed of. HOWEVER, the flow restrictor is located in the base plate and must be extracted and placed into the hand unit so shower delivers only 9L/min. See the series of photos below to show how to do this.



To remove the restrictor valve from the base plate use a screw to snag the restrictor valve and pull out. Position the flow restrictor into the hand unit. It will only fit in one direction. Attach either the old or new hose and hand tighten.

Hi-rise replacement

See back of pack for detailed instructions for replacing a high-rise showerhead.



Hot water tank insulation blanket

While hot water tanks have insulation built into them, and the standards are improving, a typical HWS is still allowed to lose up to 2.5kWh per day (\$140 pa) in heat loss. In fact many HWS lose more than this.

Adding additional insulation can reduce this significantly. We use Kingspan AIR-CELL Insulbreak 65 as a semi rigid and safe reflective blanket. It is foam sandwiched between two reflective layers.

Instructions.

1. Ensure there is space around the back of your HWS for the blanket to be threaded around. Often there are pipes, which can make it tricky.
2. Measure height of your tank. If your tank is short, then you may need to trim a band off the bottom of the wrap. If your tank is tall and thin you may need to make cut the blanket to be narrower.
3. Place the lid square over the top of your tank and secure in place with tape.
4. Thread blanket around back of tank, so that the silver side faces the tank. Cut slots where there are pipes and outlets. Keep clear of power supply and inspection port.
5. Use silver foil tape to secure the overlap and seal cuts that were required to get around pipes. Leave blanket a little baggy, as maximum insulation is achieved if there is an air space between the blanket and tank.



Hot water tank pressure relief valve insulating cover

The Valve Cosy is a simple snap on insulating cover that will fit over many pressure relief valves. The brass fittings out of the top of the tank allow considerable heat loss from the tank and ideally they should be insulated.

Note: Some tanks have the relief valve fitted close to the tank and the Valve Cosy wont fit behind the drain pipe. This is unfortunate. We would still recommend using pipe insulation to cover the pressure relief valve in some manner that allows the release of the valve if necessary.



Hot water pipe outlet insulation

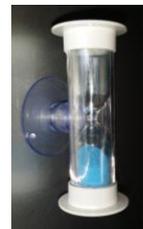


The hot water outlet pipe from your hot water cylinder should be insulated, at least for the first 2 m or as far as can be accessed. If the tank and pipework are inside or under the house we will supply Armaflex flexible pipe insulation. This is presplit with adhesive. Simply place over pipe and remove adhesive covers and pipe will seal.

If pipes are exposed to the weather then we will supply Armaflex Solar pipe insulation. This is also pre-split and can be wrapped around pipe work. We will supply solar tape and cable ties to seal the pipe insulation.

Shower timer

Simplest way of reducing hot water costs is to reduce amount hot water used. Keep an eye on shower duration with this 4 min shower timer.



Lights

Ten 11W CFL globes and 2 20W CFL globes have been included in the pack. They all have bayonet fittings. Note some lamps have screw fittings and these globes won't fit.

Use 11W globes in areas small to average rooms that do not require bright lights. Use the 20W globes in kitchen, bathroom or maybe lounge rooms that require brighter lights.



Warning

When changing light globes it is safest to turn off the power to the property. Also always hold CFL globes by the base. Do not grasp the tubes when fitting into socket.

Note: Old CFL globes can be recycled at SLT office.

Draught proofing

Foam door or window adhesive strip

Adhesive foam tape can be used to seal gaps on doors and windows as required.

Foam tape often creates problems around door and window closures as once applied it is difficult to close the door or window. The foam may require trimming back around the closure, or use an alternative product.

Foam tape perishes with time and may need replacing. However sometimes it is the best and only option.

Rigid external door or window draught strip and brush seal

For external or internal doors

If doors are loose in their frame or daylight can be seen around the door when closed then valuable heat is being lost from your home. If your doorframe is wood and gaps are less than 5 mm you should be able to use the door surround strip as below. Note: these strips can also be used on double doors.

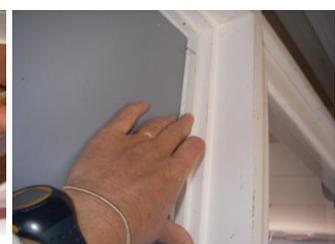


Warning

Goggles and mask are recommended as hammering over head often dislodges loose material from door frame.

Instructions

1. Assess door. Check frame is wood.
2. Determine which way door opens. If it opens inwards – then strips go on the outside. If it opens outwards - the strips go on the inside.
3. Close door
4. Measure upper length of door frame with measuring tape.
5. Measure length onto draught strip and cut strip with hacksaw, or sharp cutters (e.g. mitre cutters, cut strips at right angles, don't bother trying to mitre joints).
6. Lightly tack strip in place with supplied nails.
7. Strips should butt snugly against the door with the nylon brush being slightly squashed!
8. Open door and drive pins in fully.
9. Measure height of door frame on both the opening and hinged edge of door. Measure onto strip, cut, tack in place, open door and hammer brads in completely as above.



Strips are 2100 mm long. A standard door requires 2.5 strips.

Sliding wooden windows (e.g. sash or horizontally sliding)

Loose and draughty sliding wooden windows can be improved with the surround strip. Strips can be fitted internally on the two sides and the bottom of the lower sash window.



Sash or hung windows in poor repair may pose a risk. If the the sash is missing the chord or weights that counterbalance the sash window, the window may drop unexpectedly, potentially hitting a person or shattering glass. Always open sash windows with care and be prepared to prop window open if it doesn't stay open itself.

Instructions

1. Assess window. Check whether the window can be opened (often painted shut), whether counter weights and ropes are attached (if not window may fall shut if left opened unsupported).
2. With window closed measure and cut two lengths of strips for the height of the lower sash window. Tack surround to window frame with the window closed (remember the strip needs to push snugly against the sash window when it is closed). Open window to drive in the nails more easily (after tacked in correct position). A nail punch may assist in getting in nails that are in tricky positions.
3. Measure and cut strips for the bottom seal of the sash window. Nail into place.
4. Assess the gap between the sash and fixed (or upper window if double sash) window frame (where latch is fitted). If this gap is draughty there are a couple of options.
 - Use V-flex adhesive strip between the two windows. Open window and use rag and methylated spirits to clean the window frame of the bottom window (the side that faces the second window frame). Measure and cut length of V-flex to width of window) and fold V-flex strip into V shape. Attach to the top edge that meets the upper frame when window is shut (the "V" should face upwards).
 - Place a draught sausage over the gap.
 - Upper window cannot have surround strip fitted as it will prevent the window opening. If there are gaps around the upper window then these can be sealed with 1) broad adhesive tape, silicon or caulking products, paint (if upper window does not open).



windows, leaving them draught tight and fully operational (www.sealasash.com.au).

Local company Seal-a-Sash specialize in refurbishing sash

Wooden awning windows

Loose and draughty wooden awning windows can also be improved with the surround strip, in a similar way to the sash windows. Strips can be fitted to the two sides and bottom of the window.

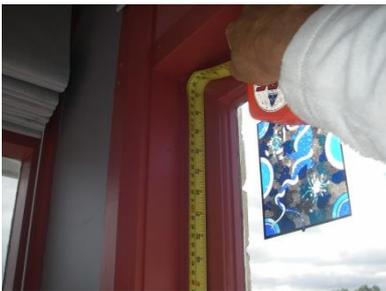


Warnings

See notes on safe use of mitre cutters.

Instructions

1. Assess window and determine how many sides to fit strip to (usually sides and bottom, although a strip can also be fitted across the top too).
2. Measure side heights of each window and cut the strip to length.
3. Push the strip snugly against the firmly closed window. Tack into place with the window firmly closed. Then open window to drive nails in.
4. Use remnant shorter lengths of strip along the bottom. Two pieces will be needed – one either side of the winding mechanism.



Adhesive V-flex

This is a very simple but versatile product. Below are some applications for its use.

Metal sliding windows

It is often difficult to improve metal sliding windows. However the V-flex adhesive can be used to improve the seal at the closing edge of the windows if these are draughty.



Warning:

See notes on working at windows. Avoid opening window wide as there is a risk of falling.

Instructions

1. Open sliding window. Use methylated spirits and a rag to clean the inside

lip of the channel the window slides into.

2. Measure and cut the length of V-flex required. Fold V-flex in half along the scoured line.
3. Start at the top of the window. Make sure the “V” is facing towards the window (not to the window frame). Peel off the first 5 cm of backing and attach to window frame channel. Position remaining strip and pull backing off as you run finger down the strip (this prevents dust getting between the adhesive the surface of the frame resulting in the best adhesion).
4. Apply pressure along the length of the strip to ensure it sticks.
5. Close window carefully so strip isn’t pulled off the frame.



and

Steel framed windows

Steel framed windows are still very common. Their condition and draughtiness can range from sealing well to large gaps which do not seal well. V-flex can be very useful on this style of window as it is a very thin strip which can expand to reduce gaps up to about 6 mm.

Warning: See notes on working around open windows. There is a risk of falling from open windows.

Instructions

1. Open windows and clean the frames well with methylated spirits and a rag.
2. Measure the width and length of the frame and cut V-flex to length.
3. Position the first strip so it is orientated so the wind coming in through the gap will encounter the open end of the “V” and be forced open (in other words the apex of the “V” points towards the window and not the frame).
4. Realign the rest of the strip so it can be attached as the back strip is pulled down and the V-flex pushed immediately onto the frame (to avoid dust reducing the adhesion).
5. Apply pressure along the length of the strip to maximize adhesion.
6. Repeat with the other lengths where appropriate.

Other uses for V-flex

1. Internal and external doors – including metal framed doors and sealing the gap between double doors
2. Sealing the join between the two window frames on sash windows
3. Sealing gaps around architraves and skirting boards.

Door bottom seals

Gaps at bottom of door

Get down on your hands and knees and see if daylight can be seen under the door when shut. If more than 1 mm of light is visible you



should install a door bottom seal. Our door strip is a basic nylon brush, which is screwed in place, usually on the inside of the door, although in some cases the outside is a better option. This strip also works well on toilet, bathroom and laundry doors.

Warnings:

See notes on safe use of mitre cutters

Instructions

1. Measure width of door.
2. Mark length onto plastic holder of strip. Slide metal and nylon brush strip out to one side to expose just the plastic holder strip. Depending on the width of door and position of the pre-drilled screw holes on the plastic holder strip, it may be best to shorten the plastic strip at both ends to keep an even spread of screws across the door.
3. Cut plastic strip with hacksaw, mitre cutters or some other cutter.
4. Push metal and nylon strip back along plastic holder so one end is flush with one end of plastic holder strip.
5. Use metal snips to cut the excess length of the metal/nylon brush strip so the plastic and metal strips are the same length.
6. Position strip against closed door (usually with the plastic ridge facing away from door). Position the nylon strip so it is flush with the floor (note whether there are any lips or bumps in carpet or uneven floor as adjustments may need to be made). If you have trouble keeping strip in place while drilling holes, hold in place with small pieces of bluetac or mark holes with a marker).
7. Using a small drill bit, pre-drill holes through each of the holes. Strip should be as close to the ground as possible, while still allowing door to move across floor surface.
8. Screw supplied screws into each hole tightly to fasten the strip in position.



Door snakes

Simple door snakes are effective at blocking the draft from under doors that make your feet feel cold. Use them on all internal doors (especially those around the cold rooms – toilet, bathroom, laundry), or to improve draught on external doors.

Double sided draught sausages are often a better option as they stay with the door as it opens. Various options are often available at local stores, however you can make your own by simply using strong rubber bands and sliding over two standard sausages, then sliding the rubber bands under the door with a sausage on either side. This



works best when the floor covering continues under the door.

Draft Stoppa



Ceiling exhaust fans and combination light/heater/exhaust units (e.g. IXL Tastics) are problematic as they are a large hole in the ceiling, drawing heat from inside the building into the colder ceiling cavity. The hottest air accumulates in the ceiling, so exhausts allow considerable amounts of heat to escape into the ceiling cavity.

The Draftstoppa is a simple cap that fits over the fan with two flaps that open when the fan is turned on and close again when the fan is not operating.

Installation does require entering the ceiling cavity – so do so **ONLY** if competent and at your own risk. Ceiling cavities are dangerous places (risk of falling, potential for dangerous electrical wiring, insects and irritant insulation). Have another adult at the foot of the ladder to help you if needed. See DraftStoppa website (www.draftstoppa.com.au) for downloadable instructions and more information.

Instructions

1. Position ladder below manhole safely. Locate exhausts from man hole and ensure there is access. Also ensure that the exhaust isn't vented outside already (look for silver ducting pipe from vent to eaves). If exhaust is very close to eaves then often there is insufficient space to fit DraftStoppa over exhaust.
2. It is recommended to wear coveralls, mask, goggles and gloves as protective safety gear.
3. Construct the DraftStoppa as per manufacturer's instructions. NOTE: If you are fitting over a combination unit you will need an additional plastic collar ring (see website).
4. Enter roof cavity carefully and move to the exhaust unit. Place DraftStoppa over the exhaust. If combination unit place the ring over the unit first before positioning the DraftStoppa on ring.
5. Test DraftStoppa. Have someone turn on exhaust and ensure flaps swing upwards when fan turned on.

IMPORTANT: If you are installing over a combination unit (e.g. IXL Tastic) then the switching arrangement of the unit must be configured so that the fan **ALWAYS** comes on with the heat lamps. Otherwise there is potential for Draftstoppa getting very hot with associated risks. See website for more details.

Warning: Extreme care needs to be taken if you are entering the roof cavity. There is a significant risk of falling, electrocution and insect bites. Minimise your risks by:

- Wearing face mask, goggles, coveralls and gloves
- Turning off power to the house while in the ceiling cavity



Household energy saving pack

- Using a bright hands free torch (e.g. head lamp)
- Ensuring the ladder meets Australian Standards, is of the correct height and is positioned securely. Best to have someone to support the ladder and guide you.
- If exhaust is some distance from access hole, ensure there are visible joists to move yourself along. Thick insulation may obscure joists and should be moved to expose the joists before traversing the ceiling cavity. **Do not** put any weight on the plaster.

Miscellaneous

Thermometers

A simple alcohol thermometer that is pre-marked with recommended temperatures for hot water, heating, air-conditioning, fridge and freezer temperatures provides a guide to appropriate temperature ranges. We recommend using it to identify at what actual temperature you are comfortable at in winter and then to adjust your thermostat of your heater to match that temperature.



Eco-switch

The Eco-switch allows you to turn off appliances that are on standby (i.e. appliances that rely on a remote to turn on, or have lights on all the time). The Eco-Switch is like a short extension cord that goes between the appliance and the power point. Half way along the cord is a side cord, which has a switch at the end. This switch can be placed in a convenient location and is easily switched off which controls the power to the appliances. Avoids having to access hard to reach power points.



Stay warm booklet

Booklet produced by Sustainable Living Tasmania providing an overview of the main energy consuming activities in your home and the main areas of energy inefficiency. This is a brief but practical overview of where to focus your attention for low cost energy savings.

Useful websites

www.tasenergysavings.com.au

This site has been developed to assist Tasmanians to source materials to improve energy efficiency in the home.

www.yourhome.gov.au

This site provides free access to the manual on making energy savings in your home

<http://www.slt.org.au/energy>

SLT has a wealth of information and resources on energy efficiency. Visit their website or call 6234 556