Warm your home, cool your bills

A guide to draught proofing your home




With grateful thanks to Hyde Farm CAN for providing the inspiration for the original Draught Busting workshops, and for their product research & documentation www.hydefarm.org.uk

Thanks also to Transition Belsize for developing the idea and adapting the original manual www.transitionbelsize.org.uk

General Advice

A draught is usually a sign of inadequate insulation which allows cold air to enter a house while warm air exits.

When draughts are uncomfortable we tend to leave the heating on longer or turn up the thermostat, increasing heating bills and causing higher carbon emissions (from the fuel burnt to create the warmth in the first place.)

You could be loosing 30% of heat in your home through draughts. Windows alone can account for 18% of heat lost in a home. Comprehensive draught proofing can reduce bills by 20% plus per year.

Too Much Ventilation?

With a well-insulated home, it is important to have some ventilation in order to keep rooms from becoming stuffy.

Most older houses have much higher levels of recommended air changes due to th2e large number of small openings, structural cracks, gaps between floor boards, open fireplaces etc. and so in practice it is quite difficult to over-apply draught proofing in these older houses.

The exceptions are bathrooms and kitchens, which produce high amounts of condensation and must be ventilated correctly to prevent mould and similar problems.

Remember also that adequate ventilation is **essential** in rooms with solid fuel fires, gas fires or a boiler with an open flue.

To Find draughts in your home

Choose a cold breezy day and hold the back of your hand up to the gaps around doors, windows and light fittings.

If you can feel cold air coming in then you can be sure that warm air (for which you're paying) is escaping somewhere.

Also check your letterbox, loft hatches, cat flaps and keyholes to see if these need draught proofing.

You can find many draughts this way but of course there may be other gaps where warm air is escaping and you won't feel these with your hand in the same way-so you need to be a bit of a detective!

Doors and windows are the most common source of draughts, along with letter-boxes and keyholes. Front and back doors are normally a priority.

Don't forget to check for draughts coming between the wall and the window frame and on older windows check for draughts between the glass and the frame where the putty may have fallen out or shrunk.

Secondary Magnetic Glazing and Glazing Film

- If you are considering some form of secondary glazing, it's a good idea to first of all tackle the more obvious draughts around windows and doors with draught proofing strips.
- Secondary Magnetic glazing removes draughts but has the added advantage of reducing heat loss by up to 58%through conduction and stopping the fall of cold air from window surfaces, while also providing extra sound insulation.
- Secondary Magnetic glazing is not only considerably cheaper than double glazing, the energy savings are also comparable to those of double glazing.
- The most economical option to double or secondary glazing is Glazing Film – which is a seasonal, non permanent film to help save energy and heat loss.

Curtains, Blinds and Sausage Dogs

- The use of a curtain behind the front and back doors is a very effective way to reduce heat loss and draughts. Heavy curtains, that reach to the floor will trap air and reduce draughts significantly and can reduce heat loss by 41%
- Roller Blinds can reduce heat loss by 38%
- Shutters can reduce heat loss by 57%
- A homemade Sausage Dog draught excluder is also very helpful and easily movable way to reduce draughts.

Pay Back and Grants

- Draught proofing a whole house might cost £75-£90 (depending on the size of the house). If done

  yourself this measure will have a typical pay back of about 3 years.
- There are still some subsidies and grants to help pay for insulation and draught proofing. These depend upon your circumstances and existing insulation levels – contact your local Council to find out more.
- For further information on energy saving go to The Energy Saving Trust:
- **http://www.energysavingtrust.org.uk**
- Or call them on: **0300 123 1234**

Recommended Products we use are:

- Easy to fit materials suitable for most timber framed doors, windows and loft hatches, manufactured by Schlegel, and distributed by GTI Ltd: http://www.gti-limited.com/
- These products are the Q-Lon range used widely by professional contractors and are not adversely affected by paint or staining

Product features:

- The deflection seal enables ease of operation by reducing closing forces
- The seal performance is not affected if painted over
- The product has a minimum 10 year life time

Product specification:

- Supplied in 2.05 metre lengths
- Carrier is rigid high impact pvc-u with pre-punched holes at 150mm centres
- 20/25mm nails

Product benefits:

- Resists dirt and grime
- Excellent memory - returns to original shape after compression
- Reaches out-to cope with seasonal gap size changes

Tools required:

- Hammer (8oz)
- Anvil Cutters or junior hacksaw
- Tape measure
- Philips screw driver
- Pieces of stiff board or thick cardboard to protect windows when hammering
- Nail punch
- Pliers
- Fine sandpaper to sand edges
- Scissors

Windows - Retro B strip

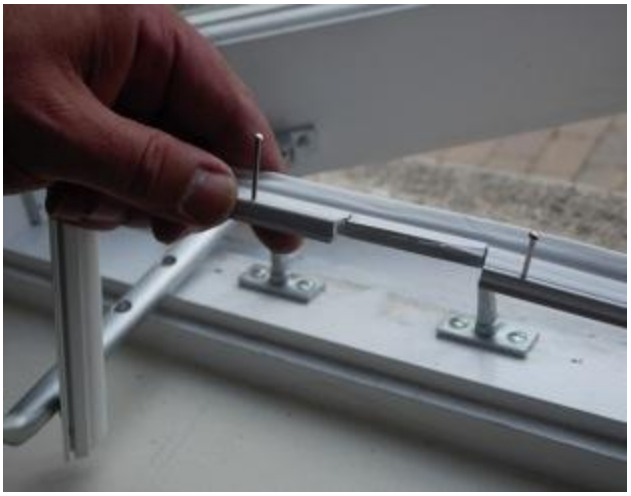
Retro B strip - For timber framed Windows and Internal Doors

- Use around internal doors and windows, particularly for sash and casement windows
- They can also be used around many loft hatches
- Easy to fit and look neat and unobtrusive
- Apply around the bottom and inside of a sash/casement window
- Where possible apply the strips around the top sash from the outside of the window
- The strips are nailed around the window frame so it's easy to open and close the window
- First measure and cut the strips for each side, then and cut and fit. Once the sides are in place, measure and cut the bottom horizontal piece and then fit.
- If access to the upper outside part of the sash window is prohibitive try to attach either a Retro B or 21B strip to the surrounding window frame of the upper sash (rather than the actual window)

With window open

With window closed-forms seal

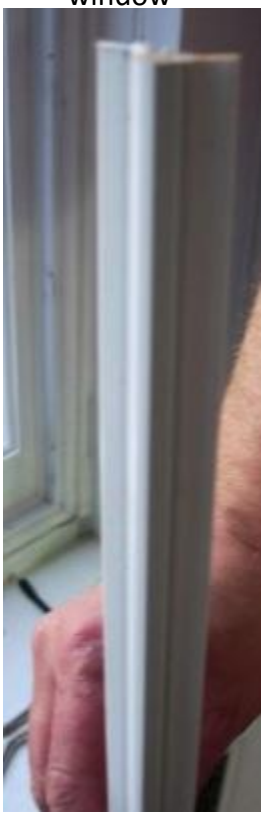
Examples of fitting ‘Retro B’ strips to timber casement windows



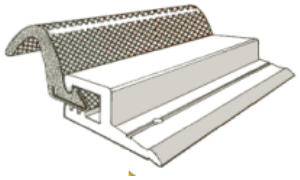
For Sash meeting rails & French windows - FS strip

FS strip – For meeting rails on sash windows & centre rails on French doors

- These cover the horizontal gap where the two sashes meet in the middle of the window
- These can be also used on French doors where the two doors meet as shown below
- If the FS strip cannot cover the gap because the two sashes do not meet on the same level then try using a self-adhesive P-strip or Zero gap strip stuck on the back of the meeting rail of the bottom of the sash
- This will help to prevent rattling and unwanted draughts blowing through the centre of the window



External Doors – 21 B strip



21 B strip – For external doors and larger gaps

- Use for External doors but can also be used internally
- The strips are applied in the same fashion as Retro B strips but have more expansion capability and can cover larger gaps often needed for external doors as they shrink and expand with the weather
- Fix in place with door shut and fully locked
- Apply the strips to the top of the door frame first and then the vertical sides
- Ensure nominal compression of the seal is 3mm, and that there is a visual movement of the seal when the door is opened and closed
- You may wish to mitre the strips in the corners at a 45 degree angle
- These strips can be used to cover slightly larger gaps
- Their design makes them easier to compress so are less likely to make doors difficult to close
- These strips have more expansion capability-useful as the gaps around the outside doors tend to expand and contract more
- They can be used to cover slightly larger gaps (also on sash windows)

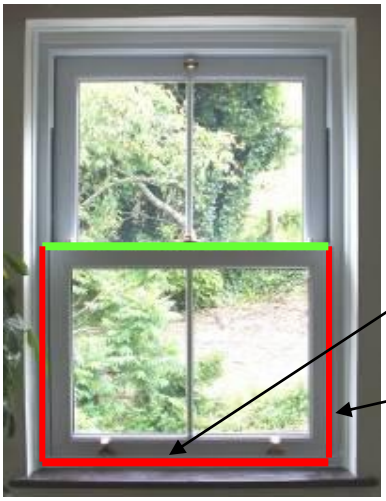
Installation Instructions

1. For Windows: measure, cut and fit each strip individually, starting with each vertical side **then** measure, cut and fit the horizontal piece
2. For Doors: measure and cut a strip for the top of the doorframe, then cut and fit each side separately
3. Cut strips with garden pruners (anvil blades give the best cut) or a junior hacksaw.
4. Cut each strip generously to start – **maybe 1 cm too long**, then check carefully before trimming to exact size required.
5. Use the supplied 20/25mm stainless nails which are rustproof and have small heads.
6. Use all the pre-formed nail holes, however at the end of the strips, depending on how you have cut them, you may need to make an additional nail hole in the strip. This should be done approximately 1" from the end of the strip, into the same small groove where the pre-drilled holes are positioned – this is to minimize any risk of splitting the casing.
7. Don't drive the nails all the way in at first - just half way - this will allow fine adjustment of pressure and position later.
8. The plastic flexible trim should push up against the closed window or door with gentle pressure to seal any gap but not so hard that they prevent the window closing or cause too much friction on the sliding sash.
9. With each strip in place the nails can be driven home and their angle altered slightly during hammering to increase or decrease this pressure to ensure contact with the window/door. Fully drive home nails perpendicular to surface but do not over pressurize (or this may drive the nail through the PVC carrier).
10. Pressure of strip to frame should be able to snugly hold a business card in place.
11. NB. <u>Only</u> apply strips to the outside of the top of sash windows when **safe** to access from ground floor level or from scaffolding.
12. NB. Ventilation – in rooms where there are gas appliances or fires It may be better **not** to draught proof to prevent build up of carbon monoxide gas

MEASURING YOUR DOORS AND WINDOWS
to fit draught proofing strips

- The strips need to be installed on the frame of the door or window where the door or window closes.
- Retro B strips: for sash and casement windows
- FS strips: for the gap where the two sashes meet
- 21B strips: for external doors or larger gaps

Inside sash window



Retro B strip

FS strip

width

height

Outside sash window

width

height

21B strip

LETTERBOX BRUSH

- Advice: position first before attaching and check that letters/papers can be posted easily and that the flap won't stick in brushes.

ECOFLAP LETTERBOX BRUSH

- The Ecoflap fits onto the inside of your front door, and is designed to exclude draughts and bad weather from your letterbox.
- It's quick and easy to install, and it'll start saving you energy straight away.
- Ecoflap replaces the brush, seal and outward opening gravity flaps, often put on the inside of the letter box to try to keep draughts out.
- Ecoflap uses the wind to blow it shut!
- It is totally draught proof, and adjusts automatically to any size of delivery - up to A4 and including thickish newspapers and magazines
- http://www.ecoflap.co.uk/

Straight Door Brush – can be used on carpeted floors

Instructions:

- Cut plastic carrier (from the end without a screw hole) to fit the width of your door.
- Cut the brush strip to length with hacksaw & crimp the metal end with pliers.
- Using masking tape (or another pair of hands) put the door brush in place, ensuring it sits correctly on the floor surface to cover the gap, and so that the door can open and close properly.
- Put the plastic end cap on one end of the door brush and now mark/begin to drill a very small hole at each screw hole point along the length of the door brush
- Now put the screws in place and tighten, checking the brush is in place and sitting evenly as you go along.
- NB: Don't forget to put both plastic end caps on as these will ensure the metal part of the brush doesn't slide out of place!

Tesa Self-adhesive Door Brush - for uneven surfaces

- http://www.tesa.co.uk/consumer/energy_saving/door-to-floor-brush
- Active levelling by integrated spring-loaded brush
- Ensures a perfect seal, even on tiled and uneven floors
- For gaps of up to 15mm
- Material: lacquered aluminium
- Easy self-adhesive fitting without screws or nails
- UV-resistant
- Durability: 8 years
- Abrasion-resistant
- Long-lasting and durable

Magnetic Secondary Glazing

keep the heat in and the cold out!

- it's unobtrusive and blends in with existing windows – fitting neatly on the inside of window frames.
- It will help to keep the heat in and the cold out
- Compared to double glazing, it is extremely cost effective.
- It substantially reduces noise
- Virtually eliminates condensation
- Works with wood and metal framed windows, including sash and Crittal windows and is great for old and listed buildings.
- It is quick to install

There are two main options:

- DIY- this is the most cost effective option – you purchase both the plastic glazing panels and the magnetic/metallic tape from your chosen suppliers and then cut and fit to the window frame.
- A complete ready to go system - this is a more expensive option, but can be a very good place for a beginner to start – the plastic glazing panels & magnetic tape are cut to your exact measurements and are delivered ready to attach to windows.

- Plastic glazing panels - we recommend **Acrylic** (aka Perspex, Plexiglass)
- It's light, UV protected, won't yellow with age, is very strong and is recyclable.
- If you want to add a 'trim' to the plastic glazing panels, rather than have plain polished or unpolished edges, there are various styles of pvc trim/capping available, in white or brown
- **NB** – when ordering magnetic tape/steel tape check that it is available in the colour you want to surround your window frame - it comes in brown, black and white
- Sticking power! - Buy the best tape you can afford to ensure adhesive quality

Magnetic Secondary Glazing Suppliers & Stockists

Easyfix by Tubeway – for Magnetic & Steel Strips

- They offer two main options for magnetic & steel self adhesive kits/strips, plus 'how to' videos

Please note: they don't sell the Plastic/ Acrylic panels - these need to be purchased separately

- **Magnetglaze** - magnetic & steel strip sold by 5 metre or 30 metre kits
- **Magnetglaze Pro** - a deluxe magnetic window system, which has a rigid PVC capping/trim attached to the magnetic & steel strip, providing a complete 'frame' around the plastic glazing panels.

- Their magnetic & steel tape has a very high quality adhesive - although it costs a bit more than other magnetic tapes on the market, it does apparently have a much higher level of 'sticking' power ☺
- Colour of tape/strip = **white** www.tubeway.co.uk/easyfix-diy/magnetglaze.html Tel: 01473 251051

The Plastic People – plastic specialists (recommended by Tubeway)

- For various types of plastic glazing panels (we recommend Acrylic) - They have a online calculator - just enter the window dimensions, thickness of the plastic (2 to 4mm depending on size of windows) whether you want a polished or unpolished finish & it works out the cost – and they deliver ☺
- They also offer an all in one DIY option, where you buy the complete kit of plastic panels **and** Easyfix magnetic & steel tape kits and then assemble it yourself
- http://www.theplasticpeople.co.uk/magnetglaze-double-glazing-kit-p-110.html

The Plastic Man – plastics specialists:

- Plastic cut to size
- Handy online calculator, and they deliver ☺
- http://www.theplasticman.co.uk

DIY Plastics – plastics specialists**:**

- http://www.diyplas.co.uk/

Brighton and Hove Plastics – plastics specialists:

- They will cut to size - it's collection only - they don't deliver, so make sure the panels fit in the car!
- They also stock the Magnetglaze Pro strips in white
- http://www.brightonandhoveplastics.co.uk/

Ecoease – a complete Magnetic Secondary Glazing system

- This is probably the easiest way to try out secondary magnetic glazing - the drawback is it's more expensive than ordering the plastic and magnetic tape separately
- They cut the PET plastic panels and the magnetic/steel tape edging to your exact measurements
- The panels are edged with a **white pvc** trim complete with magnetic edging strip and corners
- NB - they use PET which is a recyclable plastic but much heavier and slightly less clear than Acrylic
- They have a handy online calculator to work out the costs ☺
- http://www.ecoease.co.uk/ Tel: 0845 519 3230

Indigo – for Magnetic tapes (with or without adhesive backing)

- They have magnetic to steel tapes, and magnetic to magnetic tapes that need to be matched A to B
- For self adhesive magnetic/steel tape go for the **Tesa** tape **–** it's more expensive but **is the best** quality and ensures the adhesive sticking power!
- **http://www.indigo.co/Category/flexible-magnetic-tape**

Double Glazing Film for single glazed windows

- A very economical alternative to double & secondary glazing.
- Easy to fit. You only need scissors, a sharp knife and a hairdryer.
- The key is to buy the **best** double sided tape you can, rather than using the one included in the pack
- Available at DIY stores - try **Exitex** or **Stormguard** glazing film
- A 6 square metre pack costs about £8

Chimney Balloons & Chimney Sheep

- Stops downdraughts and updraughts from chimneys
- Saves energy by preventing heat loss
- Reduces heating bills, saving you money
- Use again and again
- **Felt Chimney sheep (with handy money saving calculator)**: www.chimneysheep.co.uk
- **Inflatable Chimney balloons**: www.chimneyballoon.com

Chimney Balloon

Chimney Sheep

DraughtEx Floorboard Insulation




DraughtEx Floorboard Filler

DraughtEx is a proven floorboard gap filler, designed to eliminate the cold draughts and improve the comfort and energy efficiency of your home.

Easy to install, DraughtEx requires no adhesives and compliments the overall finish of your floorboards. The specially formulated colour "Shadow" has been designed to mimic the natural shadows created between floorboards and is almost invisible to the naked eye.

Its flexible properties allow DraughtEx to be applied to a wide range of gaps which will be completely sealed. The filler can also be used to seal gaps between floorboards and skirting boards. DraughtEx can be ordered with an applicator and comes in 3 sizes, small for gaps of 3mm or less, medium for gaps of 2 - 7mm and large for gaps of 6-11mm.

Energy Savings

Based on the results of research carried out by The Energy Saving Trust, it is estimated that filling floorboard gaps can save a household up to £20.00-£40.00/room/year on energy bills and reduce its CO_2 contribution by around 110kg.

www.draughtex.co.uk

Help and Advice - 0300 123 1234

Ecologic Reflective Radiator Panels

Will the panel be visible?
The panels can easily be fitted out of the line of sight.

Do the panels only fit certain sizes of radiator?
No, the panels can be easily cut and overlapped to fit any size of radiator.

Easy to fit!
Just cut the panels to size. The only tools needed are scissors and a bamboo cane or wooden spoon handle to reach the awkward corners. Use small strips of good quality double-sided tape to secure in place.

Money saving – Energy saving!
Reduces heat loss through the wall by up to 70% - which means less heat needed to warm the room!
Saves money on heating bills - between **15 – 25% of a reduction i**n heating bills.
http://www.ecologic.co.uk/

Radflek Reflective Radiator Panels:

A revolutionary energy saving radiator reflector that reflects **95%** of the wasted heat energy radiated from the rear of the radiator back into your room.

- Save Money
- Cut your heating bills
- Heat loss reduced by 45%
- Quick & easy to fit
- No DIY skills needed
- Available to buy online or in DIY stores
- Info from: http://www.radflek.com/

Communities Living Sustainably (CLS) in Dorset aims to inspire people living in Bridport, Dorchester and surrounding villages to adapt to climate change and live more sustainable lifestyles. It is a partnership led by Dorset Community Action and Dorset Agenda 21. Funded by the Big Lottery Fund it has initiated a variety of approaches to tackling climate change in rural, coastal and urban communities for the last three years. CLS has initiated or is actively supporting the following projects:

- **Open Eco Homes** – Since 2013 around 20 homes have opened annually attracting hundreds of visitors. Follow up surveys suggest that 33% to 50% of visitors go on to make environmentally friendly changes to their own homes or lifestyles. http://www.clsdorset.org.uk/Open-Ecohomes.aspx

- **Transition Streets** - This project supports groups of neighbours to work through a practical tool kit to cut their carbon footprints. Participants have had fun, made friends and saved an average of £400 on household bills. http://www.clsdorset.org.uk/Greener_Choices-Transition_Together.aspx

- **Renewable energy for community buildings** – Dorset Community Energy Ltd, funded solar PV installations on 6 village halls or schools. Local residents invested £50 or more and receive 5% interest from the government's feed-in tariff. The school or village hall received free electricity from the solar PV.. http://www.clsdorset.org.uk/Renewable-Energy.aspx

- **Eco schools** – This is an international awards scheme that encourages schools to reduce their environmental impacts through pupil-led environmental action, behavioural change and bringing environmental themes into curriculum learning.

Business – Free environmental consultancy and energy advice sessions are being offered for up to 20 West Dorset businesses http://www.clsdorset.org.uk/Greener_Choices-AtWorkAtHome.aspx

For more details about the CLS project and its activities, see the project website:
http://www.clsdorset.org.uk

LOTTERY FUNDED