

How to implement draught proofing

When your building is draught-free, your heating systems don't have to work so hard. Draught proofing is a cheap and effective way of saving small to moderate amounts of energy.

Cold air usually gets in around door and window frames and through keyholes and letterboxes. Damaged or rotten door and window frames may also let air in through gaps and holes.

The business case

Draught proofing a small commercial building is likely to cost you less than £100. You should recoup that cost within five years and, meanwhile, people in the building will be warmer and more comfortable.

The technology

The table below outlines the many different draught proofing solutions, most of which can be installed by anyone with basic DIY skills.

Table 1

Product	Description	Details	Approximate cost
Brush strip	For internal and external doors. Usually fixed at the base of the door	Tough plastic flexible bristles that maintain a seal	£8 for 0.84m length, 4.3cm wide and 1cm thick
Brush strip	For the internal side of letterboxes	As above	£4 – 70mm by 290mm
Compressed door seal	For the circumference of an external door	Profiled aluminium for structural strength and rubber insert for the seal	£19 for 5m length, 5 cm wide and 1 cm thick
Rubber seal	For door and window gaps of 1.5mm to 5mm gaps	Typically made from butyl or polyurethane elastomers to give a large contact area with the surface and low contact stress, while staying elastic and reusable	£7 for 5m (enough for one standard door)

Table 1 (continued)

Product	Description	Details	Approximate cost
Polymer foam seal	For door and window gaps of 1.5mm to 5mm gaps	Low strength material for use when the contact surface is susceptible to damage. On applications where repeat use is kept to an absolute minimum	£4 for 15m (enough for three standard doors)
Rubber blades	For door and window gaps of more than 5mm	Typically made from butyl, EPDM, silicone rubber or polyurethane elastomers to give a large contact area with the surface and low contact stress, while staying elastic and reusable	Available from specialist suppliers. A wide range of designs for various applications
Silicone mastic sealants	For damaged areas and gaps around windows and other areas	Typically requires a sealant gun for application and around 24 hours to fully cure. Forms a water tight, flexible and weatherproof	310ml tube for £2.30
Window insulating film	A thin transparent film fitted to inside frame of existing window as temporary secondary glazing	Tends to last for one season. A temporary fix for windows that don't need to be opened	£5 for 1.4m by 4m sheet. £10 for roll of double-sided tape
Letterbox with sleeves	Hinged sleeves fixed to the internal and external sides of the letterbox		£16 – 45mm by 245mm
Rain deflector	Fixed at base of door outside to prevent rainwater from getting underneath	Typically made from a single length of profiled aluminium	£12 for 0.84m length, 7.3cm wide and 3cm thick
Polyurethane foam	For large gaps and cavities	Typically polyurethane foam	£14 for a 750ml canister of fire rated, expandable polyurethane foam

Table 2 Recommended draught proofing solutions by area

Location	Solution
Doors	• Brush strip
	• Rubber blades
	• Compressed door seal
	• Rubber seal
	• Rain deflectors
Windows	• Brush strip
	• Rubber blades
	• Rubber seal
	• Window insulating film
	• Polymer foam seal
	• Silicone mastic sealant (for metal framed windows)
Internal side of letterbox	• Brush strip
	• Letterbox with sleeves
Holes, cavities and damaged areas	• Silicone mastic sealant
	• Polyurethane foam

Applications

Table 2 lists typical places where draughts occur and a range of solutions for each.

Specification checklist

- Carry out a survey of your building's doors, windows and other areas where draughts might occur.
- Talk to people who use the building – get them involved and find out where they've noticed draughts.
- Choose and buy the best solution for each draughty area.
- Assign someone to carry out the work. Most draught proofing is an easy job, but there may be some instances where a contractor is needed – a cracked pane of glass, for example, a faulty seal in double-glazing, or a draught at high level or with difficult access.
- Ensure the work is carried out safely by a competent person, and always follow the instructions on the pack.

Commissioning checklist

You should be able to see whether draught proofing has been fitted correctly, but you can also test for air getting in using touch or a smoke device. Get feedback from people who use the building too.

Review the success of the draught proofing exercise and keep an eye out for new or recurring problems.

Common problems

- The quality of the draught proofing product is important. For most applications, the materials need to be tough, elastic and weatherproof.
- Draught proof strips on doors can become a trip hazard. Take that into account when deciding where to use them, and take extra care with installation.
- Draught proofing products can wear out and need replacing frequently. Some are really only a temporary measure until a more permanent solution is installed.
- Draughts occur because of changes in pressure. If your building has chimneys or extraction systems, then draughts will be inevitable. You may be able to block chimneys and reduce the level of extraction (but see below).
- It is very important to ensure the building has enough fresh air for its users and for ovens, fuel-fired cooking equipment, hot water boilers and so on.

Finding a supplier

Most of the products mentioned are widely available in DIY stores. You may also be able to get advice and information from the following organisations.

Thermal Insulation Manufacturers & Suppliers Association

01420 471624

www.timsa.org.uk

The Draught Proofing Advisory Association

01428 654011

www.dpaa-association.org.uk

The National Insulation Association (NIA)

08451 636363

www.nationalinsulationassociation.org.uk