



Websters Insulation Limited

Specialists in Spray Foam Insulation

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Frequently Asked Questions CAVITY WALL INSULATION

Q: Why choose polyurethane cavity injection foam?

Because there are so many primary, and several secondary benefits, more so than with other types of insulation.

Primary Benefits

- Keeps you warmer in winter than other materials, i.e., it can dramatically reduce heat loss. Similarly it keeps you cooler in summer. Therefore it helps maintain constant temperatures.
- Reduces fuel costs (heating, cooling, air conditioning expenses).
- Effects felt immediately.
- Suitable for random stone walls sub 50mm cavities.
- Space efficient, lower thickness of material compared to other insulation to achieve same levels of insulation.
- Prevents condensation.
- Long lasting.
- Exceptional alternative to dry lining because it provides a continuous and water resistant membrane.
- Polyurethane Cavity Injection Foam is the only insulation when applied in liquid form to create a continuous membrane therefore it leaves no gaps for cold air to travel through.
- Fast, efficient and economical solution to most insulation requirements.
- Suitable for new build and older constructions.
- Saves on fuel bills. In certain circumstances, domestic insulation is now only liable to 5% VAT following new ruling.

POLYURETHANE FOAM	25mm
POLYSTYRENE	40mm
MINERAL FIBRE	45mm
CORK	50mm
CELLULAR GLASS	60mm

Foam Thickness	K. Factor W/M°C	U Value W/M ² °K
50mm	0.025	0.383
75mm	0.025	0.269
100mm	0.025	0.210
150mm	0.025	0.144

Based on a 103mm brick to 103mm block cavity

Secondary benefits

- Can reduce noise and vibration and so assist sound reduction.
- In some cases can act as a cavity wall tie (ask for 'Technitherm' information)
- Stops the freezing of plumbing and the formation of condensation.
- Preserves appearances; only 12mm injection holes usually drilled into bedding / mortar.

Other Types of insulation:

- **Rockwool/mineral fibre** type materials can collapse, become damp (causing bad smells when damp), disintegrates, and requires much greater thickness. It can also emit dust and irritants, which are unsuitable for allergy sufferers.
- **Polystyrene type insulation** is difficult to stick. As it is impossible to create a continuous membrane with this material the level of insulation becomes questionable as cold breaks through the gaps, and can be conducted through any metal that may be involved. Furthermore it is not possible to lay electrical cables next to the Polystyrene, as there is a bad reaction with the resin in the Polystyrene, whereas it is totally inert next to Polyurethane Foam.

Q: Why choose Websters?

- Websters are UK leading specialists, and have been around much longer than the others.
- The company was established in 1854, but the present owner has owned Websters for over 30 years. During this time Websters' engineers have insulated over 46,000 buildings of all descriptions therefore gathering enormous experience.
- Websters are the market leader in Polyurethane Cavity Foam Insulation.
- None of the alternative companies have a background like WEBSTERS, and therefore cannot offer the same level of expertise and experience.
- Quality of workmanship: Websters' men are the best, and the most experienced in the business, which means:
- They have been trained to high standards. Their work is neat and tidy; is carried out efficiently, with minimal inconvenience to you. The work is usually completed in a day. They can offer other help and advice.

- Together this means that you receive both a highly competitive price and a high quality, which is unrivalled by anybody else.
- Materials used by Websters adhere to British Standard regarding being fire retardant. This is BS476 part 7 class one.
- Websters belong to the BUFGA (British Urethane Foam Contractors Association).

Q: How do I know if I have cavity walls?

- First of all, check the age of your house. In most houses built after the 1920s, the external walls are made of two layers with a small air gap or 'cavity' between them.

Q: What preparation do I need to do before your engineers come to insulate my walls?

- If it is not a new building, the walls will need to be checked by our estimator prior to agreeing a quote and specification
- Masking out is not necessary, as Websters will normally cover over whatever is required.
- The area must be clear, light, empty, & free from obstructions. Access must be good. Notify Websters if there is no power.

Q: Is it waterproof?

- The Materials used are a 95% closed cell structure and prevent water penetrating throughout the cavity; even flood water cant get through and even if your house has been flooded, the insulation in the wall will still dry whereas rockwool will be soaked and will never dry out.

Q: How is the foam installed into the cavity?

- Our engineers drill the holes themselves, in most cases into the mortar in between the bricks or breezeblocks. The holes are about the size of a 5 pence piece, and drilled in a diamond shape with the holes usually being 2m apart if possible to ensure an accurate steady fill of injection foam.

Q: Does it matter if you inject from the outside, or the inside?

- No, the only reason we would ever inject from the outside,(access permitting of course), is if the house was fully furnished and the insulation was being 'retro-fitted'. Drilling and injecting from the outside would obviously cause less of a commotion than attempting to work internally.

Q: Is it messy?

- Surprisingly no. Providing the walls are sealed around windows, doors and utility sockets etc (sometimes subject to a site survey by Websters if you are unsure) the foam will be unseen and expands in the cavity very quickly.

Q: Will sulphur 'eat' through my insulation?

- No, even acid should not wear away at your insulation.

Q: How long does it take & how long will it last?

- Normally completed in a day depending on size, but it will last indefinitely.

Q: Are there any fumes? How long does it take to cure?

- Fumes are generated during application, but these will disperse within 4 hours. It becomes totally inert once applied.

Q: Is it a noisy job?

- The only noise generated from our works would be the foam machine itself, possibly a generator if no power is available on site, our compressor.

Q: Is it fireproof?

- It carries all of the fire retardant properties demanded by British Standards i.e. CLASS 1. (BS 476, part 7, class 1).

Q: Can you put it in listed buildings?

- Yes, but any specific conditions of each given areas listed buildings authority must be satisfied.

Structural integrity

Building owners who request SPF be installed for thermal efficiency reasons could also benefit when more building officials recognize the material's advantages in terms of structural integrity. By examining the characteristics of SPF, a better understanding can be gained of how this plastic product helps hold materials together, while also assisting in making the building more energy-efficient.

Tenacious adhesion

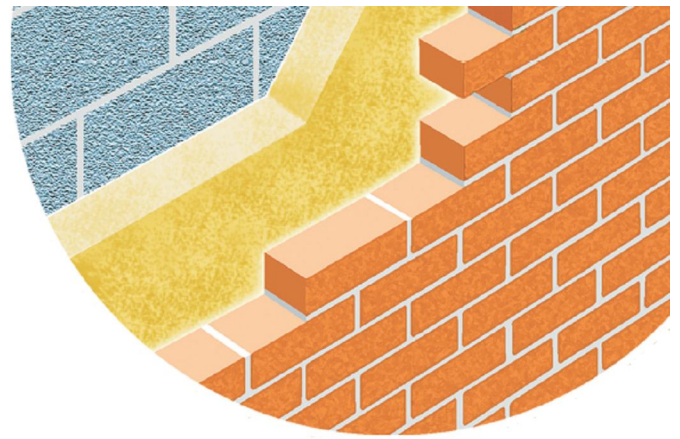
Injected Polyurethane Foam is sprayed on as a liquid and then expands to form a rigid foam plastic with great adhesive characteristics. Since it bonds so tightly to a substrate, it is very hard to pull off in high winds. When installed over concrete panels, SPF resisted up to 47.4 kPa (990 psf) of pressure in Factory Mutual's (FM's) wind uplift pull test. It glues the whole structure together, increasing the structure's rigidity with around 172.4 kPa (25 psi) of tensile strength. However, it still has some flexibility to allow building movement without cracking.

Monolithic water barrier

SPF is installed as a liquid and then rises and expands to fill in cracks and crevices. Closed-cell SPF has been approved by the U.S. Coast Guard and Army as a water-resistant flotation material and is accepted as a roofing system. The Federal Emergency Management Agency (FEMA) has added SPF as a recommended building product to reduce flood damage in buildings.

Adds structural strength

The National Association of Home Builders (NAHB) Research Centre tested SPF and determined spray foam-insulated wall panels increased the racking strength of both wood and metal stud walls 70 to 200 percent, depending on the type of sheathing used. The NAHB report concluded, "in a racking event such as a hurricane, there would be less permanent deformation of the SPF-insulated walls." (See "NAHB Racking Research.") Versatile when installed to the outside of buildings, SPF reduces the profile and minimizes building movement so high winds are less likely to catch a corner or tear the substrate. When added to the inside of a structure, spray foam 'glues' the whole building together, enhancing overall wind and pressurization resistance.



Natural shock absorber

SPF is a natural shock absorber; even heavy wind-blown items such as tree limbs, metal panels, and concrete tiles usually only superficially damage spray foam substrates. When wind-driven debris damages the surface of the foam, it resists peel off and often continues to provide water resistance to the interior of the building.

Reduced pressurization

Some deck and roof membrane failure occurs when high air pressure forced into, or developed inside, the building literally blows up the roof deck or roof membrane. SPF eliminates air infiltration that can let high air pressure inside the building. By 'air sealing' the building, SPF minimizes the potential for interior pressurization and its ensuing damage.



Q: How do you know what thickness to have?

- Websters, work in line with the current building regulations, and can advise on this (see building regulations sheet). Mostly though the thickness depends on the width of your cavity. We have to fill the complete cavity, i.e 100mm cavity would need 100mm of foam as there is no way of controlling the thickness of our cavity foam, obviously.

Q: What Types of Cavity Injection Foam are there?

- Websters offer the only product with a BBA approval, Technitherm®.

Q: How do we measure the depth of a cavity?

- In some cases, more so in houses, the cavity depth can be found by going into the loft and venturing to one of the perimeter walls then running a tape measure in between the two wall skins, i.e brick on the outside then breezeblock after the cavity. When Websters conduct a site survey we usually drill a hole in an inconspicuous part of a wall and use a laser measuring device and poke a boroscope around in the cavity to give us a visual on what may be already there, or not there.

Q: Can it be used for sound reduction?

- Only when it is used in conjunction with 'Rockwool Slab R.W.2'. Again, in a cavity this would be nigh on impossible unless the interior cladding was removed, and the foam sprayed onto the slabs.

Q: Can you spray between floorboards?

- Yes, it is possible in the right conditions.

Q: Is there anything you can't inject into?

- Unfortunately Yes. Weaker cladding such as plasterboard, thin plywood etc would actually crack and splinter as a result of the high pressure exerted from the foam while it expands. When quoting we always make sure we know what the walls are made of to avoid this situation!

Call today on 0800 581247 for further assistance and we will do our very best to help.

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