Thermawood®
RETROFIT & NEW TIMBER DOUBLE GLAZING SYSTEMS

THE ULTIMATE GUIDE TO

DRAUGHT SEALING WINDOWS AND DOORS

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CONFRONTING CHILLY DRAUGHTS IN YOUR HOME

Let's confront a common issue: the chilly draughts that infiltrate your home through windows and doors. These unwelcome guests bring cold air, dust, and moisture, causing your hard-earned warmth to escape.

A significant 10 to 15% of your heating expenditure is wasted due to the gaps, crevices, and small openings surrounding your doors and windows.

You face a choice:

- ☐ Endure another season bundled up indoors with high energy bills.
- ☑ Take definitive action to eliminate these draughts once and for all.

The Benefits of Draught Sealing

- **Comfort:** Enjoy a snug, draught-free home every winter.
- **Cost Savings:** Reduce your heating expenses significantly.

The decision is yours to make. However, to make an informed choice that benefits both your comfort and your budget, it's essential to understand the effectiveness and simplicity of draught sealing. Equally important is knowing the pitfalls to avoid, which could lead to unexpected surprises and, in some instances, costly repairs.

Discover what you need to be aware of regarding draught sealing for windows and doors, so you can bid farewell to draughts for good.

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WHEN AND WHERE

DRAUGHT SEALS ARE NECESSARY

Hold your hand around the bottom or sides of your opening windows or doors.

What do you feel? Try this simple test, and you'll likely sense that unwelcome chill, which ultimately translates to unnecessary energy expenses.

Now, contemplate the multitude of windows and doors in your residence and envision the constant influx of cold air. The truth is, having cracks and small openings throughout your home is akin to leaving a window ajar all day and night. This explains why you keep cranking up the thermostat and can't do without those cosy slippers throughout the winter, despite the exorbitant heating costs.

So, where do these draughts originate? Well, depending on factors like the size, condition, and construction materials of your home, cold air could seep in from numerous, often inconspicuous points—many of which are too minuscule to detect with a cursory glance. A significant portion of these tiny openings lurks around your windows and doors.

It's not that your home is inherently flawed; this is simply a natural occurrence over time. The gradual settling of the building can cause window frames to undergo slight twisting. This is particularly relevant to casement windows, which develop larger gaps around the leading edge. Additionally, time, exposure to the elements, and general wear and tear result in small frame cracks and spaces around the sill, hinges, and components necessary for proper window operation.

With doors, draughts infiltrate your home from the sides, top, and beneath the door. As the building gradually shifts and the materials age, crack, and deteriorate, these issues become more pronounced.

You don't have to endure this discomfort. By taking a proactive approach to insulating your home through the draught-proofing of your windows and doors, you can enjoy a cosier living space while reducing your energy consumption. This is a win-win situation, benefiting both the environment and your wallet.

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HOW DRAUGHT PROOFING WORKS

Draught proofing, a method aimed at sealing and minimising draughts, effectively closes the majority of:

- gaps
- cracks
- open spaces

By doing so, it puts a halt to unwanted cold air infiltrating your home while retaining your valuable heat. It's important to note that achieving complete draught-proofing is neither feasible nor desirable. You do require a certain level of ventilation for your living space. Moreover, overly airtight seals around windows and doors could pose difficulties in their operation.

Various solutions, such as rubber draught seals, foam, timber, and even concrete, are utilised for draught proofing. While it is possible to undertake DIY draught-proofing, these solutions often provide only temporary relief. Moreover, you should be cautious to avoid common mistakes that can create issues with your windows and doors.
For enduring results, professional draught proofing is usually the preferred choice. Nevertheless, it's essential to exercise prudence when deciding on the scope of work for your windows and doors to prevent overspending and to ensure you achieve the desired outcomes.

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COMMON DRAUGHT PROOFING

MISTAKES TO AVOID

Here's a point worth considering: you can draught-proof certain areas of your home without requiring professional assistance. However, if you opt for this approach, it's essential to be aware of these common pitfalls to avoid inadvertently damaging your windows and doors.

One DIY option for windows involves applying foam around the window frames. It's relatively straightforward since the foam adheres with self-adhesive tape. Nevertheless, there are a couple of significant issues associated with this method.

Firstly, it is possible to achieve a good seal around the hinges, but when dealing with casement windows, there typically remains a more substantial gap around the leading edge we mentioned earlier, where the windows open outward. Homeowners tend to use thicker foam to close this wider gap. As a result, you may end up with a very tight seal around the hinges and a less secure one around the leading edge, allowing draughts to persist

Moreover, if you leave the adhesive tape on the hinges throughout the season, it can cause the seal to become stuck to the sashes or frame. Consequently, when you attempt to open your window to welcome in the fresh spring air, you may find yourself exerting considerable force. Unfortunately, this often leads to tears in the material, especially with timber windows. This, in turn, necessitates costly repairs to the sash or frame.

Another significant drawback is that the DIY draught seal effectively seals your windows shut. This applies to both double-hung and casement windows. Attempting to open the window for ventilation causes the draught seal to detach. Regrettably, what initially seems like a quick fix proves to be an unsatisfactory solution in practice.

For doors. In New Zealand & Australia, it's quite common for buildings to utilise concrete front door seals, which may seem like an ideal solution on the surface. Concrete is robust, long-lasting, and sufficiently sturdy to block out cold air effectively.
However, concrete has an inherent flaw that only becomes apparent after the seal is installed. Over time, concrete settles and shifts, often developing cracks. It's a rare occurrence to achieve a perfectly straight and crack-free concrete seal around a door.

The consequence of this settling and cracking is the emergence of a dip in the middle of the door. When a straight seal is applied to a surface with such a dip, it only effectively seals the ends, leaving the bowed-out section inadequately sealed. Consequently, despite the effort invested, draughts continue to find their way inside.

Some individuals opt for alternative draught seals for doors. Brush seals are a choice, although they don't perform as effectively as rubber seals. Unless you have an exceptionally tight space where the brush seal can be compressed down to nearly nothing, such as in the middle rail of a double-hung window, their effectiveness is limited.

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DIY DRAUGHT PROOFING

ISN'T A LONG-TERM SOLUTION

When it comes to DIY draught-proofing, the significant concern is its longevity. Attaching materials to the edges of your doors and windows, unless professionally machined, often results in these additions falling off. In many cases, foam seals, for instance, tend to dislodge after just one window opening. This can be exceptionally frustrating, as you invest time and effort and the cost of materials only to discover that the functionality you sought is compromised.

To work around this, people frequently put up draught seals in the winter and remove them in the summer to allow for ventilation. Not only is this practice cumbersome, but it also lacks practicality. This is particularly true because draught-proofing your windows and doors represents just one facet of the overall issue.

However, there's an alternative method where:

- Seals remain inconspicuous
- Windows and doors remain undamaged
- You avoid the problem of windows sticking shut

The best part is that, when implemented as part of a comprehensive window system, you can address draughts and enhance thermal insulation and soundproofing. It's an all-inclusive solution, reducing costs because everything is done correctly from the outset.

Furthermore, you can check off many tasks on your home's performance improvement list, contributing to your overall peace of mind. The next page provides a detailed explanation of how this innovative approach works.

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DRAUGHT PROOFING IS ONLY ONE SMALL PART OF THE PUZZLE

THERE'S MORE TO INSULATING AND SOUNDPROOFING YOUR HOME

Draught-proofing is crucial in addressing one aspect of home insulation by tackling the intrusion of cold air through small cracks and gaps. However, even with comprehensive draught-proofing services applied to every window and door in your home, you'll still encounter insulation challenges. That's because cold air isn't the sole contributor to the issue; a more significant problem is heat loss through your window glass. This issue persists year-round as it pertains to unwanted heat gain during summer.

Glass, being a natural conductor of energy, absorbs thermal energy and subsequently emits heat to maintain an energy balance. This process is continuous. When you heat your home, the glass absorbs a portion of that warmth, which then emits heat energy outside. Remarkably, this can account for up to 40% of your overall thermal heat loss. During the summer, thermal UV rays interact with your glass. The glass absorbs this energy and radiates it indoors. This explains why you encounter overheating issues even if you employ window dressings to block sunlight. It's worth noting that window dressings primarily block light, not heat.

Furthermore, when addressing insulation, it's crucial to consider not only the unwanted movement of thermal energy but also the transmission of sound waves. Vibrations from heavy vehicles, trams, aircraft, and everyday traffic, coupled with the noise from lawnmowers and neighbouring disturbances, collectively contribute to noise pollution. This issue goes beyond mere annoyance, as it can disrupt your peace, impact your health by interfering with sleep, elevating blood pressure, and over time, leading to hearing impairment.

Draught seals offer a partial solution to your overall insulation challenge, but addressing this aspect alone leaves approximately 80% of the problem unresolved.

That’s why at Thermawood, we have taken a different approach to draught sealing windows and doors. We don’t just come out and draught proof a house. You can find people to do this, and they can do an excellent job, but because they have to...

- remove the windows and doors,
- take them apart,
- and put on the seals,

It can end up being really expensive for the results you get.
Our approach integrates draught sealing within our patented Dry Retrofit Double Glazing System, which effectively insulates the entire window or door.

Here's how it works:

We double glaze your windows by replacing the single pane of glass with an insulated glass unit, customised for each area of your home to meet your specific insulation and soundproofing needs. We're passionate about efficiency, so we focus on what you truly require, saving you money and providing a tranquil, cosy, and drier home.

But the most exceptional aspect concerning your draught problem is that, during our retrofitting process, we machine draught seals directly into the window or door. No two windows or doors are identical, with variations in movement, shifted frames, sashes, curves, or gaps. Our approach involves assessing each window or door during the double glazing retrofit, with the sashes removed or the door disassembled as needed. We then machine the seals to ensure a perfect fit.

We employ special tooling for casement windows to align the frames and sashes, levelling everything to eliminate gaps and problem areas. The seals are securely bonded and affixed into the window, becoming an integral part of the frame. Once the windows are repainted, the draught seal becomes virtually invisible, seamlessly blending with the existing windows. Your windows will open and close without sticking, and the seals will remain firmly in place. This isn't a short-term fix; it's a solution designed to last for generations. That's the level of quality we invest in our work.

We employ a similar process for double-hung windows, machining in draught seals designed to work seamlessly with the sliding mechanism and ensure smooth operation of the sashes.

As for doors, we utilise high-quality rubber draught seals, identical to those used for windows, contributing to enhanced acoustic performance. These rubber seals are precisely machined into the wood, creating an imperceptible presence. We match the contour of the door to the seal's, forming a comprehensive seal extending across the entire door. What sets our draught seals apart is our utilisation of specially designed tooling, engineered in-house, enabling us to machine the seals into the timber. After all, what's the point of making a considerable effort if gaps persist, or if the work ends up damaging your windows or doors? Why settle for a partial solution, leaving issues with thermal insulation and noise pollution unaddressed?

What sets us apart is our integration of draught sealing within our innovative Dry Retrofit Double Glazing System, which provides comprehensive insulation for your entire window or door.

We firmly believe that your windows and doors should perform efficiently and maintain or enhance their aesthetic appeal. You shouldn't be forced to choose between form and function, especially considering the remarkable advancements in window and door technology available today. With our patented process, you can have both.

When it comes to retrofitting wooden windows and doors, an area of expertise at Thermawood, achieving full insulation without sacrificing the distinctive character of your originals is feasible. Many individuals tend to leave their timber windows untouched, particularly in the case of heritage structures, believing that nothing can be done to enhance them. That's not the case.

At Thermawood, we've specifically tailored our Dry Retrofit Double Glazing system to cater to the unique requirements of timber windows and doors. This means you can retrofit double glazing while preserving your existing timber windows. We meticulously machine the draught seals into the wood, seamlessly integrating them into the original structure. The result is that your windows and doors will maintain their original appearance, operate as they did when your house was first built, and deliver all the benefits of high-performance windows and doors. Our process eliminates the need for a costly full window replacement or separate draught-proofing work, as we've streamlined everything into a single, efficient, and cost-effective solution.

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READY TO EXPERIENCE THE THERMAWOOD DIFFERENCE?

Contact us today for more information on transforming your windows for a better tomorrow.

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