BACKTOEARTH

Helping You Build With Confidence

HolzCore Suitability Confirmation (NSC) - Assessment guide

The HolzCore internal insulation system is designed to improve levels of comfort, indoor air quality and reduce heat loss through the walls of solid-walled buildings. Using a combination of detailed site assessment, careful computer modelling and robust materials the system thermally and acoustically insulates walls and helps to eliminate the causes of surface mould growth.

Adding HolzCore internal wall insulation to solid internal walls can significantly improve your home's energy efficiency, comfort, indoor air quality and your health. However, proper preparation is critical to ensuring the success of the installation and avoiding potential issues like damp or surface mould growth.

Best practice

For the HolzCore system to be installed successfully, the interior and exterior of the building must be in good, sound condition. All internal wall insulation systems are susceptible to moisture from rain entering the external surfaces of the wall and so it is vital that the exterior is in good order when the system is installed to prevent rain penetration and that the home owners maintain the condition after installation.

If the building has not been lived in for a long time or if there has been water damage from leaks or damaged gutters, the masonry will be quite damp. It is important that if the insulation is installed during winter months, the interior should be heated as soon as possible after the installation is complete to enable the drying of the walls. If excessive moisture is present in the walls at any time of year, it may be necessary to use a dehumidifier to aid drying prior to installation.

Ensuring the correct ventilation levels inside the building once works are complete is also important. The more occupants in the building or the more moisture produced, the more the ventilation becomes critical to remove excess moisture. Breathable insulation is in no way a substitute for proper ventilation as most moisture is removed from buildings by air exchange.

Investigation of masonry materials

The construction materials used in the wall are important to know. Small sections of external render and internal plaster should be removed (if present) to ensure it is possible to confirm the construction type.

Investigation of internal wall surfaces

Plaster type - Most walls are plastered with three materials, lime, gypsum or cement plasters and sometimes they can be a mixture of all three. Assessing which is present can be done fairly simply by checking the colours and composition of the plaster material as each tends to be fairly distinct. Simply remove a small section of the plasterwork, back to the masonry and look at the layers involved. If you're not sure what the plaster is made up of, please send photos to us to help you assess it.

Existing plasters do not usually require removal unless they are extremely loose, in which case the loose sections should be removed and replaced with a lime or lime/cement plaster.

Wall finishes - Painted surfaces, so long as it is acrylic paint or limewash/distemper, can often remain in place but all wallpaper or other materials bonded to the surface should be removed. Wallpaper tends to hold a lot of mould spores and when sandwiched between insulation and masonry, it can cause mould or decay within the wall.

Investigation of external wall surfaces

Many solid walled pre-1945 buildings are constructed of brick or stone with lime mortars. The porosity of the brick or stone varies enormously but any information on the brick or stone type that is available should be added to the checklist to help narrow down the likely properties of the wall.

The pointing in the joints between bricks and stones not only holds the wall together but it serves to prevent rain penetration. If the external surface of the wall is bare stone or brick, the pointing (whether lime or cement) must be in good order and flush with the outer surface. Deeply raked pointing allows higher levels of rain to enter the wall, which can impact the insulation system.

Discolouration of the surface and white crystals on the surface (efflorescence) are signs that the wall has suffered with moisture issues, or still is. The sources of any moisture should be investigated

Renders - Often, external surfaces are rendered to keep the weather out and the walls dry. This can work well if the wall surface is kept in good order but can increase moisture levels if rain leaks in through cracks or leaky sills. These areas are important to check and repair when assessing the exterior as no rain ingress should occur through the outer render.

Any paint finishes should be in good order and algae and flaking or blistered paint should be removed with a pressure washer before washing with fungicide and re-painting.

Pay particular attention to areas around openings to see if rain can penetrate but also along the base of the wall where rain splashes back against the wall for long periods. This area should be thoroughly checked for damage to any render or bare masonry and to check where the external ground level is relative to the internal floor level.

The base of the wall should have appropriate drainage that ensures water does not stand, drains freely and does not cause splash back against the wall surface. If the masonry is very porous and the wall is sat in water, it is likely to suffer with rising damp, which will affect the insulation. It should also be clear of plants that will reduce the speed at which moisture can dry out of the wall.

If areas of wet or damaged walling are present the HolzCore system should not be installed until such time as the wall has dried and the cause of the high levels of moisture, is remedied.

Surrounding surfaces - All surfaces that are adjacent to the wall surface or abut it, should be assessed.

Roof coverings should be in good order and not leaking, along with all rainwater goods. There should be no leaks and the water should drain into surface drains to keep the base of the walls dry.

The integrity of flashing details on lean-to roofs or porches should be checked and there should be no splash-back from surfaces near or abutting the wall. If there are, this should be rectified prior to installing the HolzCore IWI system.

Ground Levels

The HolzCore system is not designed to be used below ground without some changes to the specification. Internal and external ground levels should be checked to ensure that internal levels are higher than external and as a rule, the exterior should be at least 150mm below the interior. If this is not the case, the external ground levels should be lowered to at least 150mm below internal floor levels to reduce the amount of moisture in the base of the wall.

Where it is not possible to reduce ground levels, the interior of the walls can be tanked up to 150mm above external ground level and the area of the Multipor boards increased to cover this. This is outside the scope of this guide, please contact us for more information.

HolzCore Suitability Confirmation (NSC) checklist

Adding insulation to the interior of walls fundamentally changes the way in which they function from a heat and moisture perspective and so it is very important to confirm that the intended solution is suitable. To do this, please fill in the below checklist, when completed just save the pdf to your computer and e-mail to us at holzcore@backtoearth.co.uk. This allows us to use the latest heat and moisture modelling software (WUFI) to confirm that the intended solution is suitable.

If the interior of the wall has been dry-lined/studded off, this must be removed to be able to assess the wall surface and install the HolzCore system.

HolzCore Checklist

Project Details

Project Reference		Date	
Project Address			
Post Code		Assessed by	
Company			
Phone		E-mail	

Interior Wall Checklist

Interior Plaster Type	Cement Only ☐	Lime only ☐	Gypsum only ☐	Lime/ Gypsum ☐	Cement/ Gypsum ☐	None ☐
Interior Wall Finish	Painted ☐	Wallpaper ☐	Wooden Clad ☐	None ☐	Interior Photos **No**	
Notes on interior surface conditions	Mould? ☐ Moisture? ☐	If yes then where? ✎		Plaster Thickness _____ mm		
Type of floor next to wall	Suspended Timber ☐	Block and Beam ☐	Solid floor ☐	Other floor type? Please detail below: ✎		
Services on wall to be insulated	Water Pipes ☐	Electrical Wiring ☐	Gas Pipes ☐	Ventilation Ducting ☐	Waste Pipes ☐	Other ☐
Ventilation Method	Trickle Vents ☐	PIV ☐	MVHR ☐	Extract Ventilation ☐	Passive Ventilation ☐	None ☐

Exterior Wall Checklist

Wall Construction Material	Solid Brick ☐	Cavity Brick ☐	Cavity Block ☐	Solid Stone ☐	Solid Block ☐	Concrete ☐
Wall Thickness	_____mm	_____mm Cavity _____mm	_____mm Cavity _____mm	_____mm	_____mm	_____mm
Wall Orientations to be Insulated	North ☐ N. East ☐	East ☐ S. East ☐	South ☐ S. West ☐	West ☐ N. West ☐	Exterior Photos? **No**	
External Surface	Brick/ Stone ☐	Lime Render ☐	Cement Render ☐	Pebbledash ☐	Painted ☐	Other ☐
Texture and Colour of Exterior	✎			Render Thickness _____ mm		
Notes on External Surface Conditions	Condition of gutters, down pipes/soil pipes? Water leaks down walls or sills? ✎					
What Surface is at the bottom of the Wall?	Soil/ Grass/ Plants ☐	Concrete/ Tarmac/ Slabs ☐	Gravel/ Stone ☐	Height difference from external ground to internal floor? _____ mm	Is ground floor level higher than ground level? **No**	
Other	Are the window frames and seals in good order? **No**			Is there any sign of damp or efflorescence? (White crystals on surface) **No**		

Finished filling out the checklist? Remember to save the pdf to your computer and then just attach it to an e-mail to holzcore@backtoearth.co.uk