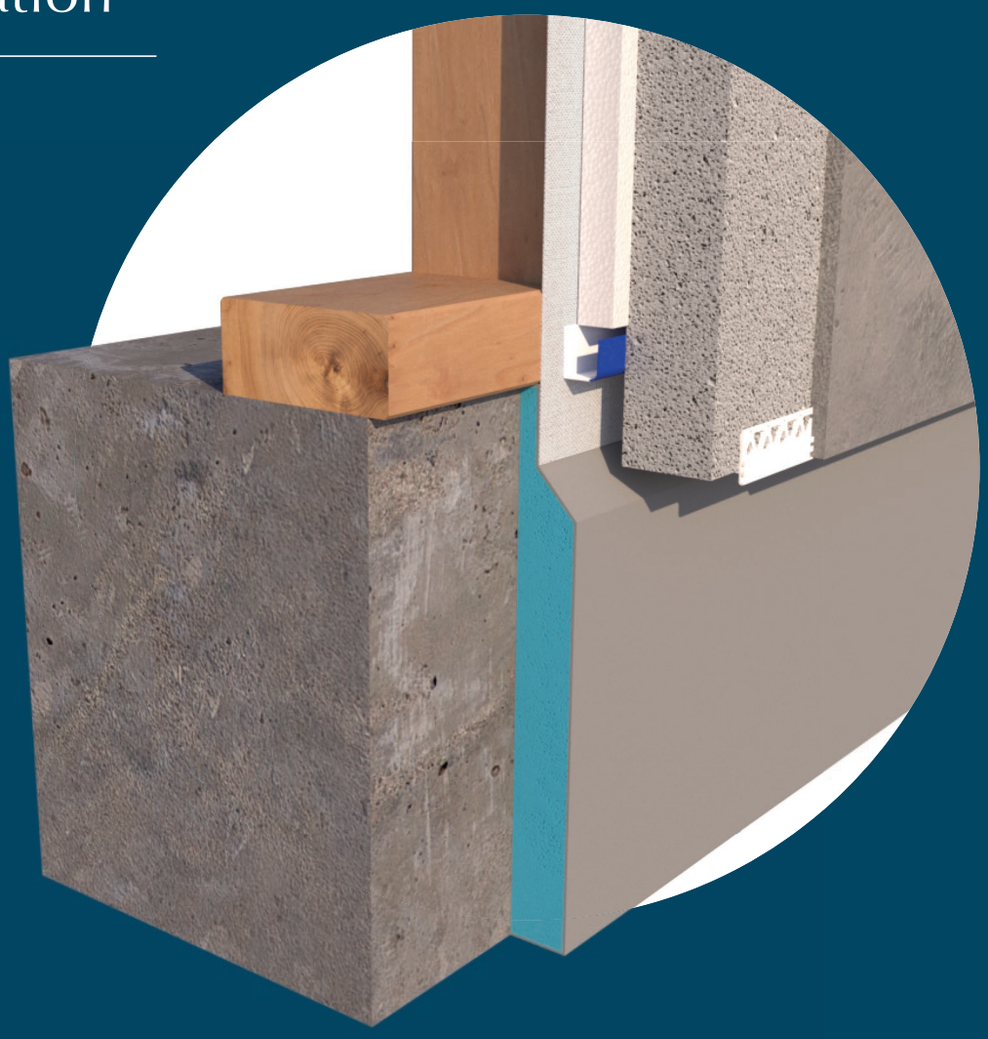
Resene
Construction Systems

DuraTherm Blue

Insulated Foundation System

- In slab Installation
- Retrofit Installation

Version 2 – February 2025



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TECHNICAL MANUAL

General System Description

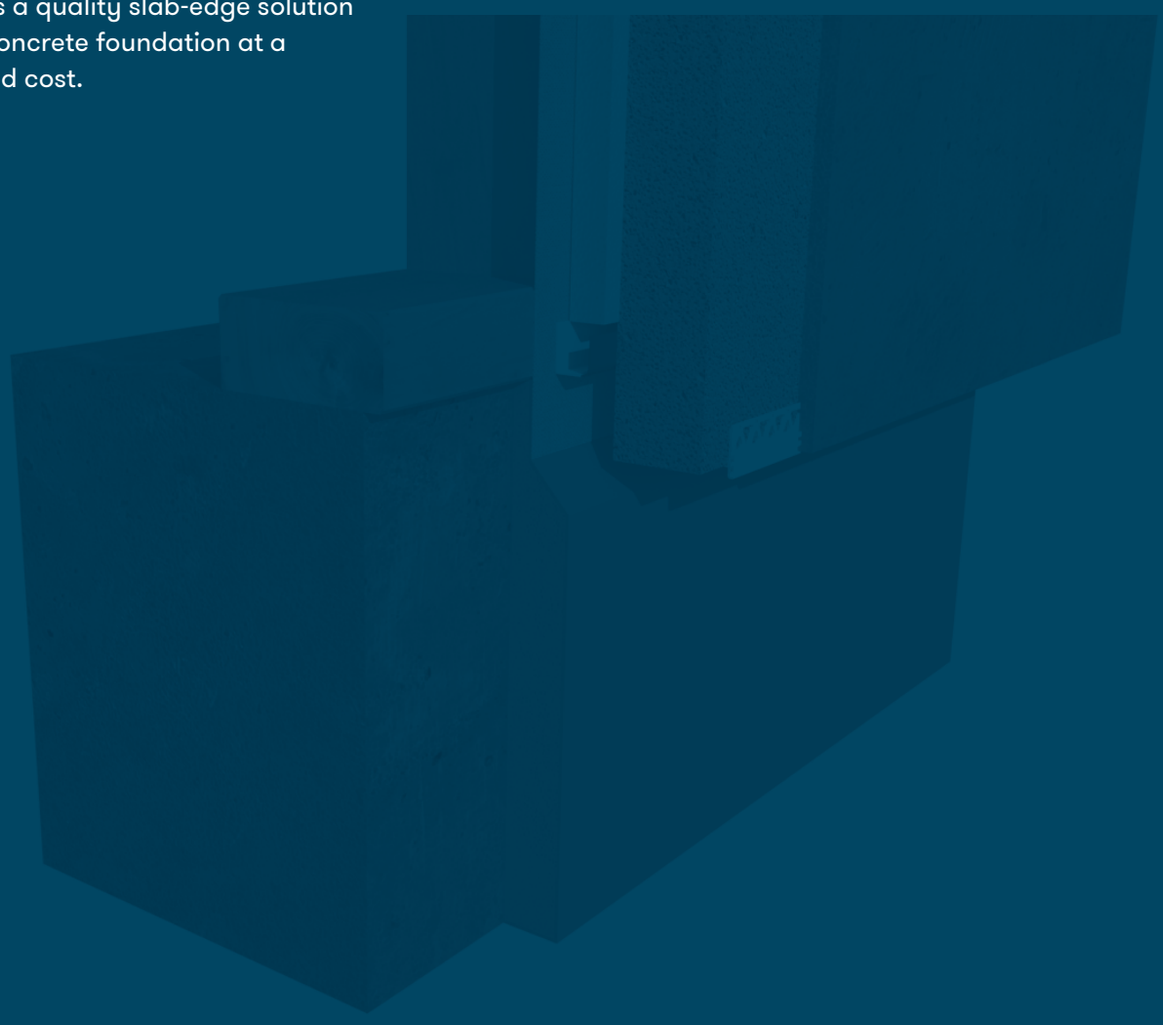
The **DuraTherm Blue** Insulated Foundation System is a proprietary slab-edge insulation system that provides insulation performance to comply with the requirements as per NZBC H1.

The **DuraTherm Blue** insulation panels can be installed inside the formwork prior to pouring the concrete slab or after the slab has been poured.

The **DuraTherm Blue** has an XPS core that is coated with a layer of high-strength fibreglass-reinforced plaster on each side of the board. One side is smooth while the other side has a 2mm grooved surface to allow for excellent connection against the concrete slab.

The **DuraTherm Blue** Insulated Foundation System is suitable for low, medium and high-density housing use.

The system provides a quality slab-edge solution with the look of a concrete foundation at a significantly reduced cost.



Terminology

Find below explanations of some of the acronyms used throughout this document.

For further information, refer to the Building Code Handbook for additional definitions.
This can be found at the following link:
https://www.building.govt.nz/building-code-compliance/building-code-and-handbooks/building-code-handbook/

AS – Acceptable Solution

AS – Australia Standard

BU – Bracing Unit/s

DPM – Damp Proof Membrane, a sheet material, coating or vapour barrier, having a low water vapour transmission and used to minimise water and water vapour penetration into buildings. Usually applied against concrete in contact with the ground, sometimes referred to as the concrete underlay.

kN – kilo Newton/s

NZBC – New Zealand Building Code

NZS – New Zealand Standard

NZS3604:2011 – Used to design most homes and other low rise, timber framed buildings in New Zealand.

PPE – Personal Protective Equipment

R-Value – The thermal resistance rating. It is the measure used most commonly in the building and construction industry to determine a material's ability to resist the transfer of heat. The higher the R-value, the better the insulation the product will provide.

SG – Stress Grade

VM – Verification Method

FFL – Finished Floor Level

WANZ – Window Association of New Zealand

XPS - Extruded Polystyrene

Product Substitution

The **DuraTherm Blue** Insulated Foundation System is a proprietary system that has been carefully designed for New Zealand conditions. It has been independently tested and assessed to ensure that it meets the performance criteria outlined in the NZBC. It is imperative to use only Resene Construction Systems proprietary products where specified and that the design and construction of the slab-edge system are followed so that the level of insulation performance is achieved on site.

What is the scope of use for the **DuraTherm Blue** Insulated Foundation System?

Resene Construction Systems recommends that **DuraTherm Blue**
be installed by a licensed building practitioner who has experience in installing insulated foundation systems. The success of each project requires the tradesperson to have a thorough technical knowledge of appropriate building design, conditions and client expectations, to determine this product fits the purpose intended for the project.

The **DuraTherm Blue** panels are the insulation component, while the concrete is the structural component.

Hold-down bolt positioning for some external bottom plates can limit the setup of the foundation. As with any slab, a bolt too close to the slab edge can spall the concrete edge. Consideration needs to be made for – closeness to the edge, fixing type and the location of the reinforcing steel.

The system can be used: –

- Where a thermal rating is required for the foundation

Compliance with the NZBC

Designed to improve the insulation performance of a building, the **DuraTherm Blue** Insulated Foundation System meets the requirements of the New Zealand Building Code H1.

The different solutions offered as part of the **DuraTherm Blue** Insulated Foundation System have been calculated as per the NZBC H1 standard Verification Method H1/VM1 Appendix F, effective 29 Nov 2021 and as revised 4 Aug 2022.

There is a calculation tool available on the Resene Construction Systems website. This tool will generate a compliance schedule demonstrating how the slab meets the requirements set out in H1.

This calculator is available at:

https://reseneconstruction.co.nz/duratherm-insulated-foundation-system-calculator/

B2 – When installed in accordance with the system specifications and drawings, it will meet this performance requirement. Based on material properties and history of use, this product has been assessed to have a durability of at least 15 years when installed as part of a system. This product must be installed in accordance with the relevant system specifiations and drawings.

E2 – When installed in accordance with the system specifications and drawings, it will meet this performance requirement.

F2 – This product is safe when handled in accordance with its Technical and Safety DataSheet. Dust from sanding and mixing compounds may be a respiratory irritant and suitable respiratory protection is required. This product meets the requirements set out in F2 and will not present a health hazard to people once installed.

INSLAB / Pre-Pour Installation

Installation of DuraTherm Insulated Foundation system during slab preparation and pouring

Materials / Components

DuraTherm Blue Panels

- XPS board density: minimum 35KG/m3
- Thermal Resistance: 1.0m2K/W (ASTM C518)
- Thermal Conductivity: 0.0303 W/mK (Average 23°)
- Compressive Strength: 288KPa
- Substrate Thickness: 33mm (3mm extra to include coatings)
- Length: 2200mm
- Finished Surface: 1 face smooth and 1 face notched to ensure adhesion to the concrete foundation

Typical Heights

305 Series

300mm with a rebate, this product is suitable for a 220mm pod floor with an 85mm slab that allows 5mm tolerance for fitting inside the formwork

385 Series

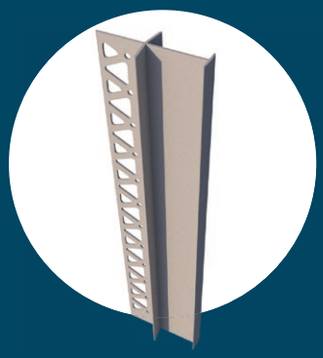
380mm with a rebate, this product is suitable for a 300mm pod floor with an 85mm slab that allows 5mm tolerance for fitting inside the formwork

Plaster Systems AAC Adhesive

- Supplied in 20kg bags
- Used for bonding **DuraTherm Blue** Panels to a concrete foundation where the panels are being installed after the foundation has been poured (post-pour/ retrofit)

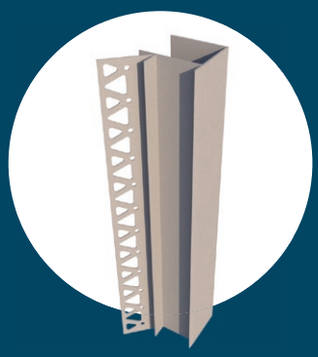
DuraTherm Patch & Repair Mortar

- Supplied in a 1kg pot
- Used for patching **DuraTherm Blue** after the formwork has been removed or post-construction damage occurs



DuraTherm Blue Inline Jointer

- Supplied in 2400mm lengths
- Cut to the height required for the foundation
- Generally used when casting the **DuraTherm Blue** panels into the foundation
- Used where two pieces of **DuraTherm Blue** are joined together



DuraTherm Blue External Corner Jointer

- Supplied in 2400mm lengths
- Cut to the height required for the foundation
- Generally used when casting the **DuraTherm Blue** panels into the foundation
- Used where two pieces of **DuraTherm Blue** are meeting on an external corner

DuraTherm Blue Formwork Spacer

- Supplied in 2400mm lengths
- Re-usable component
- Cut to suit foundation height
- Used where **DuraTherm Blue** is being cast into a foundation, the formwork spacer bridges the gap between the formwork and the **DuraTherm Blue** and helps prevent excess concrete slurry from flowing onto the external surface of the panels

DuraTherm Blue Vortex Screws

- 60mm Spring-style screw
- Used for additional connection into concrete
- Screwed into the **DuraTherm Blue** panels facing the concrete when the **DuraTherm Blue** is being cast into the slab
- These are not required as part of a typical install
- Used for additional holding power
- 100 per pack

Components not supplied as part of the system

Hold-Down Bolts for fixing bottom plates for non-bracing walls

Any bottom plates should be fixed to slab-on-ground floors using:

- cast-in anchors consisting of M12 bolts that are cast into the concrete and either 50 × 50 × 3 mm square washers or 55 × 3 mm round washers in accordance with NZS3604:2011 - 7.5.12.1
- proprietary anchors that are inserted in the concrete once it has sufficiently cured, tested in accordance with NZS3604:2011 - 7.5.12.2

Both of these options need to meet the following requirements:

INTERNAL WALLS

(a) Horizontal loads in the plane of the wall 2 kN
(b) Horizontal loads out of the plane of the wall 2 kN

EXTERNAL WALLS

(a) Horizontal loads in the plane of the wall 2 kN
(b) Horizontal loads out of the plane of the wall 3 kN
(c) Vertical loads in axial tension of the fastener 7 kN

Hold-Down Bolts for fixing bottom plates for bracing walls

Proprietary anchors may be used as hold-downs for walls containing bracing but require additional uplift capacity depending on the bracing unit (BU) ratings:

Typically this is 15 kN for 150 bracing units per metre. Some fasteners are rated at less than 15 kN, e.g. 12 kN for 120 bracing units per metre.
Proprietary anchors should also have test results to demonstrate that they meet NZS 3604:2011 requirements for the intended use.

Fasteners for securing **DuraTherm Blue** to the formwork

- 12gx75mm Galvanised Screw - used to secure the **DuraTherm Blue** Panels to the formwork from the outside. The screws must be removed prior to removing the formwork, and any holes will require patching.

Adhesive for attaching jointers to the Duratherm Blue

- Use a General construction adhesive
- Ensure that it is Polystyrene Safe
- Suitable products are Bostik Tuf as Nails Original or Soudal Gorilla Grab Construction Adhesive.

Sealant for finishing internal corners to the Duratherm Blue

- Use an exterior-grade construction sealant
- Ensure that it is Polystyrene Safe
- Ensure that it is a grey sealant
- Suitable products are Bostik Safe Seal or Soudal Gorilla MS Sealant.

System Variations

- Where the foundation is higher than the standard sizes of **DuraTherm Blue**, then sheets can be joined together for a higher foundation
- The **DuraTherm Blue** Inline jointers do not have to be used. Instead, the panels can be tightly fitted together, and the panel joins sealed. (These areas will need to be maintained).
- The joins can be reinforced with plaster and mesh before a decorative texture coat is applied to the surface. This solution is used where a more uniform finish is required.
- **DuraTherm Blue** Vortex screws are not required, they can be used if a contractor wants to get an even better connection between concrete and the notched surface of the **DuraTherm Blue**.
- The Installation Guidelines show the **DuraTherm Blue** being installed prior to the concrete slab being poured. The **DuraTherm Blue** can also be installed after a slab has been poured. In this instance, Plaster Systems AAC Adhesive should be used to adhere the **DuraTherm Blue** against the foundation.

Installation guidelines for a facade that overhangs the foundation

STEP 1

Setting up the Site:

DuraTherm Blue does not affect bearing pressures. Earthworks, fill and bearing checks remain as per NZS3604:2011 or a specifically engineered design.

Image 1 - Overall site with base course

STEP 2

Setting up the Formwork:

Establish the position of the bottom plate in relation to the finished edge of the concrete.

Allow for the thickness of the **DuraTherm Blue** to be set inside the formwork so that once the framing is installed, the bottom plate sits in the correct location. This means the formwork needs to be blown up to allow for the additional depth of the **DuraTherm Blue.**

Perimeter Formwork shall be set to profiles or string lines with the top edge at the finished floor level (FFL). All joins in the formwork should be fitted tightly together.

Perimeter Formwork should be braced to prevent movement under a full load of wet vibrated concrete and construction loadings.

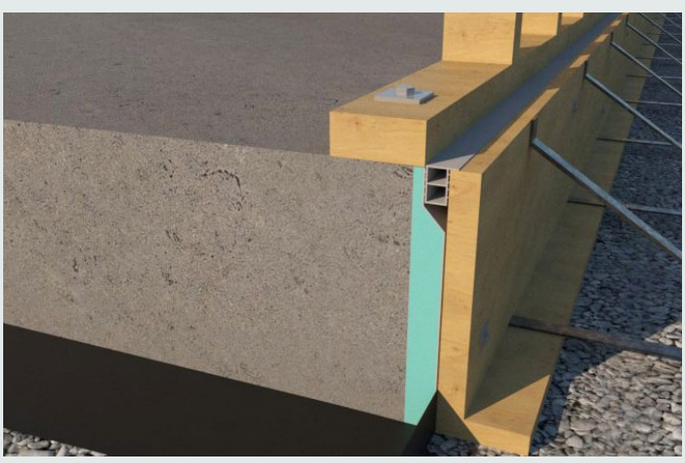


Image 2 - Cross section of bottom plate set out in relation to the formwork

Image 3 - Overall image of the site showing the setting up of formwork

STEP 3

Setting up the Damp Proof Membrane:

Ensure the Damp Proof Membrane is installed in accordance with the requirements of NZS3604:2011 and laid on a properly prepared base as required by NZS3604:2011 Section 7.5.3 to 7.5.6.2.

The Damp Proof Membrane should be laid neatly on a smooth surface, with as many ripples as possible eliminated.

Return the Damp Proof Membrane up the side of the formwork at least 50mm.

Set out the pods according to the design and specifications.

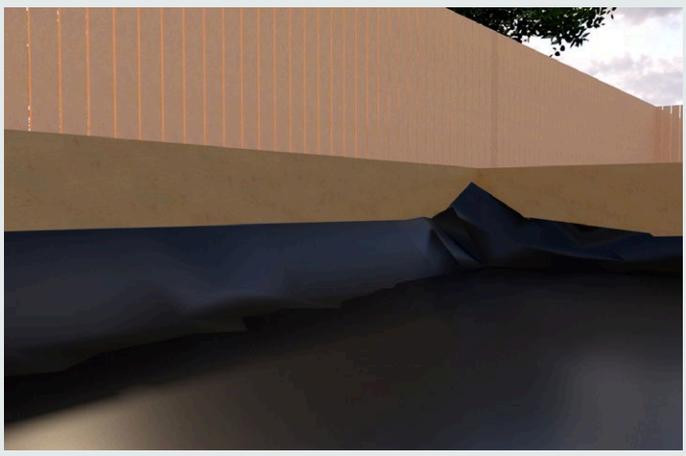


Image 4 - Close-up of polythene being installed and wrapped up on the side of the formwork

STEP 4

Install the DuraTherm Blue to an external corner inside the Formwork:

Cut a **DuraTherm Blue** External Corner Jointer to size and install this to the edge of the **DuraTherm Blue** panels.

Starting from an external corner, install the **DuraTherm Blue** to fit tightly against the formwork.

Ensure the **DuraTherm Blue** is sitting at the same height as the finished formwork.

To help locate the formwork at the correct height, screw through the formwork and into the **DuraTherm Blue**. Install the screws towards the top or bottom of the panels to limit any holes in the visible areas of the finished product.

Screws at the bottom of the formwork will prevent the **DuraTherm Blue** from trying to rise away fr**om the formwork** as the concrete is poured.

The **DuraTherm Blue** Jointers are angled so that they grip onto the panels, an adhesive can be used along the edge of the panels to ensure the jointer is well secured.

If an adhesive is used to glue the jointers to the **DuraTherm Blue**, ensure this is polystyrene-safe adhesive.

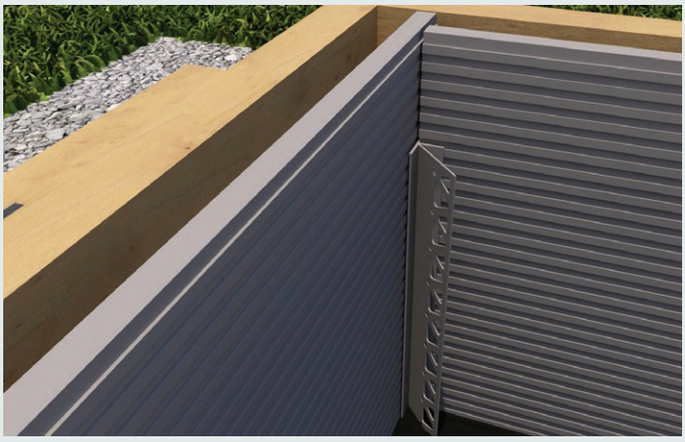


*Image 5 - External Corner jointer being placed in the corner with the first **DuraTherm Blue** board being installed*

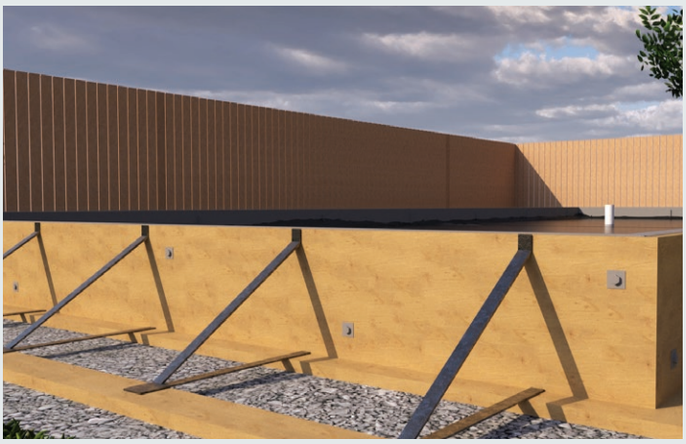


*Image 6 - Screw through the formwork to hold the **DuraTherm Blue** in place*

STEP 5

Install the DuraTherm to the remainder of the Formwork:

DuraTherm Blue Inline Jointers should be used to join one sheet to the next.

If **Duratherm** jointers are not being used then the joins between the panels can be patched with an exterior render. Ensure the panels are secure in the formwork so that the panels remain in place when the concrete is poured.

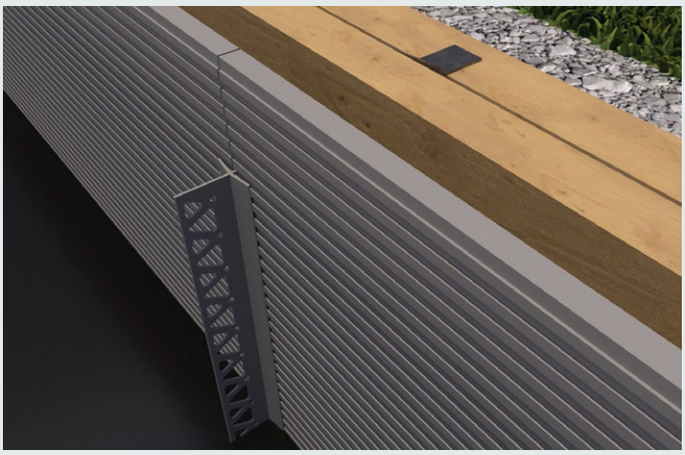


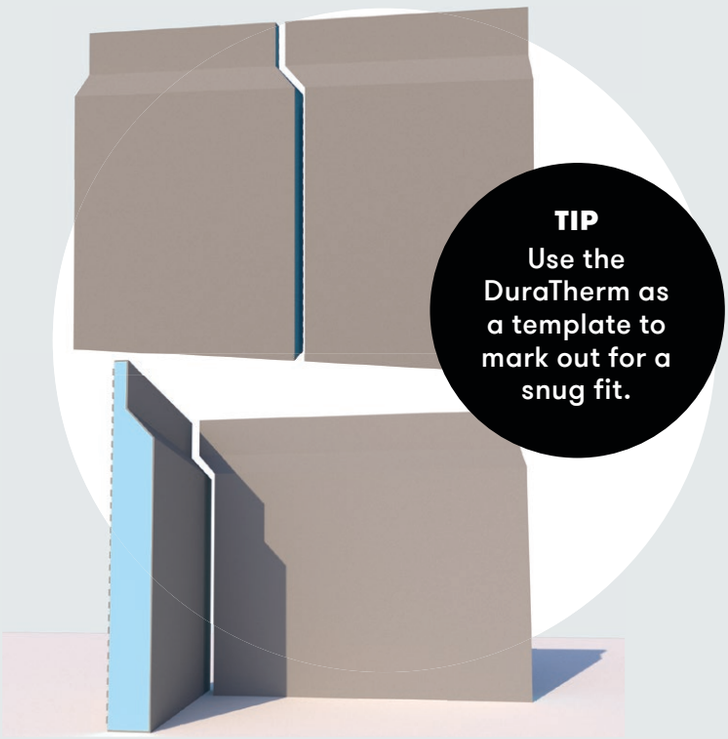
Image 7 - Inline Joint with an adjacent board being installed

STEP 6

Internal Corners:

Where an internal corner is being formed, ensure there are no gaps for the concrete to escape. There are several solutions to finishing the internal corners:

1. Mitre the two corners.
2. Blocking the gap at the top of the **DuraTherm Blue** Panel where the rebate is.
3. Create a template so that one board runs tightly into the other. Cutting the boards to the shape of the other board using a template is the easiest method, as shown in the image, page 9.



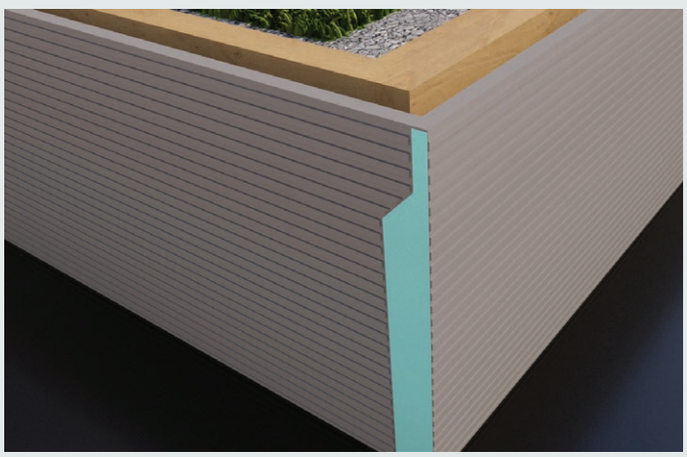


Image 8 - Internal Corner (ie, one board running into the other board)

STEP 7

Installing the Formwork Spacer:

The **DuraTherm Blue** Formwork Spacer is a reusable item that is installed prior to the concrete being poured and is removed afterwards to be used on the next project.

The **DuraTherm Blue** Formwork Spacer is designed to bridge the gap between the rebate at the top of the **DuraTherm Blue** and the formwork. This will ensure the small section at the top of the panels is secure as the concrete is poured. The spacer also has a small tag that caps the **DuraTherm Blue** panels and the formwork, this ensures that no concrete will run between the **DuraTherm Blue** Panels and the formwork.

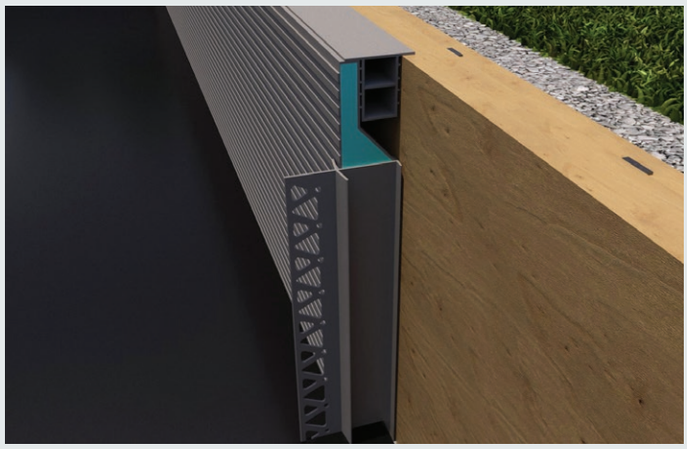


*Image 9 - Formwork Spacer being installed between the formwork and the **DuraTherm Blue***

STEP 8

Allowing for WANZ Support Bars:

Depending on the joinery type being used on the project, make sure an allowance has been made for WANZ bars to be installed directly into the concrete.

The easiest method is to remove a section of the **DuraTherm Blue** panel prior to pouring the concrete. A piece of timber the width of the **DuraTherm Blue** panel is then attached to the formwork to fill this gap. The **DuraTherm Blue** Formwork Spacer can run either side of this timber blocking.

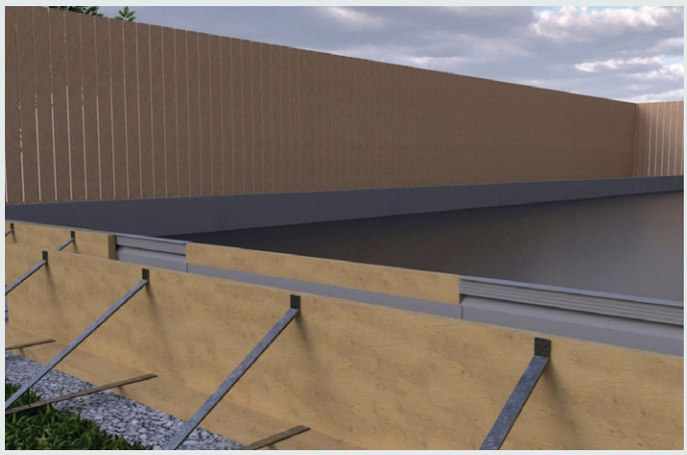


Image 10 - Close-up blocking out for WANZ bars

STEP 9

Garage Doors:

Take care when installing **DuraTherm Blue** panels under a garage door. Check with the designer whether insulation is required under the garage door.

If slab-edge insulation is required then you will need to remove a section of the **DuraTherm Blue** panels so that any vehicles are not driving over the insulation.

If no insulation is required at this location, terminate the **DuraTherm Blue** on either side of the garage door opening.

STEP 10

Pour the Concrete for your Foundation Slab:

After all the **DuraTherm Blue** Formwork Spacers have been installed and provisions have been made for WANZ bars, any under-slab insulation, pods or reinforcing bars/mesh can be installed.

Once all this is in place, then the slab can be poured.

Try to limit the amount of concrete that is immediately poured against the **DuraTherm Blue**, this will ensure that there isn't too much pressure being applied to the bottom of the **DuraTherm Blue** and won't force it off the formwork.

Take care when vibrating and Kelly floating the concrete so the **DuraTherm Blue** isn't damaged.

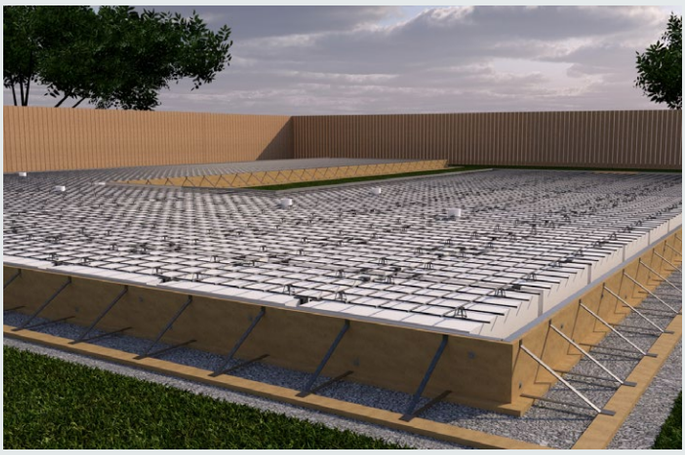


Image 11 - Steel placement around the foundation, including the installation of the reinforcing mesh

Image 12 - Concrete placed

STEP 11

Removing the Formwork:

Formwork should only be removed when the concrete has hardened to the point that it can support its own load and loads placed upon it, otherwise it could shift or collapse without support.

Many factors can affect concrete formwork removal times, including:

- Grade of concrete/cement
- Type of cement
- Temperature
- Size of formwork

The first step when removing the formwork is to ensure all the screws that were used to secure the **DuraTherm Blue** have been removed. If the screw holes are going to be visible after landscaping, then use a small amount of Resene Construction Systems **DuraTherm** Patch & Repair Mortar to patch these.

Remove the **DuraTherm Blue** Formwork Spacers.

Remove the formwork from the slab edge.

Inspect the **DuraTherm Blue** for any damage or concrete overflow.

Run a small bead of Grey Exterior Grade MS Sealant to the internal corner join and around any pipe penetrations, this will finish these junctions.

Areas at either end of the WANZ bar rebate will need a small amount of plaster to finish the exposed ends of the **DuraTherm Blue.**

Any tidy-ups to the **DuraTherm Blue** can be completed using Resene Construction Systems **DuraTherm** Patch & Repair Mortar.

Image 13 - Formwork removed

STEP 12

Installing the Timber Framing:

Locate the timber framing as designed. Typically this would mean the bottom plate is located over the top of the **DuraTherm Blue** rebated edge. Some designs may show a 6mm overhang, where the bottom plate extends past the line of the insulation by 6mm. This is only required where a direct-fixed cladding is being installed, or a wood-based or gypsum-based rigid sheathing is being used.

The further the bottom plate has been extended past the slab-edge, the less room there is to install the hold-down bolts. If the framing has been extended too far this may cause load-path issues. If there is doubt about how far the framing can overhang the foundation, consult the designer or engineer for the project who can clarify the installation set out.

Refer to the designer's details for hold-down bolt locations and spacings.

Follow the design the designer or engineer has created as they will often specify the set out of the bolts to avoid interference with the structural steel.

If the clearances are within 50mm from the external face of the concrete, then there are options for other bolts to be used. However consultation with a bolt manufacturer to ensure the values set out in the section earlier in this document titled "Components not supplied – Hold-Down Bolts", are still being met.

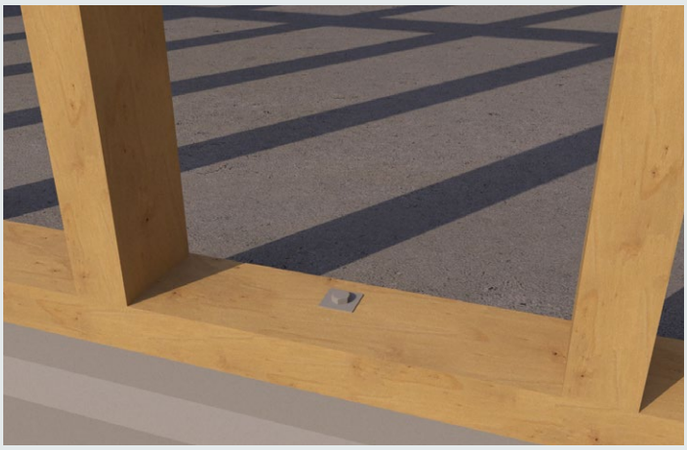


Image 14 - Bottom plate hold-down bolt location

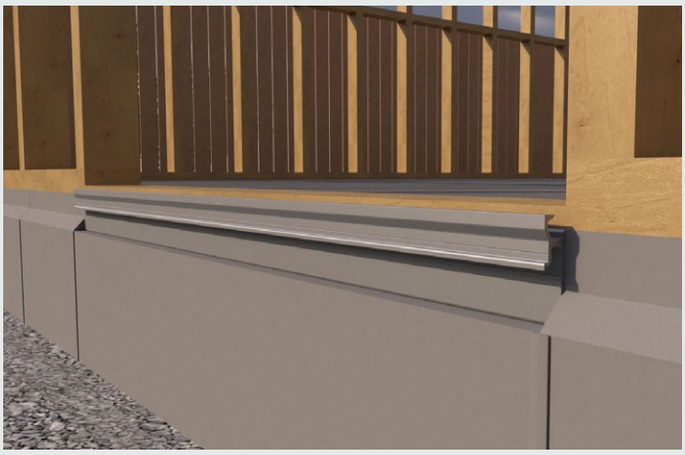


Image 15 - Close-up of WANZ bar

Image 16 - Framing installed

Finishing

Damage or holes in the finished **DuraTherm Blue** face can be patched using Resene Construction Systems **DuraTherm** Patch & Repair Mortar

Apply 2×coats of Resene X200 paint to the faces of the **DuraTherm Blue** boards to ensure long-term durability and performance.

Care must be taken when using hand and power tools on the **DuraTherm Blue** to avoid damage to the finished surface. Avoid standing on the top of **DuraTherm Blue** panels as this may cause damage to the finished surface.

In order to get the best drainage results, the surrounding landscaping should slope away from the foundation.

If possible, create a porous soakway with stone against the foundation this will mean any water sinks to a lower level reducing any harm to the building/insulation ratings.

Ensure that the DPM wraps up the outside of the **DuraTherm Blue** this will give an added layer of protection to the slab edge.

Maintenance

Take into consideration the type of work that is required, and the time of year the foundation is being installed. Most external maintenance is completed in the summer as this is generally the best weather for drying and general outside work such as gardening.

It can become complex and costly if maintenance is never undertaken. Other issues may have arisen that could have been acted upon sooner through regular general maintenance.

Check the slab-edge insulation periodically to ensure that there has been no damage to the surface.

If it has been damaged, then this can be patched with Resene Construction Systems **DuraTherm** Patch & Repair Mortar. If the **DuraTherm Blue** has been painted, then the length of **DuraTherm Blue** where the patch has been undertaken will need to be repainted, this will ensure no colour variances along that section of the foundation.

If the damage to the **DuraTherm Blue** is more extensive than a patch, contact a Resene Construction Systems Registered Plasterer to repair it. The plasterer can either remove the **DuraTherm Blue** and replace it with a new section or can replaster the area that has been damaged.

The finished **DuraTherm Blue** Insulated Foundation System should be cleaned every 12-18 months. Use Resene Paint Prep and House Wash liquid concentrate for the best results. Apply a diluted solution with a pressure sprayer and use a soft broom for difficult-to-remove dirt. Then wash with a low-pressure wash to remove the residue. Most detergents have a detrimental effect on aquatic life, so avoid letting the washings run off into the stormwater system.

DO NOT use harsh solvent-based cleaners.

Retrofit Installation

Installation of DuraTherm Insulated Foundation System after slab has been poured

Materials / Components

DuraTherm Blue Panels

- XPS board density: minimum 35KG/m3
- Thermal Resistance: 1.0m2K/W (ASTM C518)
- Thermal Conductivity: 0.0303 W/mK (Average 23°)
- Compressive Strength: 288KPa
- Substrate Thickness: 33mm (3mm extra to include coatings)
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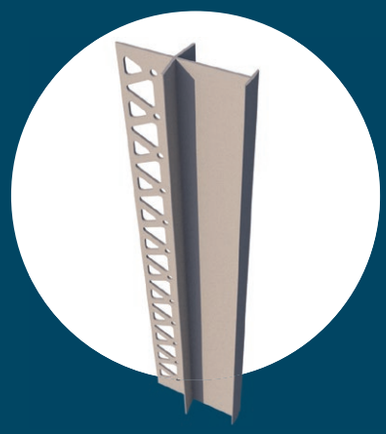
- Supplied in 20kg bags
- Used for bonding **DuraTherm Blue** Panels to a concrete foundation where the panels are being installed after the foundation has been poured (post-pour/retrofit)



DuraTherm Blue Inline Jointer

- Supplied in 2400mm lengths
- Cut to the height required for the foundation
- Generally used when casting the **DuraTherm Blue** panels into the foundation
- Used where two pieces of **DuraTherm Blue** are joined together

DuraTherm Patch & Repair Mortar

- Supplied in a 1kg pot
- Used for patching **DuraTherm Blue** after the formwork has been removed or post-construction damage occurs

DuraTherm Blue External Corner Jointer

- Supplied in 2400mm lengths
- Cut to the height required for the foundation
- Generally used when casting the **DuraTherm Blue** panels into the foundation
- Used where two pieces of **DuraTherm Blue** are meeting on an external corner

Installation guidelines for a facade that overhangs the foundation

STEP 1

Setting up the Site:

DuraTherm Blue does not affect bearing pressures or foundation requirements. Earthworks, fill and bearing checks remain as per NZS3604:2011 or a specifically engineered design.
Building work must be undertaken by competent and experienced tradespersons familiar with installing Resene Construction Systems systems.

Before applying the product, ensure the surface is clean, sound, dry and free from dust, dirt, grease, mould and lichen. Painted surfaces should have a slurry coat applied.

TIP
Easier to install soon after formwork has been removed

Image 1 - Poured foundation with framing and cladding

STEP 2

Adhering the DuraTherm Blue to the Foundation:

Mix Resene Construction Systems AAC Adhesive together, a 20kg bag of plaster requires approximately. 3.5L of water.

Start from one corner of the foundation and work around it. Try applying the AAC Adhesive to the concrete foundation using a notched trowel. The distinctive notches on the sides of the trowel create an even base of ridged mortar.

TIP
Only apply enough adhesive mortar for one length of DuraTherm at a time

Image 2 - Notch trowel with AAC Adhesive

When a sheet of **DuraTherm Blue** is placed on top, the mortar compresses to provide a complete bond between the DuraTherm Blue and the foundation. Position the DuraTherm Blue panel against the foundation. Press and slightly slide the board firmly along the entire length to ensure correct adhesion has occured. Maintain surface pressure against the DuraTherm Blue while the adhesive mortar sets.

Image 3 - Place Duratherm against the foundation

STEP 3

Installing DuraTherm Blue with Building Underlay/Rigid Sheathing:

Some designs may show a 6mm overhang, where the bottom plate extends past the foundation edge. This gap is only required where direct-fixed cladding is being installed or wood-based or gypsum-based rigid sheathing is being used.

Check how far the framing can overhang the foundation, and consult the project designer or engineer, who can clarify the installation plan.

TIP
Adhesive mortar can also be applied to the back of the DuraTherm and pushed against the foundation

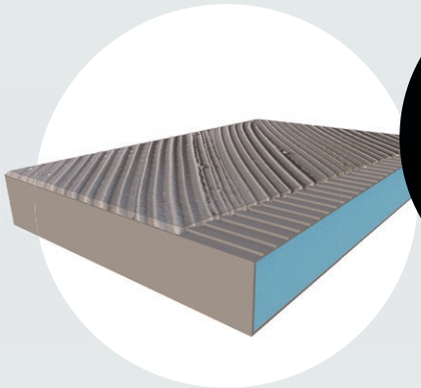


Image 4 - Adhesive mortar can also be applied

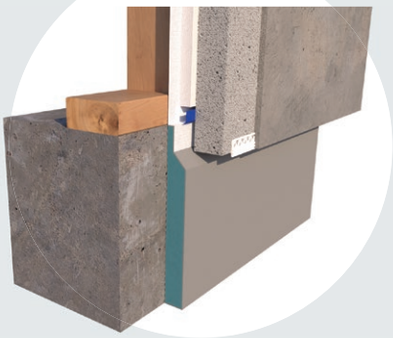


*Image 5 - Showing the building underlay lapping over the **Duratherm Blue***

Installation guidelines for a facade that overhangs the foundation

When the **DuraTherm Blue** is installed on the foundation, ensure that the building underlay does not block the cavity.
If **DuraTherm Blue** is being installed in conjunction with a rigid sheathing, then identify where to finish the **Duratherm Blue**. Ideally, the **DuraTherm Blue** should fit up behind the rigid sheathing, however, if there is no gap for this, then it may have to finish to the underside of the rigid sheathing. If the **DuraTherm Blue** finishes to the underside of the rigid sheathing, trim it so that the angle on the rebate finishes as close to the cladding as possible while still maintaining ventilation.

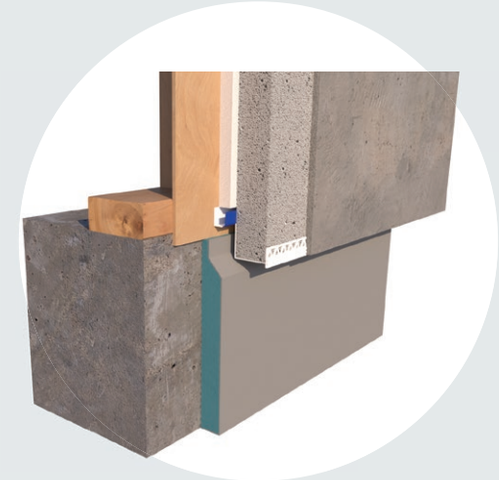


Image 6 - Rigid Sheathing meeting up to a rigid sheathing

STEP 4

Deciding how to finish the DuraTherm Blue:

There are several ways to finish the **DuraTherm Blue.**
The following options are: -

- Use the jointers on all external corners and inline corners
- Use an MS sealant on the joins of the **DuraTherm Blue**
- Patch the joins with DuraTherm Patch & Repair Mortar
- Stop the joins with mesh and texture the entire foundation. This is often used when matching the texture if the cladding is plaster
- Using a combination of DuraTherm External Corner jointers and patching the inline jointers

STEP 5

Trimming the Inline and External Jointers:

If jointers are being used, then trim the jointers so that the piece of the extrusion with the punched holes is removed. This can be achieved by running a knife along the internal corner of the extrusion. The excess piece of the jointer should be able to be snapped/torn off .

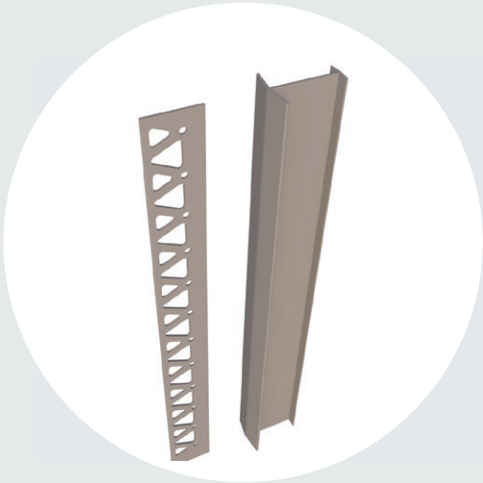


Image 7 - Inline Jointer with tongue removed

Image 8 - External jointer with tongue removed

STEP 6

Trimming the Duratherm Blue to fit an External Corner:

Fit the **DuraTherm Blue** to the foundation and slide the external corner jointer onto one side of the **DuraTherm Blue**. Continue to install the **DuraTherm Blue** around the corner.

Image 9 - Running one board past the other and fitting the external corner jointer

Depending on the cladding setout, trim the **DuraTherm Blue** so that the angle matches and the corner looks uniform.

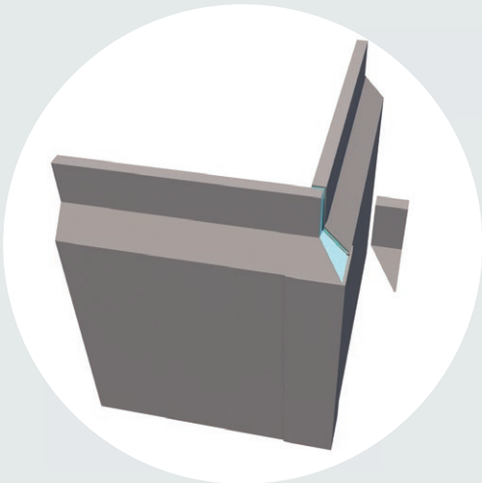


*Image 10 - Trimming the **DuraTherm Blue***

Patch the corner with DuraTherm Patch & Repair Mortar.

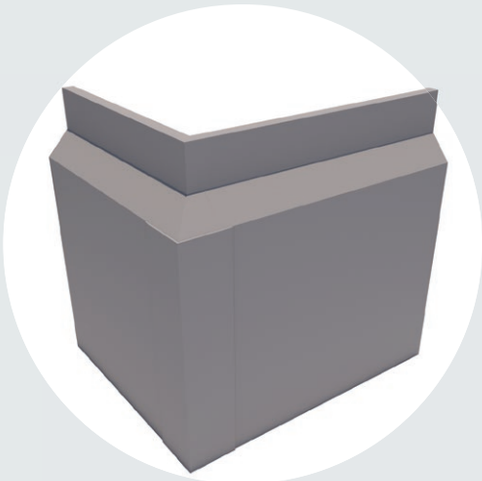


*Image 11 - Patching the exposed **DuraTherm Blue** with plaster*

STEP 7

Trim Duratherm on an Internal Corner:

When the two DuraTherm sheets meet in an internal corner, make sure that one board is scribed over the other board.

The easiest way to do this is to set up a template and cut the sheets accordingly.

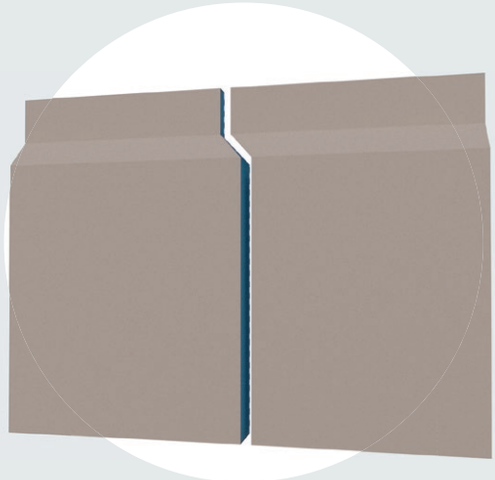


Image 12 - Cutting the boards to a template

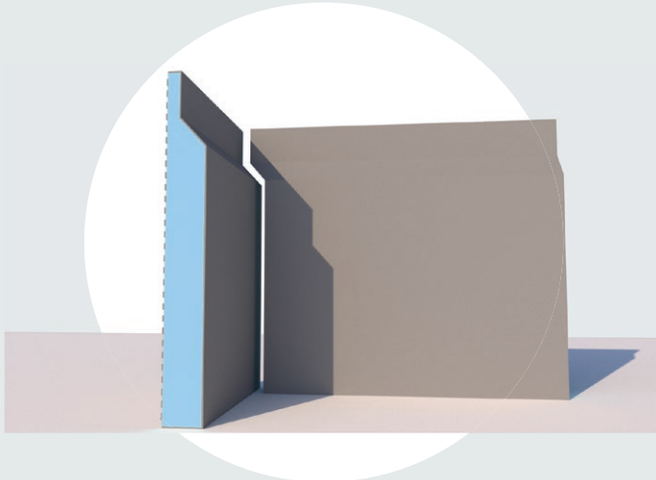


Image 13 - Installing the two boards together at an internal corner

STEP 8

Installing sheets and finishing the Inline Joints:

Fit the **DuraTherm Blue** to the foundation and slide the inline jointer onto one side of the **DuraTherm Blue**. Continue to install the **DuraTherm Blue** along the wall

Image 14 - Inline Joint - jointer installed

Image 15 - Inline Joint - jointer installed and finished after the second sheet is installed

STEP 9

Option to Seal the Joins rather than Using Jointers:

Another option is to run a bead of MS Sealant to the joins of the **DuraTherm Blue**. The external corners can be mitred if a sealant is being used, or alternatively use the corner jointers.

Image 16- Inline Joint - with Sealant

Image 17 - Mitred External Corner Joint - with Sealant

STEP 10

Maintain Clearance to the Cladding:

Make sure there is clearance between the cladding and the **DuraTherm Blue** so that any cavities can continue to ventilate or drain as intended

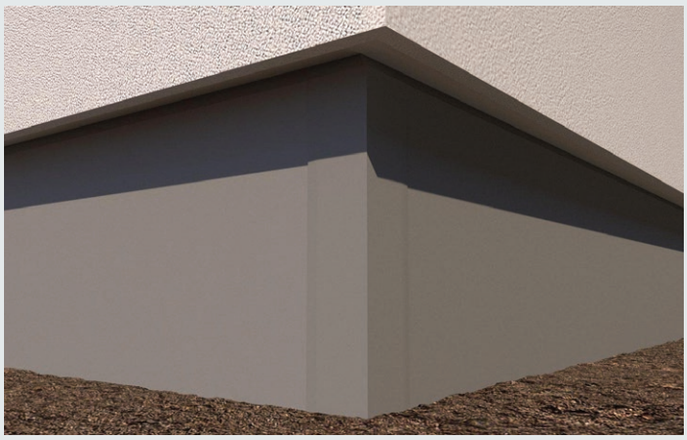


Image 18 - External Corner - jointer installed

STEP 11

Duratherm Blue trimmed around the WANZ Bars and Left:

Depending on the joinery type being used on the project, make sure an allowance has been made for finishing around a WANZ bar.

There are several ways to finish around a WANZ bar, as follows:-

- The WANZ Bar could be left exposed
- A pre-plastered WANZ bar cover could be installed before the **DuraTherm Blue**. The **DuraTherm Blue** can then be installed so that is meets the bottom of the pre-plastered WANZ bar covers.
- A larger sheet of **DuraTherm Blue** can be used, with a rebate removed from the back so it sits over the WANZ bar.
- A metal flashing can be used to cover the WANZ bar.

*Image 19 - WANZ Bar Cover installed and then the **Duratherm Blue** trimmed meeting up to it*

Installation guidelines for **MASONRY VENEER**

STEP 1

Setting up the Site:

DuraTherm Blue does not affect bearing pressures or foundation requirements. Earthworks, fill and bearing checks remain as per NZS3604:2011 or a specifically engineered design.

Building work must be undertaken by competent and experienced tradespersons familiar with installing Resene Construction Systems systems.

Before applying the product, ensure the surface is clean, sound, dry and free from dust, dirt, grease, mould and lichen. Painted surfaces should have a slurry coat applied.

Image 1 - Poured foundation with framing and cladding

STEP 2

Trimming the DuraTherm Blue:

Trim the **DuraTherm Blue** so that the rebated section at the top is removed, leaving a chamfered edge. The exposed edge can be tidied up prior to installing the **DuraTherm Blue** with DuraTherm Patch & Repair Mortar now, or it can wait until all the boards have been installed.

STEP 3

Adhering the DuraTherm Blue to the Foundation:

Mix Resene Construction Systems AAC Adhesive together, a 20kg bag of plaster requires approximately. 3.5L of water.

Start from one corner of the foundation and work around it. Try applying the AAC Adhesive to the concrete foundation using a notched trowel. The distinctive notches on the sides of the trowel create an even base of ridged mortar.

Image 2 - Notch trowel with AAC Adhesive

When a sheet of **DuraTherm Blue** is placed on top, the mortar compresses to provide a complete bond between the **DuraTherm Blue** and the foundation.

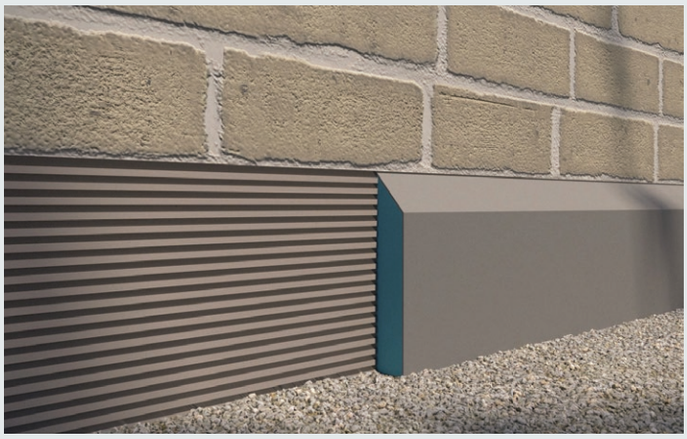


Image 3 - Place Duratherm against the foundation

STEP 4

Deciding how to finish the DuraTherm Blue:

There are several ways to finish the **DuraTherm Blue**.
The following options are: -

- Use the jointers on all external corners and inline corners
- Use an MS sealant on the joins of the **DuraTherm Blue**
- Patch the joins with DuraTherm Patch & Repair Mortar
- Stop the joins with mesh and texture the entire foundation. This is often used when matching the texture if the cladding is plaster
- Using a combination of DuraTherm External Corner jointers and patching the inline jointers

STEP 5

Trimming the Inline and External Jointers:

If jointers are being used, then trim the jointers so that the piece of the extrusion with the punched holes is removed. This can be achieved by running a knife along the internal corner of the extrusion. The excess piece of the jointer should be able to be snapped/torn off .

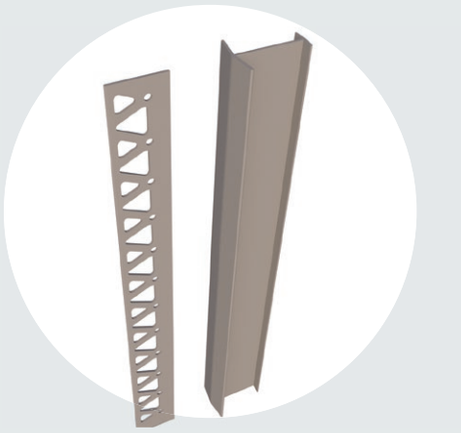


Image 6 - Inline Jointer with tongue removed

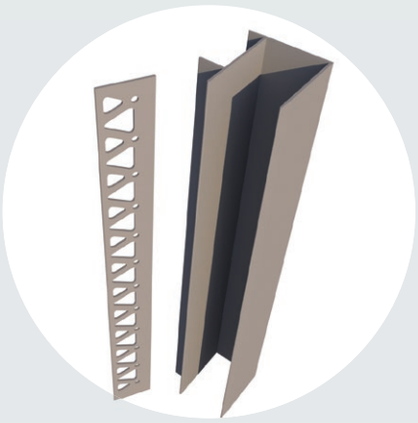


Image 7 - External jointer with tongue removed

STEP 6

Trimming the Duratherm Blue to fit an External Corner:

Fit the **DuraTherm Blue** to the foundation and slide the external corner jointer onto one side of the **DuraTherm Blue**. Continue to install the **DuraTherm Blue** around the corner.

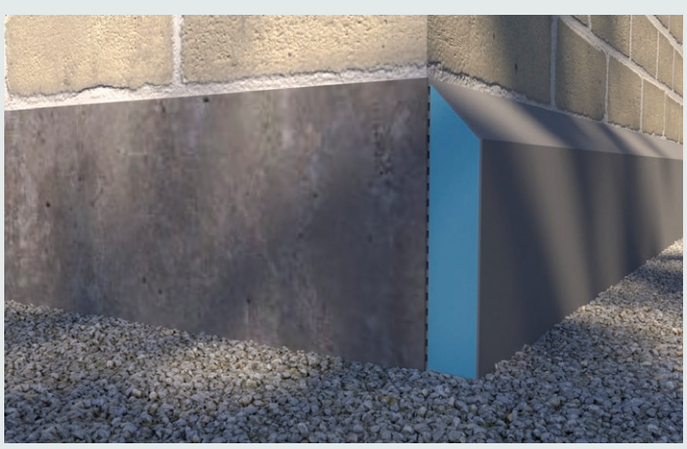


*Image 8 - **DuraTherm Blue** fitted up to the external corner*

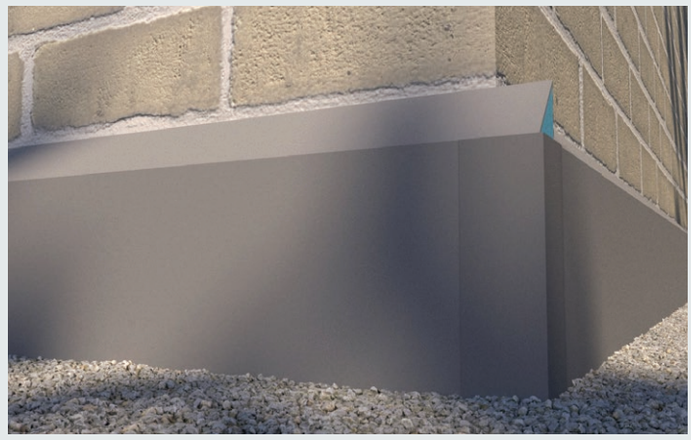


*Image 9 - The external corner jointer has been fitted and the return section of the **DuraTherm Blue** has been fitted.*

Depending on the cladding setout, trim the **DuraTherm Blue** so that the angle matches and the corner looks uniform.

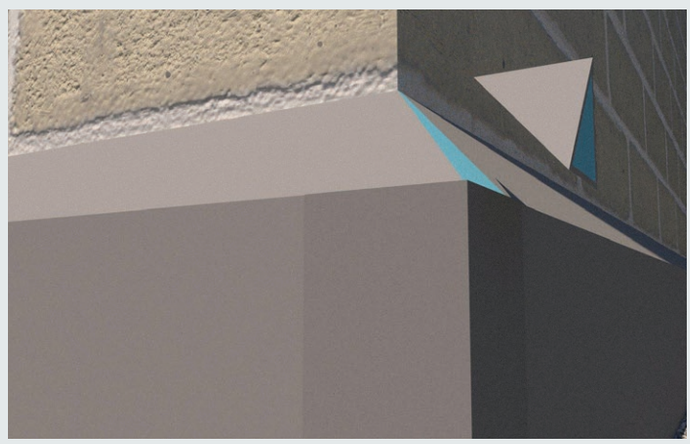


*Image 10 - Trimming the **DuraTherm Blue***

Patch the exposed **DuraTherm Blue** with DuraTherm Patch & Repair Mortar.

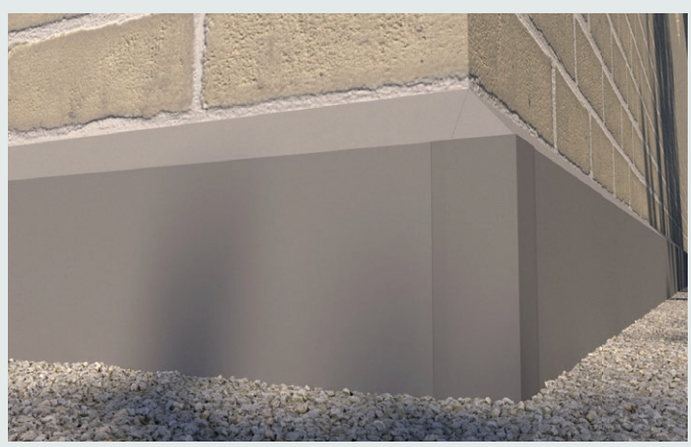


*Image 11 - Patching the exposed **DuraTherm Blue** with plaster*

STEP 7

Trim Duratherm on Internal Corner:

When the two DuraTherm sheets meet in an internal corner, make sure that one board is scribed over the other.

The easiest way to do this is to set up a template and cut the sheets accordingly.

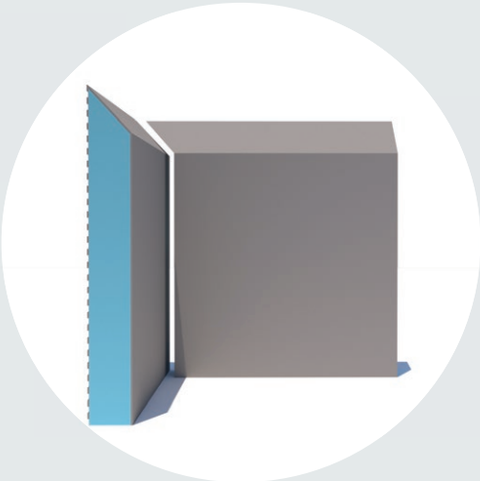


Image 12- Installing the two boards together at an internal corner

STEP 8

Installing sheets and finishing the Inline Joints:

Fit the **DuraTherm Blue** to the foundation and slide the inline jointer onto one side of the **DuraTherm Blue**. Continue to install the **DuraTherm Blue** along the wall

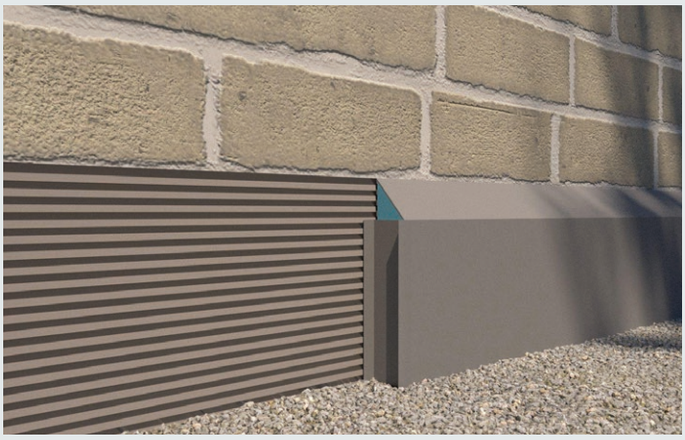


Image 12 - Inline Joint - jointer installed

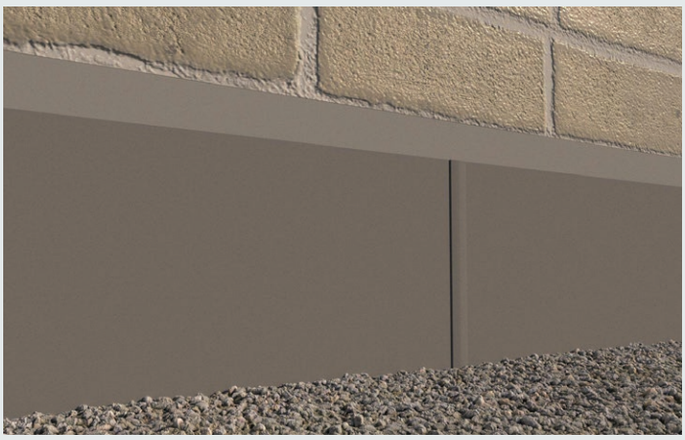


Image 13 - Inline Joint - jointer installed and finished after the second sheet is installed

STEP 9

Option to Seal the Joins rather than Using Jointers:

Another option is to run a bead of MS Sealant to the joins of the **DuraTherm Blue**. The external corners can be mitred if a sealant is being used, or alternatively use the corner jointers.

Image 14 - Inline Joint - with Sealant

Image 15 - Mitred External Corner Joint - with Sealant

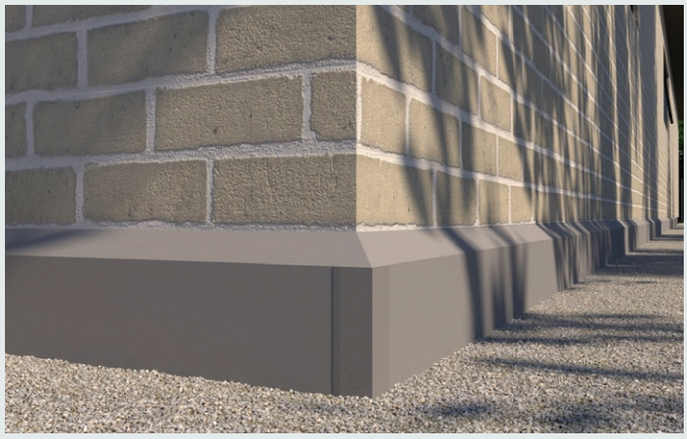


Image 16 - External Corner - jointer installed

Penetrations

Most foundations will have a range of pipes that have been cast into the foundation. To fasten the **DuraTherm Blue** around these, cut and join two pieces of the **DuraTherm Blue** on either side of the pipe.

Ideally, any gulley traps should be fitted after installing the **DuraTherm Blue**. If the gully traps are already in place, try installing the **DuraTherm Blue** so that it sits behind them. If this isn't possible, ensure that it is trimmed neatly around the penetration.

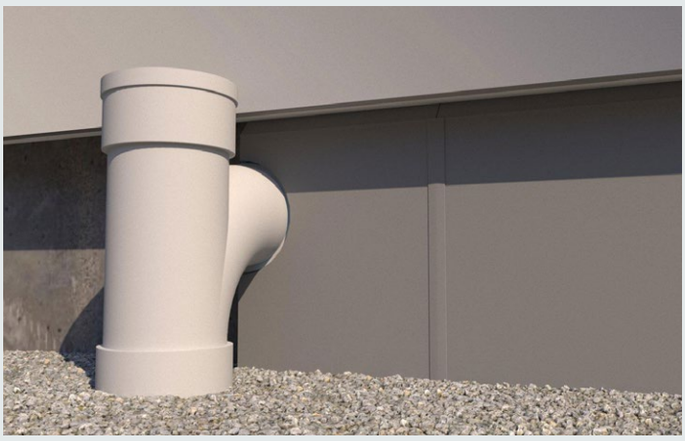


*Image 20 - **DuraTherm Blue** fitted to one side of the pipe*

Image 21 - Notched AAC Adhesive to the other side if the pipe

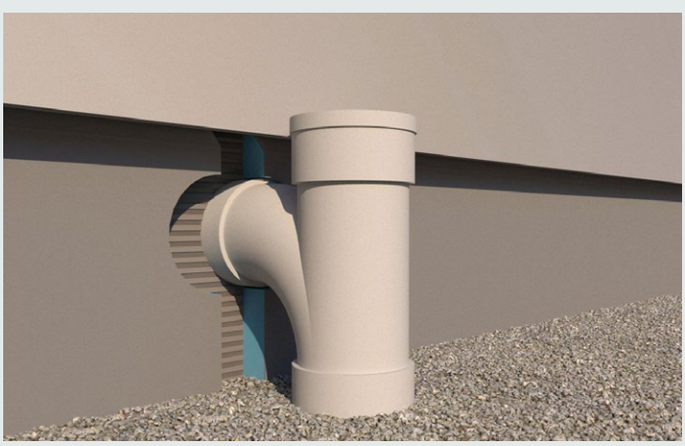


*Image 22 - The second piece of **DuraTherm Blue** put in place*

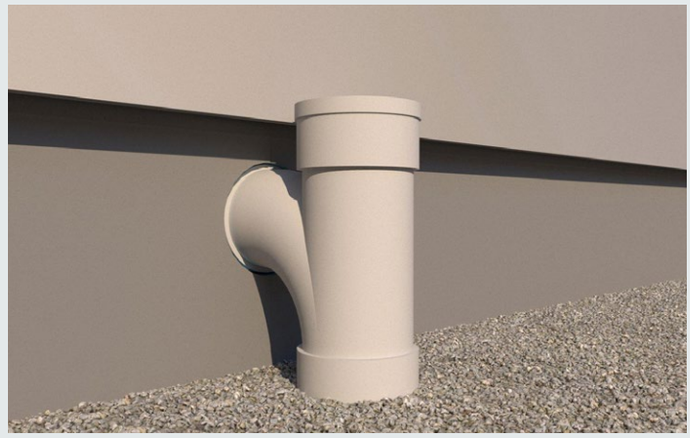


*Image 23 - **Duratherm Blue** trimmed around the circular penetration at the centre of the panel*

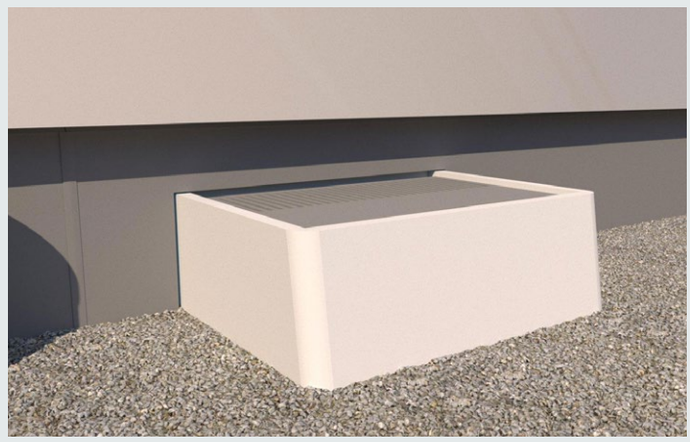


*Image 24 - **DuraTherm Blue** can either be trimmed around the penetration or ideally returned down behind it*

Garage Entrances

Where **DuraTherm Blue** is being run across the garage door entrance, remove a 50mm section of **DuraTherm Blue**. This ensures that no pressure is applied to the **DuraTherm Blue** as a vehicle drives into the garage.

*Image 25 - **Duratherm Blue** trimmed under Garage Door with a Masonry Veneer*

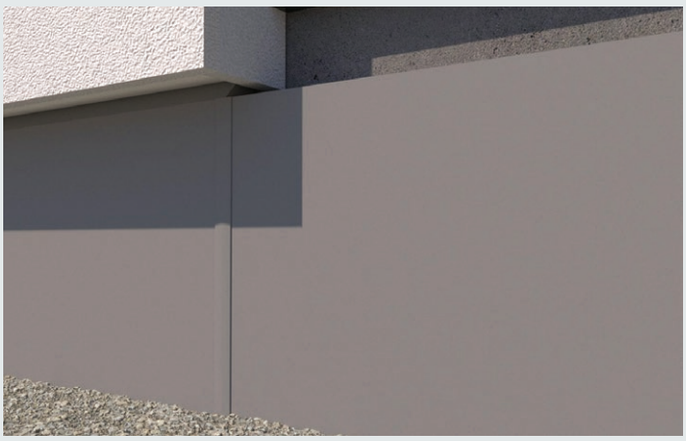


*Image 26 - **DuraTherm Blue** trimmed under Garage Door with a Standard Facade*

Oversized foundations

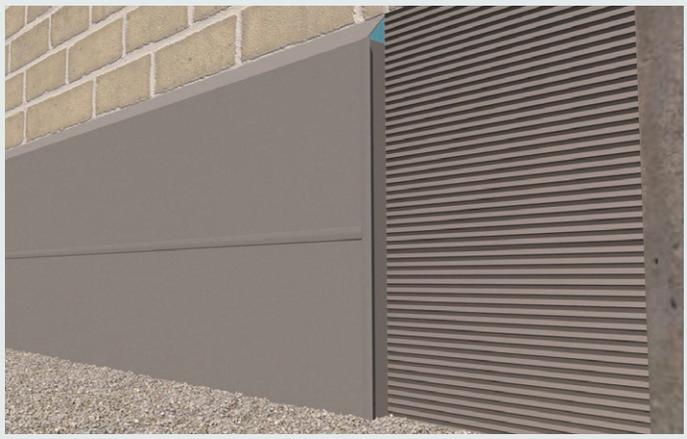


*Image 27 - **Duratherm Blue** panels trimmed to required length and joined.*

Where a foundation is higher than the maximum height of **Duratherm Blue**, joining the **Duratherm Blue** together is an acceptable practice. To do this, a horizontal jointer can be used. If the foundation is to be plastered, then apply plaster and reinforcing mesh across this junction before texturing the entire foundation.

Foundation with drains

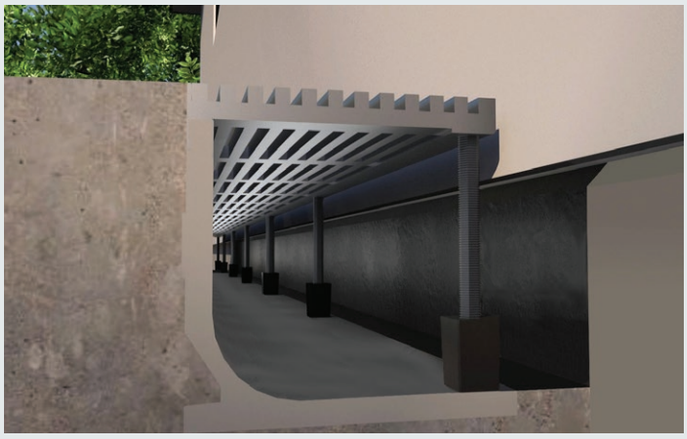
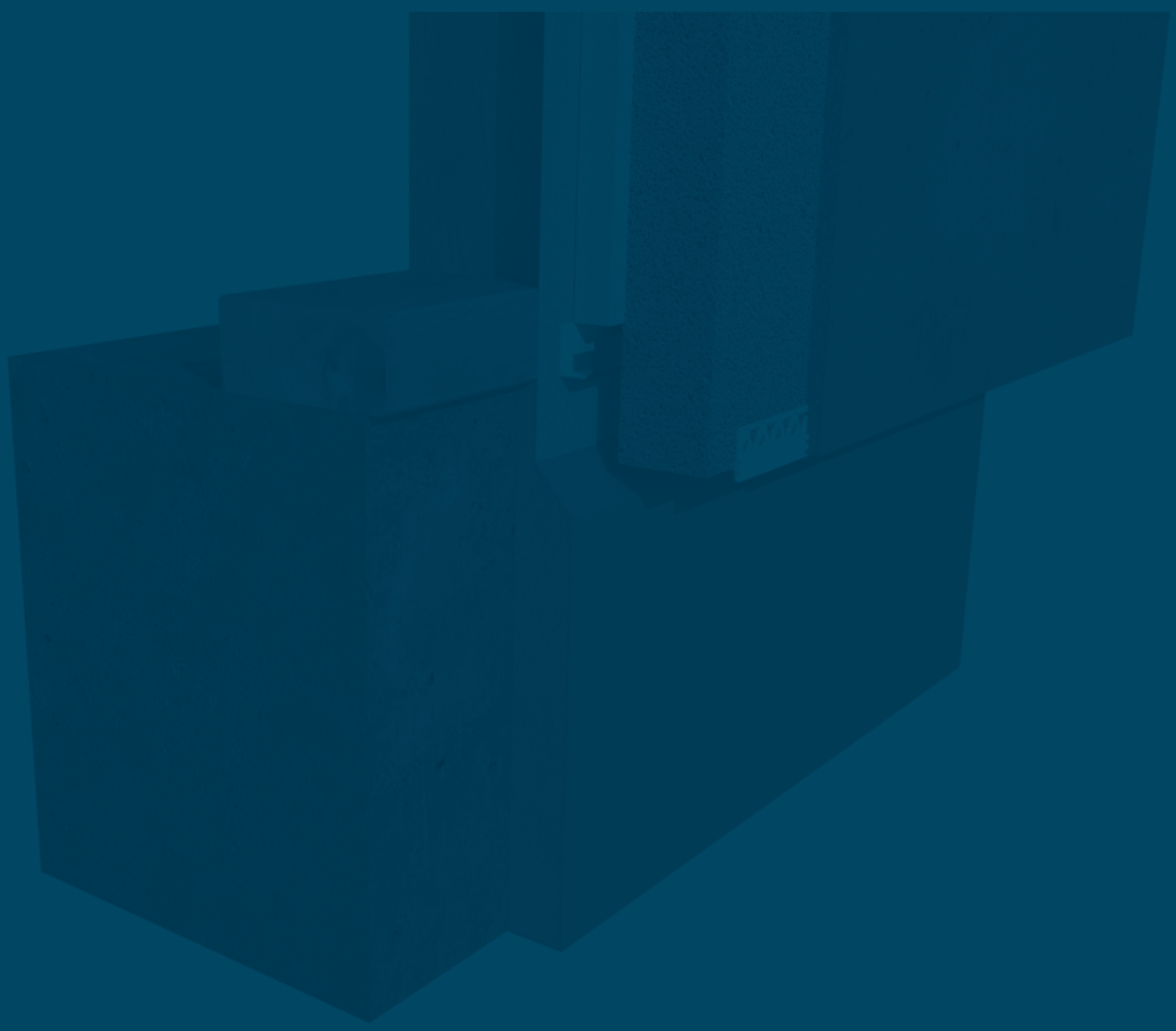


*Image 28 - **Duratherm Blue** panels sealed with waterproofing membrane for drains.*

Ensure that all appropriate ground clearances have been achieved before installing the drain. Protect the **Duratherm Blue** by applying a product suitable for tanking such as Resene Water Lockout Watertight Membrane.

Notes

Resene
Construction Systems



For all other information
see our website or call
one of our team to assist.

0800 50 70 40
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