

Introduction

Norstone natural stone rock panels are produced by Norstone Pty Ltd., of Sydney Australia.

The Norstone rock panel range provides the look and feel of stacked natural stone combined with a fast, fully warranted installation process.

Norstone rock panels strictly adhere to the following physical properties:

Classification: Quartzite-based sedimentary stone

Colour: Ochre Blend, Charcoal, White, Ivory, Sahara

Size: 152mm tall by 610mm long. Thickness varies between 15-35mm.

Weight: Weight: approx. 5.5kg per panel.

Packaging: 4 panels per box; 48 boxes per crate = 17.8 sqm per crate.

Professional Installation Recommended

Norstone rock panels can be installed by most home handyman with a limited knowledge of building and construction. However, we strongly recommend they are installed by professional licensed tradesmen

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Appendix A – Substrate Detail

Appendix A details correct installation procedures over various substrates in both interior and exterior applications.

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Installing Norstone rock panels

Make certain the back of each panel is free of dirt, sand, or loose particles. When necessary, wash them completely. If the back of the panel is dry, dampen it first with a wet sponge but do not saturate. This prevents the panel from pulling the moisture from the adhesive, allowing it to cure naturally and with a stronger bond.

Select a tile adhesive that meets or exceeds local building regulations and mix per the manufacturer's instructions (see Laticrete short term specification). When laying rock panels it is necessary to start the bottom row on a level line in order to maintain consistent levels in each row as you work up the wall. Always start installing Norstone rock panels at the bottom row, and start each row at an outside corner if one exists. It is also important that they rest on a secure base such as a concrete floor or footing to help carry the weight until the thinset has fully set. The rock panels should be laid in a randomised, staggered fashion, in an effort to minimise any vertical seams lining up from one course to the next. The panels should not be "stacked" one on top of the other in a single line up the wall, nor laid in a running or brick bond pattern as this increases the likelihood of patterned or vertical seams being visible from the wall.

When fixing the stone panels use a generous amount of recommended tile adhesive and apply it to the back of each rock panel and to the wall. It is important to screed the tile adhesive on to the wall as would normally be the application method used for laying tiles. Applying the adhesive to both the back of each panel and the wall ensures the maximum possible adhesion to your wall surface, ensuring the gaps, voids and cracks are filled.

Press each rock panel into the adhesive, rotating slightly, forcing some of the adhesive to squeeze out freely. Any adhesive forced out beyond the finished joint or on the panel surface itself must be removed before the adhesive is allowed to set. Tight joints will provide a neat appearance. Be sure not to allow any adhesive to harden on the face of the panels as this will hinder the cleanup process.

Tools and materials needed

[1] For cutting and modifying Norstone rock panels, a quality brick or tile water saw with a continuous rim diamond blade is required and should tilt if mitre cuts are necessary; these are usually available for hire on a daily basis from large equipment hire firms in your area. If pre-fabricated corner units are to be used, or if the mitreing of corners is not required, a tilting wet saw is not necessary.

[2] An angle grinder may be used for around small protrusions in the wall such as pipes, steelwork etc.

[3] Steel trowel, 13mm round notched trowel

[4] scraper

[5] stiff wire brush

[6] masonry brush

[7] large sponge

[8] selected Norstone rock panels

[9] recommended tile thinset adhesive (see Laticrete short term specification).

Optional materials depending on the substrate and application include:

Metal lath

Thick bed mortar

Waterproofing membrane

Natural stone sealer

Preparing your substrate for installation

Norstone rock panels weigh approximately 60kg sqm therefore it is critical that they are fixed to an appropriate substrate to ensure a successful installation. Norstone rock panels may be applied over any masonry surface, concrete block, brick, cement, etc. Painted surfaces must be sandblasted or otherwise stripped of paint. If a new wall needs to be built of a thinner and lighter substrate, then there is only one product suitable - cement board.

Norstone rock panels SHOULD NOT be installed over drywall, plasterboard or sheetrock

It is mandatory that local building codes be followed in the installation of Norstone rock panels. Please consult your building authority with any specific questions relating to the local building codes.

Installing over open stud walls

Norstone rock panels can be installed over open stud walls using either cement board or a combination of plyboard, lath and scratch coat. First ensure the wood or steel frame is structurally capable of supporting the weight of the Norstone rock panels.

If using cement board, it must be a minimum of 15mm thick to support the weight of the rock panels and must be securely fixed to the framework of either wood or steel. We suggest that the board be glued and screwed to the frame. First, cover the entire frame where contact with the cement board is made with a good quality mastic type adhesive and then fix the cement board to the frame, screwing at 250mm centres using screws that are a minimum of 60mm long. To ensure safety, strength and permanent fixing, this work should only be done by a qualified and licensed builder. If the project is either exterior or will be exposed to moisture, a waterproofing / anti-fracture membrane will be required, (see Laticrete short term specification) between the cement board and the setting material. If using plyboard, it must be exterior grade.

Please refer to Appendix A for detailed substrate drawings over open stud walls.

Installing over block, brick, cmu or poured concrete

First ensure that the surface is clean and free of any foreign agents, including paint that may interfere with the bond between stone and substrate. This may require light sandblasting or waterblasting.

Next, in all installations over brick, or over other concrete substrates with uneven surfaces, a thick bed mortar mix should be troweled onto the substrate to even out any inconsistencies in the substrate and provide a mortar base with which to adhere the setting material to. If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane will be required between the mortar bed and the setting material.

** Special note for pre-fabricated concrete tilt up construction – all release agents must be removed from concrete surfaces prior to Norstone rock panel installation.

Please refer to Appendix A for detailed substrate drawings over concrete substrates

Installing over steel

First ensure that the surface is clean and free of any surface contamination such as rust, dirt, paint, and manufacturing oils. Refer to the steel manufacturer's guidelines for adequately removing all manufacturing oils as to not interfere with the bond between Norstone rock panels and substrate.

If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the mortar bed and the setting material.

Alternatively, Norstone rock panels can be adhered directly to a contaminant-free steel substrate using an epoxy tile adhesive (see Laticrete short term specification).

Please refer to Appendix A for detailed substrate drawings over steel.

Special note on moisture rich environments and freeze thaw climates

Moisture Rich Environments

It is critical that a waterproofing membrane be applied between the substrate and tile adhesive to form a waterproof barrier. This will ensure moisture will not reach the substrate material and potentially degrade its ability to support the Norstone panels.

Freeze / Thaw Climates

Norstone rock panels will not be affected at all by the normal freezing and thawing of the climate they are exposed to. However, the same cannot be said about the substrate to which they are applied. It is critical that a waterproof / anti-fracture membrane meeting or exceeding regulations be applied between the substrate and tile adhesive to form a water and fracture proof barrier capable of resisting substrate movement during freeze thaw cycles.

Post Installation Guidelines

Cleaning

Excess dirt and film may be removed using clean water and a stiff brush; it is important not to allow adhesive to dry on face of the stone panels. Remove it prior to it hardening. **Acidic cleaning agents must not be used under any circumstances as this will cause unnecessary damage to natural stone and void any warranty.**

Sealing

Natural stone may be sealed with a good quality penetrating sealer only after thoroughly curing which usually takes 4 weeks on inside work. Follow the manufacturer's instructions on the application of sealer. Sealed stone may be easier to keep clean than unsealed stone and certain sealers also repel stains. However, sealers must be periodically reapplied, especially on exterior applications, and could alter the natural colouring of the stone.

Ongoing Maintenance

Though natural stone will last many lifetimes, routine maintenance may be required from time to time. Depending on the application – as with any wall finish - various types of scaling or build-up may occur. Should you experience a need to clean your Norstone rock panels please adhere to the following recommendations:

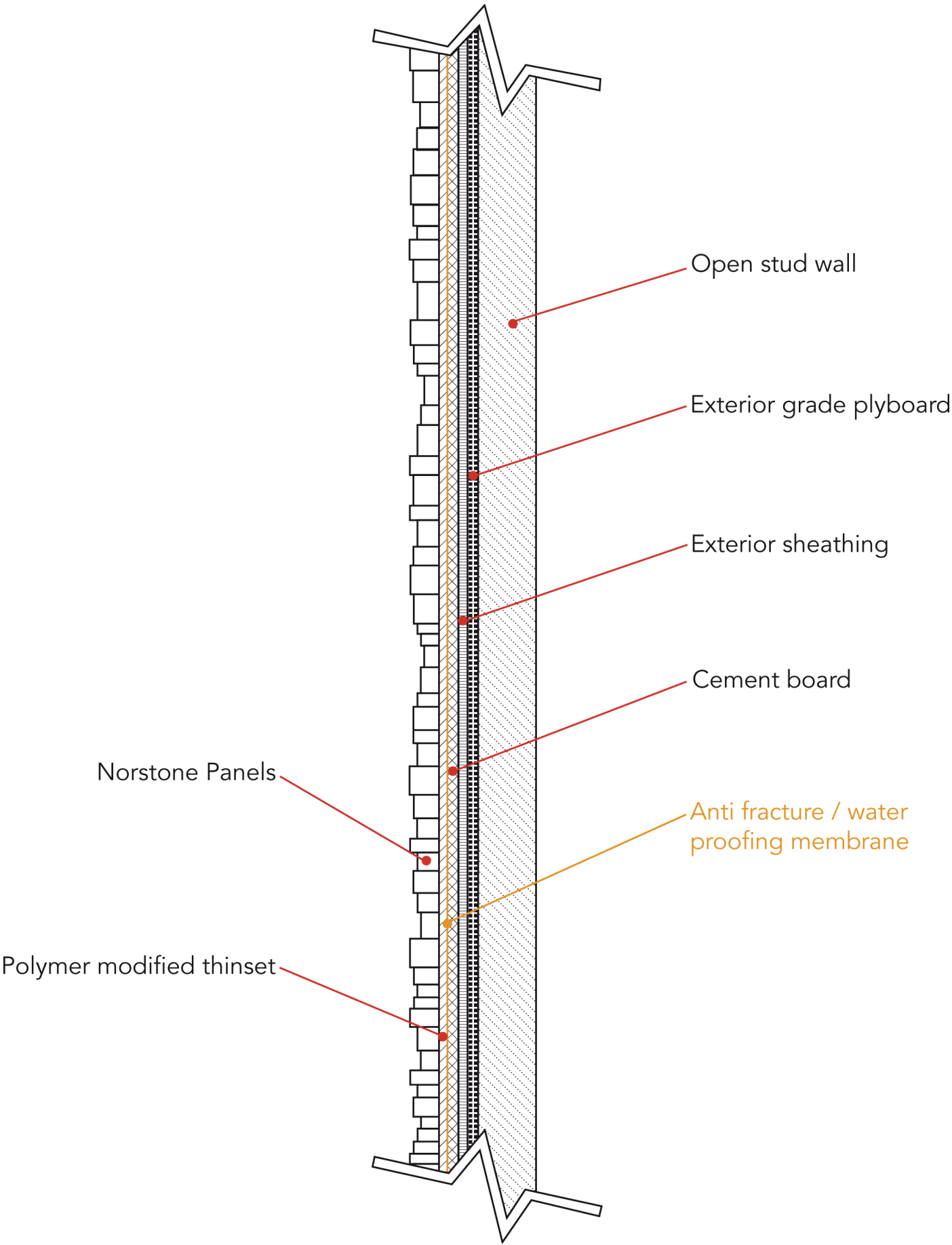
- Regular dusting for interior applications and hose washing for exterior applications is recommended.
- In the event that cleaning agents are needed, please select a natural detergent that is non-corrosive and non-acidic to remove build-up in problem areas. Test your detergent in an inconspicuous place to verify compatibility and results.
- In some cases, a low grade pressure wash may be used. However, the stone should never be exposed to a direct angle of attack from the nozzle. Note that up-close attack from a pressure washer may corrode the stone, so please stand a minimum of 1.5 metres away when pressure washing.

WARNING

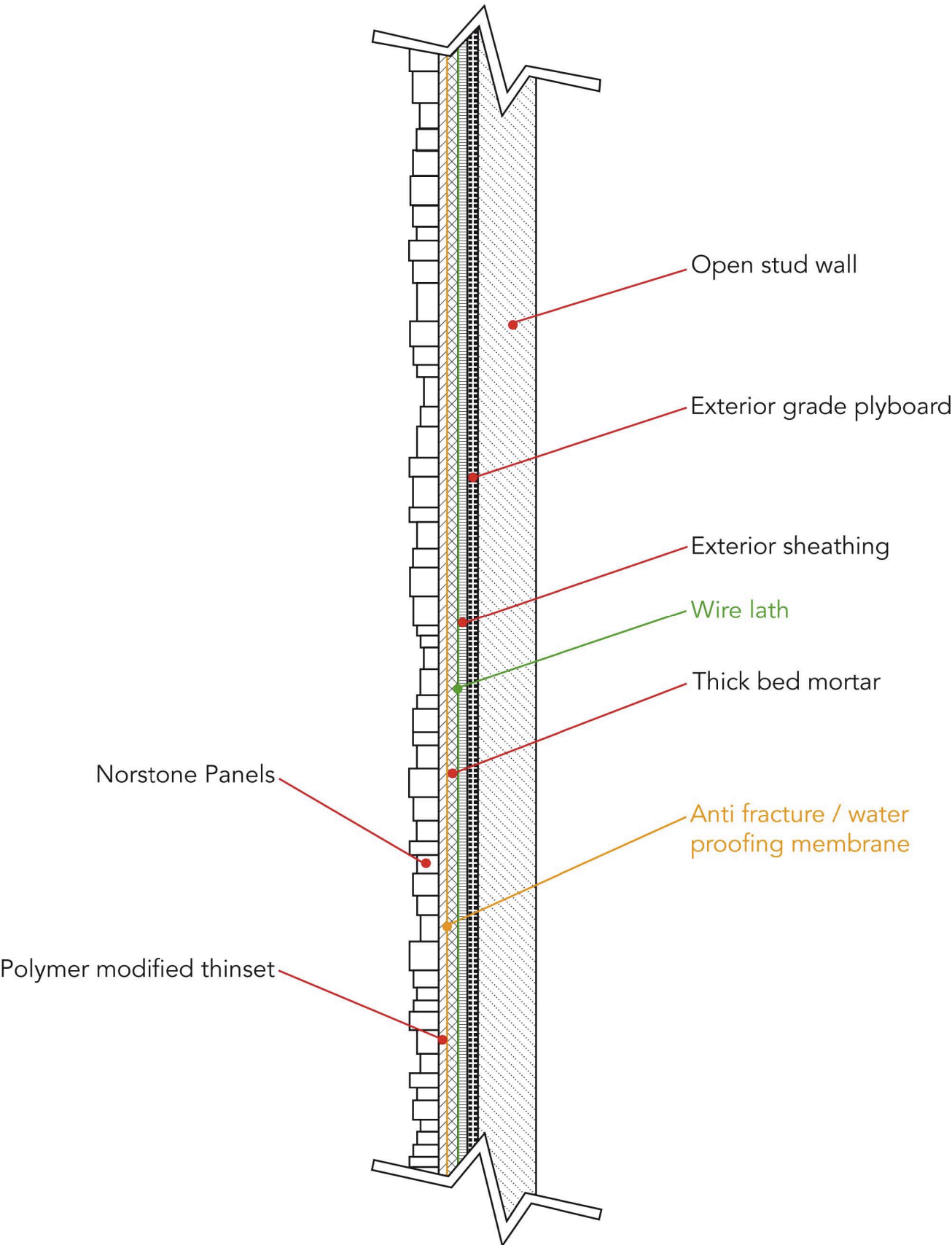
Please DO NOT:

- Acid wash the stone.
- High-pressure wash the stone (directly or indirectly).
- Use any sharp object, such as a steel scraper, knife, or screwdriver to remove stubborn deposits from the face of the stone. This can result in damage to the natural texture of the product.

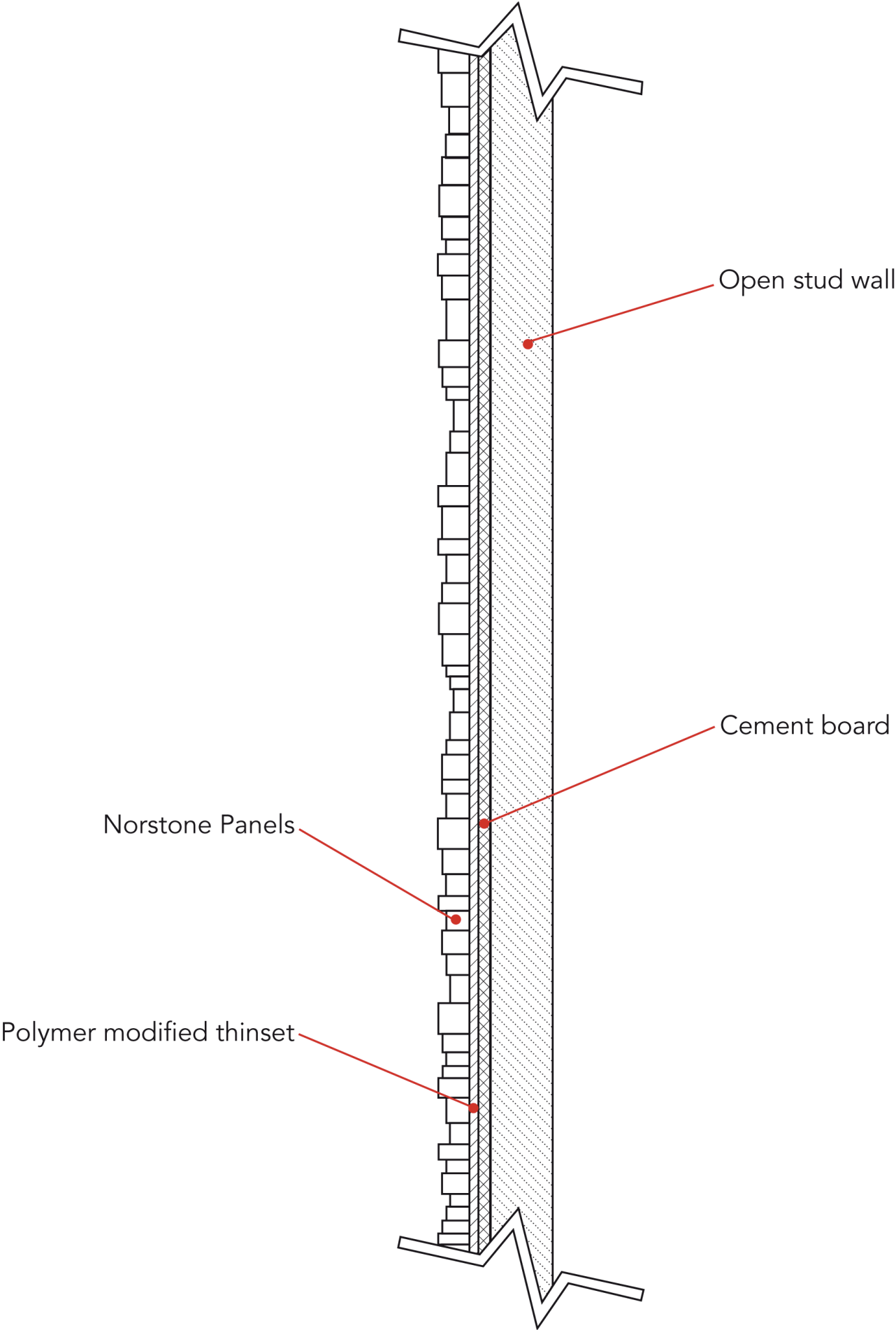
Open Stud – Cement Board – Exterior



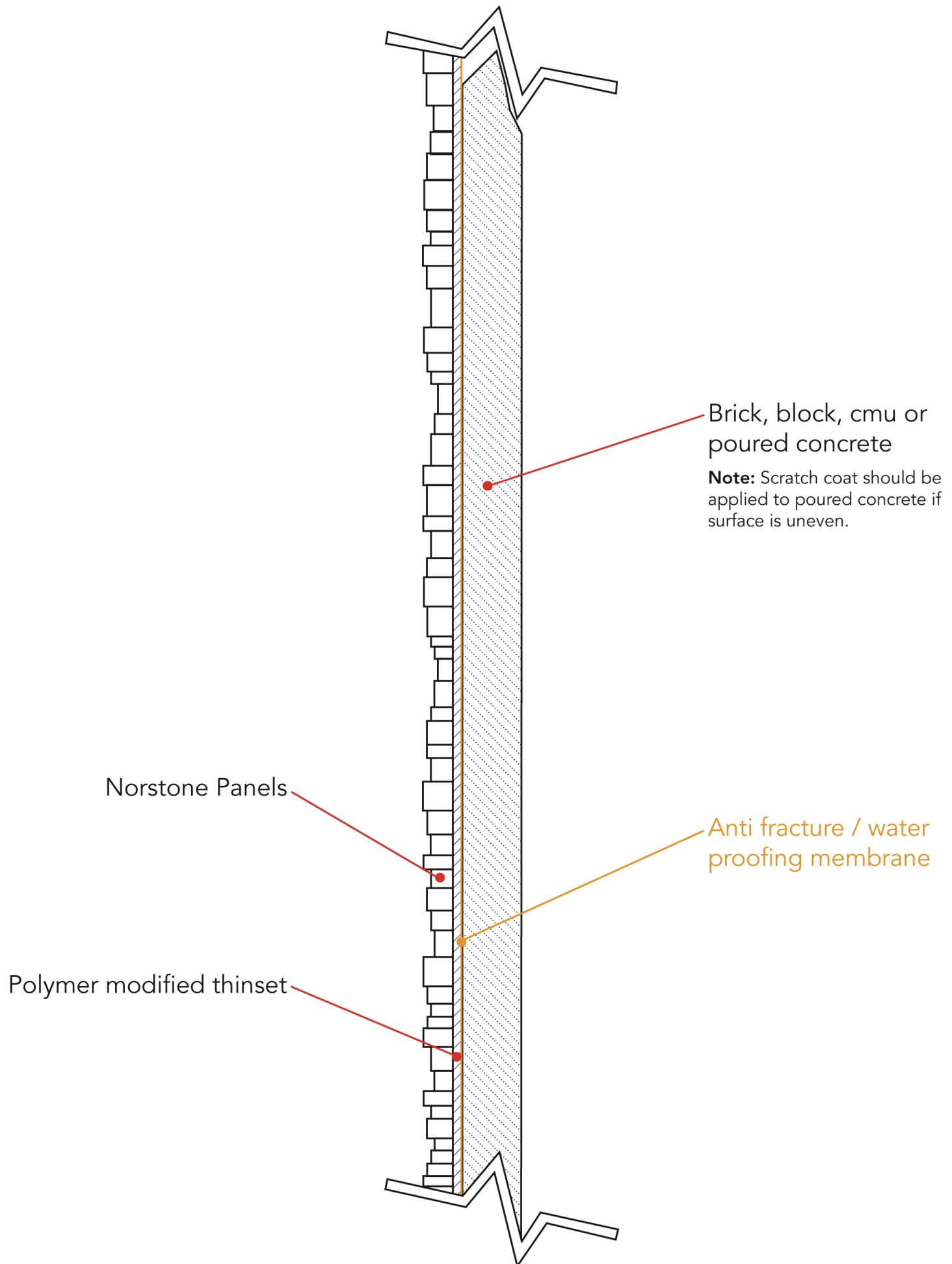
Open Stud - Lath and Mortar - Exterior



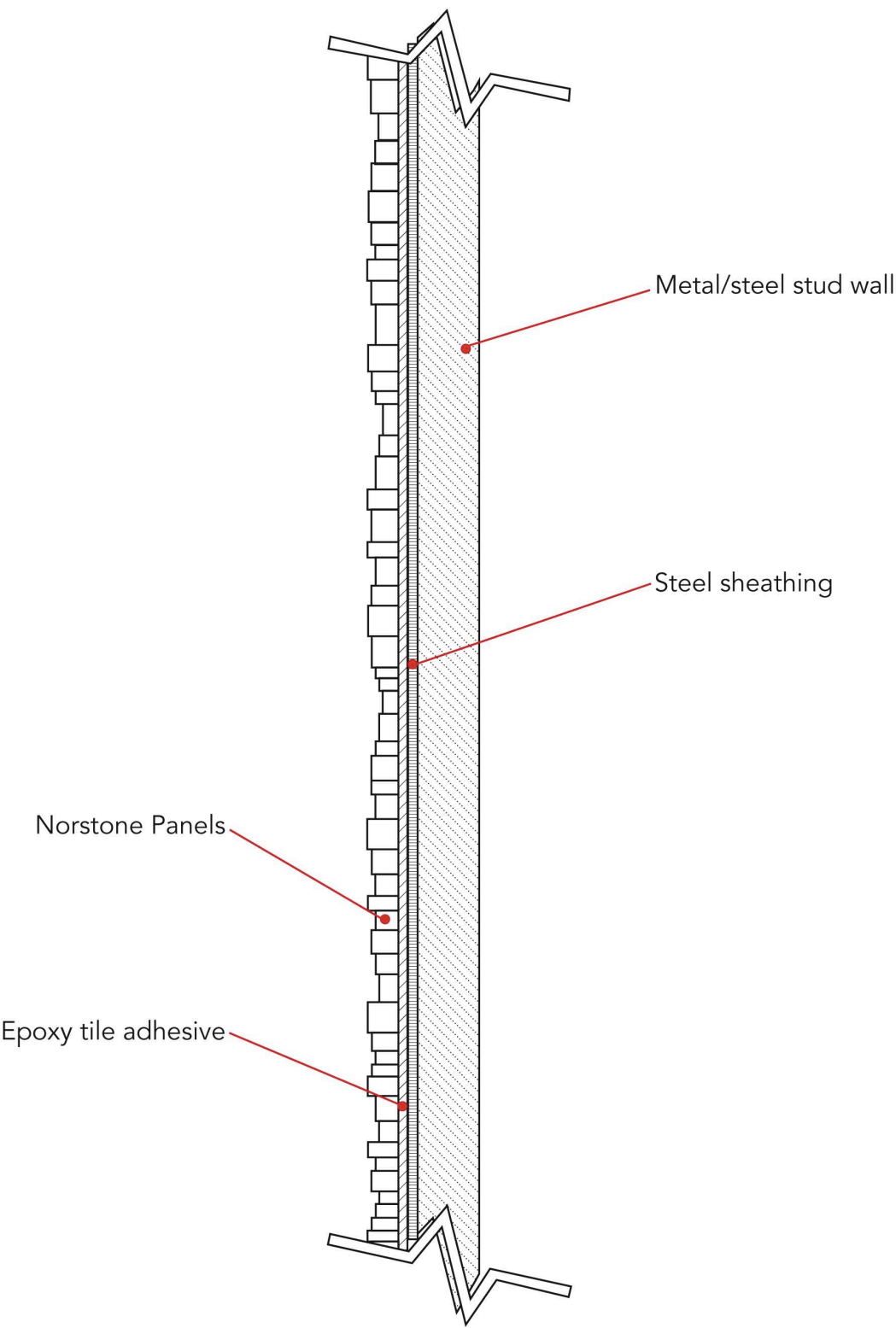
Open Stud – Interior



Concrete



Steel – Lath and Mortar



Steel – Epoxy Adhesive

