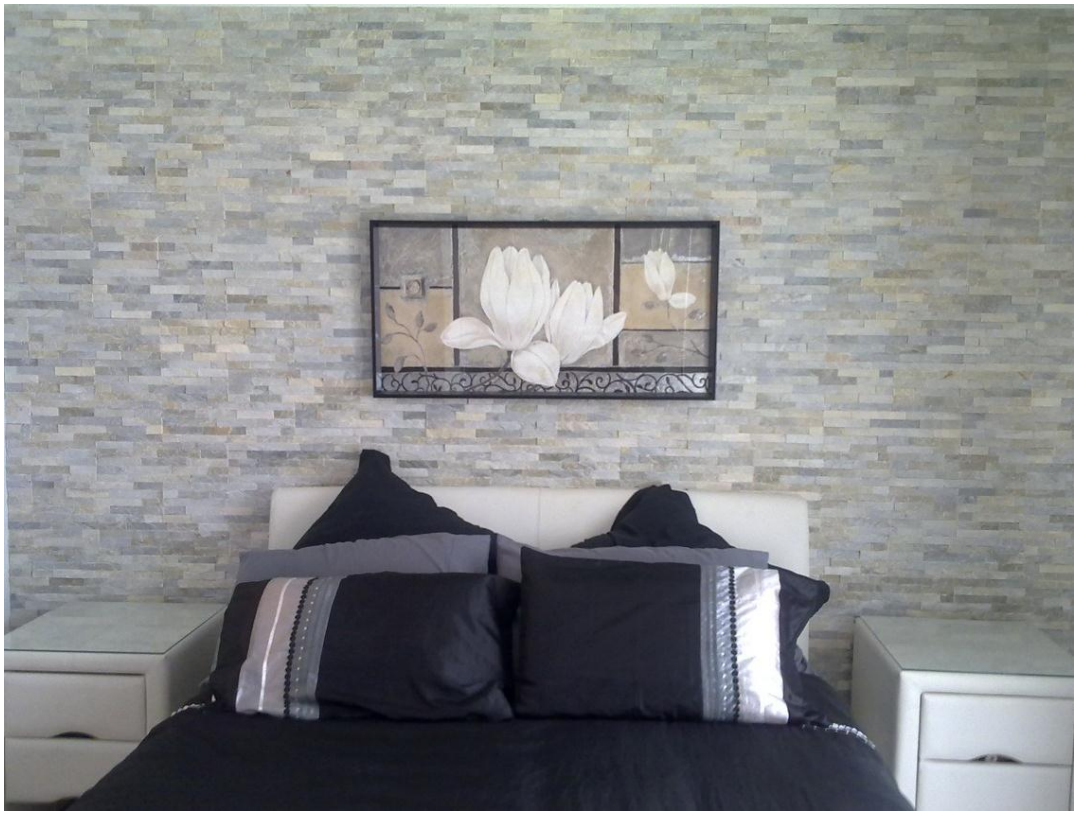
PANEL STONE / STONE WALL INSTALLATION GUIDE

Panel Stone is a light-weight, natural stone cladding material designed for simple adhesive fixing to a wide range of common wall substrates.

The product is suitable for indoor and outdoor use on feature walls, feature panels, columns, retaining walls and facades.



An important consideration with this type of product is the ability of the background or substrate to support the weight of the stone cladding. The

generally accepted industry maximum weight for many common substrates is 32 kg per square metre. See the enclosed Table of Common Substrates.

The average weight of Panel Stone is less than 27kg per square metre making it suitable for adhesive fixing to most substrates. Heavier natural stone cladding products should be installed with a combined mechanical and adhesive fixing system in consultation with a suitably qualified structural engineer.

The information in this document pertaining to the use of adhesives to fix Panel Stone is reproducing information provided by Ardex Australia (Ardex) and Construction Technologies Australia (CTA) following testing of the product. Decor8 has not independently tested the recommended products in relation to their application to Panel Stone as set out in this document, and cannot confirm whether the technical details and product claims are correct or not. There may be other comparable adhesive products that are suitable for use with Panel Stone however customers should make their own inquiries in relation to the suitability of these products.

PRODUCT RANGE

There are four colours in the Panel Stone range:

Charcoal - Decor8 Item 4126 / 93206

Antique Siena - Decor8 Item 4133 / 93209

Bengal Blend - Item 4140 / 93210

Alpine Mist - Decor8 Item 4157 / 93211

The size of each panel is 400 x 125mm with an average thickness of 8 to15mm. Panel Stone is supplied in shrink wrapped packs containing 5 pieces of Panel Stone. Each pack covers 0.25 square metres. There are 4 packs or 20 panels per square metre.

Panel Stone is made from natural stone, either slate or quartzite pieces. The individual stone lathes are glued together with construction grade epoxy adhesive to form finished tiles or panels.

All natural stone varies in colour. This is to be expected and display samples should be treated as indicative only. Product should be checked for acceptable colour and

consistency prior to installation. Products from a number of different packs should always be mixed together during installation to achieve an acceptable colour blend.

Panel Stone can be installed by most home handymen with an understanding of building however it is generally recommended to be installed by a licensed tradesman.
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IMPORTANT
Supporting framework and walls must be structurally sound and able to support the weight of the Panel Stone. Check with a suitably qualified engineer or professional builder if in doubt. The manufacturer of the substrate material may also give advice as to the ability of their material to support the weight of natural stone cladding. The average weight of Panel Stone is 27 Kg per square metre.

Where the Panel Stone installation is to exceed 3 metres in height on a wall surface, supporting angles mechanically fixed to the wall must be provided. A suitably qualified engineer should be consulted for confirmation of the load bearing capacity of the wall structure and suitable fixing systems.

See the following Ardex Technical Bulletins: TB001 for fixing heavy stone and tiles which includes a table of typical substrates and recommended supporting weights, and TB148 for examples of mechanical fixing systems that can be used together with adhesive.

Note: DO NOT USE HardiTex Blue Board *as a substrate for stone installation. The manufacturer does not recommend it as it will not support the weight, especially if it is subject to any moisture.*

INSTALLATION GUIDELINE

SUBSTRATES
Ensure the wall or substrate is clean, dry and free from paint or other coating. Painted surfaces must be sandblasted to remove all paint prior to installation.

SHEET LININGS – INTERNAL WALLS ONLY
Ensure any timber or metal frame supporting the substrate is structurally sound and can support the weight of the product. Studs should be at 500-600mm centres. Where sheet linings (fibre cement or plasterboard) form the substrates, ensure the sheets are mechanically fixed to the support framing at 100mm centres in accordance with the sheet manufacturers' instructions. All joints in the sheet linings are to be filled and smoothed using the base coat compound only and allowed to dry.

All fibre cement sheets and jointing compound on plasterboard sheet joints must be primed with Ardex Multiprime or a suitable comparable product and allowed to dry prior to fixing Panel Stone

Sheet linings must be protected from moisture in internal wet areas, water features and similar by a suitable Ardex waterproofing membrane or a suitable comparable product that is compatible with the installation adhesive.

Note: Fibre cement sheeting generally is not recommended as a substrate for external walls to receive tile finishes and we recommend the sheet manufacturers be consulted where the Panel Stone is to be fixed in external applications.

CONCRETE AND CEMENT RENDER
All concrete surfaces must have completed the recommended (AS3958.1-1991) curing and drying period of a minimum of 28 days prior to fixing Panel Stone. The surface must be dry, free of all curing compounds, form release agents, and contaminants such as debris from other trades, waxy or oily films, excessive laitance and paint over-spray. All contaminants may be removed, and very smooth, steel float finished concrete scarified by mechanical methods such as grinding, abrasive blasting or similar treatments to achieve an open pored surface.

Cement render is applied over brick and concrete block substrates in accordance with the recommendations of AS3958.1-1991, prior to the adhesive fixing of Panel Stone. The render should have completed at least 7 days curing and drying and be wood float
finished. Porous render must be primed with one coat of Ardex Multiprime or a suitable comparable product and allowed to dry (approx 10 -20 minutes) prior to fixing Panel Stone.

WATERPROOFING MEMBRANES
Suitable waterproofing membranes such as Ardex Undertile Waterproofing Membranes or a suitable comparable product may be applied to the prepared wall surfaces prior to the installation of Panel Stone. The Ardex membranes include the Ardex WPM 001, Ardex WPM 002 and the Ardex WPM 390 membranes. These membranes must be applied in a minimum of two coats to achieve the minimum 1mm dry film thickness. Allow each membrane to fully cure and dry in accordance with the product instructions before fixing Panel Stone using the recommended adhesives.

Ensure products are clean and dry prior to installation. Inspect packs carefully for acceptable colour and consistency prior to installation. Panel Stone pieces from a number of different packs should always be mixed together during installation to achieve an acceptable colour blend. Joints should be staggered randomly or laid in a brick bond to retain a natural appearance. All natural stone varies in colour. This is to be expected and display samples should be treated as indicative only.

ADHESIVES
Panel Stone may be fixed to the prepared wall using a suitable adhesive. The following adhesives are suggested as suitable for use with Panelstone however check with the manufacturer for specific installation suitability:

- **ARDEX**: Optima 2, Ardex STS8 mixed with Ardion E90 additive, or Abaflex
- **CTA:** MCB A 66, A 80, A 20 with Admix A. If the stone is exposed to a lot of water, use A 80 or A 20 with Admix A.

Product data sheets should be read carefully prior to adhesive use and all the manufacturers guidelines followed. If in doubt consult the adhesive manufacturer.

Apply the mixed adhesive to the prepared wall surfaces using a (minimum size) 10x10x10mm notched trowel, spreading the adhesive in the same direction across the surface so the adhesive forms parallel lines. Work in small areas at a time so the Lite-Stone may be embedded before a ‘skin’ develops on the adhesive.

The Panel Stone pieces should be placed with a sliding action back and forth across the lines of spread adhesive while pressing each piece firmly onto the wall. The

sliding action collapses the lines of spread adhesive and achieves full contact between the adhesive and the back of the tile. Occasionally remove tiles and check there are no voids in the adhesive layer. If necessary, apply the adhesive using a larger size notched trowel or butter additional adhesive directly onto the back of each tile.

Note: the adhesive must fully cover the back of each piece as the Panel Stone pieces are only bonded together at the thin edges of each stone lath. A full bed of adhesive behind each piece is therefore essential to achieving a durable finish.

GROUTING
Panel Stone installations do not require grouting.

MOVEMENT JOINTS
Movement joints are required in the Panel Stone installations in accordance with the recommendations of AS3958. These joints should be at least 6mm wide and filled with a permanently compressible flexible sealant. In external applications the sealant must be stable when exposed to Ultra-violet light.

The movement joints shall be located as follows:

- Over all existing movement joints in the wall structure.
- At each storey rise in the height of a wall.
- At all locations where a metal supporting angle has been installed to fill the gap under the metal to the stone below.
- At a maximum of 3.5m intervals along the length of a wall.
- Around all penetrations through the stack stone tile finish, and around any brackets fixed to the wall substrate.
- Around all joinery fittings such as door and window frames.
- Over all changes in the nature, plane and direction of the wall substrates.

TYPICAL SUBSTRATES

Table 1 depicts the limits of typical backgrounds that are found for application of tiles. Neither the background load limit or the 4 kgs single tile limit must be exceeded, otherwise a suitable system for mechanical retention will be required in addition to the adhesive.

The weight limitation of fixing tiles/stone onto a mechanically prepared and roughened porous concrete surface (suitable for tiling) has a limitation of 60kg/m². It should be noted that a 15mm sand/cement render weighs approximately 33kg/m² which must be added to the weight of typical tiling at 27kg/m², bringing the combined weight loading of the background to the 60kg/m² weight limit recommended for concrete surfaces.

Table 1

Background or Substrate	Maximum Weight Capacity	Max. Stone / Tile Weight
Concrete* Mechanically prepared to provide a roughened porous solid surface.	**60 kg/m2**	**4kg**
Sand/Cement Render* Applied to solid open porous roughened concrete, brick, or masonry surface.	**32 kg/m2**	**4kg**
Paperfaced plasterboard	**32kg/m2**	**4kg**
Gyprock Plasterboard Paper faced plaster board.	Rec Wallpaper Vinyl and Paint Finishes.	**4kg**
Gyprock Aquachek Sheet fixing @ 200mm centres Waterproof Membrane -Yes	**12.5kg/m2**	**4kg**
Gyprock Aquachek Sheet fixing @ 100mm centres Waterproof Membrane - Yes	**32kg/m2**	**4kg**
Fibre Cement Wallboard# Sheet fixing @ 200mm centres	**20kg/m2**	**4kg**
Fibre Cement Wallboard# Sheet fixing @ 100mm centres	**32kg/m2**	**4kg**
Gypsum Plaster	**20kg/m2**	**4kg**
Masonry and block work May require rendering prior to the installation of tiling - refer to A.S. 3958.1 Section 4.5 refer to Sand/Cement Render.	**32 kg/m2**	**4kg**
Hebel Block Walls/Hebel Wall Panels No Recommendation for weight loading or tiling directly to Block or Wall Panels. Sheet with Wall Panels or contact James Hardie or CSR for most recent recommendations.		Refer to wall panel limitations.

Notes:

*Maximum weight capacities of backgrounds are based on concrete and sand/cement render mixed and applied according to the relevant standard.

Refer to fibre-cement manufacturer's position with regards to application of tiles onto fibre-cement boards in external environments.

FREQUENTLY ASKED QUESTIONS

Can this product be used in a water feature?
Yes but the water action will speed up the natural weathering process. The substrate, frame and adhesive should all be suitable for use in a wet environment. The stone surface is not impervious to water. A suitable waterproofing membrane must be used over the substrate. Panel Stone is not recommended for water features in areas subject to freeze/thaw conditions.

Can I recycle swimming pool water over this product as a water feature above the pool?
This is not recommended as salt crystals can form in the fissures in the stone, which can expand and cause de-lamination of sections of the natural stone face.

Are there matching corners available?
Due to the colour variation in natural stone, the best match is achieved using stone from the same batch. For internal and external corners a mitre cut should be made with a quality stone cutting blade on a wet saw. Cut both sides of the corner from the same panel at opposing 45 degree angles and bring together. See the installation guide for more details.

Will this product develop rust marks like other external slate and quartzite?
You may notice some increased brown colouring develop over time as pyrite (Iron Sulphide) in the stone oxidises as it is exposed to the air. This is part of the natural weathering process of natural stone. This can be cleaned but will reoccur as part of the natural weathering process. Sealing may reduce the rate of oxidation.

Can this product be sealed?
A surface sealer to enhance the natural colours of the stone or a penetrating sealer can be applied to reduce staining after the installation has cured. This is generally 4 weeks. Any sealer must be reapplied as part of a regular on-going maintenance program. Consult the sealer manufactures for advice and test on a small inconspicuous area first.

Does the Panel Stone product require sealing?
Panel Stone can be left with its natural finish. Do not allow adhesive to dry on the surface. Clean the product with water and a stiff brush. Sealers will alter the colour of the product but will increase stain resistance.

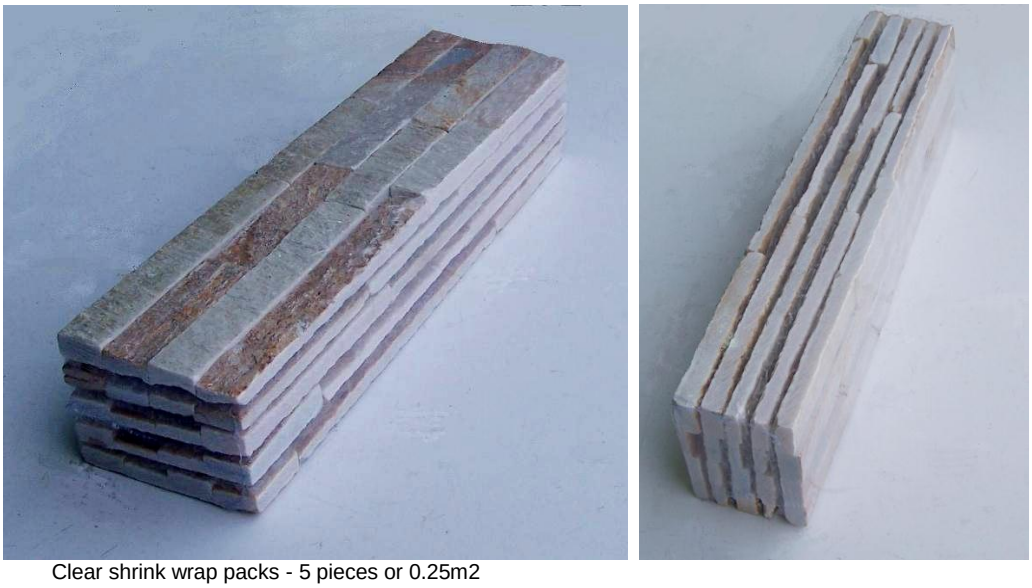
What is a suitable adhesive to use with this product?
See the installation section for two adhesive manufacturers' recommendations. Other adhesive manufactures products may also be suitable however check the specific suitability for each project.

How high up is it safe to install Panel Stone?
Ardex recommend adhesive fixing Panel Stone only to 3.0 metres high. Above that height, mechanical fixing such as supporting metal angles fixed to the

wall should be used in conjunction with the adhesive. See Ardex Technical Bulletin TB 148 for details.

How do I cut Panel Stone?
The best way to cut Panel Stone is with a wet saw fitted with a masonry cutting blade. Angle grinders fitted with masonry blades are only useful for cleaning up small burrs. They should not be used to cut or mitre products. The stone laths are thin and care should be taken when cutting, ensuring each piece is fully supported and is not jolted. Individual stone lathes may become dislodged but this is normal. These can be used for further cuts or pieced back together when laid in the adhesive bed.

PACKING



Clear shrink wrap packs - 5 pieces or 0.25m2

This information kit provides guideline information only and is not intended to be interpreted as a general specification for the application/installation of the products described. As each project differs, recommendations may vary from those contained herein. For specific applications/ installations, contact Ardex or your adhesive supplier.

Panel Stone 28kg/m2 (left) and
regular stacked stone 54kg/m2 (right)

DISCLAIMER

The recommendations in Decor8's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to the following conditions:
a) the Product must be installed and maintained strictly in accordance with the relevant Decor8 literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature. Further, all other products, including waterproofing and adhesive systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice;
b) the project must be designed and constructed in strict compliance with all relevant provisions of the current BCA, regulations and standards;
c) Decor8 will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing Decor8 will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence, staining or colour leaching, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces);

Further, as the successful performance of the relevant system depends on numerous factors outside the control of Decor8 (eg quality of workmanship and design) Decor8 shall not be liable for the recommendations in that literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the Building Code of Australia ("BCA"), regulations and standards.