



INSTALLATION & TRADE INFORMATION

(As referred to in 'Chelmstone Terms & Conditions of Sale')

For Chelmstone Flagstone Pavers & Bullnose (Dry Cast)

Thank you for choosing Chelmstone for your project – the highest quality and most authentic specialist cast stone manufacturer in Queensland. To ensure maximum satisfaction with your purchase of our Chelmstone product please read the following guidelines.

Unique Product Characteristics

Chelmstone manufactures a vast range of classic sandstone-style pieces that are dry-cast in various moulds. This hand-made method of manufacturing ensures the most natural product possible, with every attention to producing the highest quality cast stone. We aim to capture the beauty of natural stone, but with all the benefits and versatility of cast stone.

Chelmstone is the largest and most experienced cast stone manufacturer in Queensland. Every year we are involved in hundreds of residential and commercial projects where the products are selected from our standard range, right through to custom made products.

General Guidelines Only

The following information is a general guideline only and is to be used as an addition to relevant Australian Standards and Association and industry practices. It is to be used as a guide only and should not be solely relied upon, as installation methods will vary with each specific project. These guidelines in no way replace the services of professional consultants and contractors.

Please Read Before Installation

It is critical to the success of your project and our product that the following information is read and understood clearly before any installation commences. If you have any further questions or queries do not hesitate to contact us directly.

PALLET, PACKAGING & DELIVERY

Our strict quality procedure ensures Chelmstone products leave our factory in first quality condition. We use the best available packaging materials and pallets to ensure all products arrive on-site in first class condition. Obviously, there must be an allowance for some minimal breakages/chips that we allow for, just like you should allow for all cutting extras. Please make sure all products are well protected while waiting to be installed on site.

Do not install any product that is thought to be defective. All claims must be reported to Chelmstone for an on-site inspection before they are installed.

As a hand made product using natural materials Chelmstone pavers and tiles will have surface imperfections, colour variation, thickness variation up to +/- 3mm and some chipping. Chipped or damaged pavers up to 4% are considered to be within acceptable industry standards and will not be replaced. These should be put aside and used for cutting. Should the order be greater than one pallet the pallets must be blended during laying. We do not accept responsibility for normal – natural inbuilt variations.

Please check the order for size, colour and quantity. Discrepancies will not be recognised unless notified within 48 hours. Goods unpacked or pallets moved – relocated from the place of delivery will not be considered under any circumstances in the event of a return.

Pallets & packaging are non-returnable.

Delivery – We will do our utmost to meet all delivery requirements if at all possible, but we make no guarantees for things beyond our control. Deliveries are to roadside only; we take no responsibility for damage to property if the driver is asked to enter the property.

PRODUCT HANDLING

Careful handling is required at all times – before, during and after installation.

Clean gloves must be used to carry Chelmstone; otherwise there is a risk of unnecessarily marking the product. It is recommended that Chelmstone Pavers and Bullnose pieces are stacked directly on top of each other. The standard diagonal paver stacking method can leave marks if left for a period of time.

Rubber & Soil Mark

Chelmstone recommends that black soled rubber boots should be removed while working on paved areas. Paved areas must also be covered when using wheelbarrows or walking on the product with soiled shoes.

Cutting

Chelmstone can be easily cut with a brick-saw or masonry blade grinder-saw. The product must be thoroughly wet down before sawing for safety reasons and a dusk mask should be worn. All dust and milky cutting residue must be washed off immediately before the paver dries–, as it will stain.

LAYING

Always adopt good licensed paviour and tile laying / paving practices. Chelmstone will be able to put you in contact with experienced installers. Whilst most paving layers and tilers would have experience laying and cutting Chelmstone, if need be have them contact Chelmstone’s technical department for advice prior to quoting and commencing. For the DIY person we recommend that you consult with a licensed trade’s person before commencing.

COMPACTION

All Chelmstone pavers must be laid and levelled individually at the time of laying, as their larger size does not allow levelling with a compactor plate.

LAYING METHODS

The substrate of the area, and project application will determine the type of laying method required. All substrate profiles should be in accordance with engineering and architect specifications.

1) Fixed Method (Mortar Bed)

Chelmstone, like natural stone should be laid on a 75-100mm concrete slab, as suitable for the application. It should be mortared down onto a 10-15mm bed ensuring there are no voids, which can cause ‘drumminess’ and structural cracks.

A mix of;

- 3 Parts well graded sand
- 1 part cement (as AS1315-1982)
- 1 part cement adhesive

Please note that if the temperatures reach 38 degrees Celsius, the stone maybe too hot to adhere to the mortar. During these conditions it is suggested that work be completed during the early morning, late afternoon or in shaded areas.

Brush first

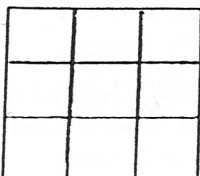
To ensure sound adhesion between the paver and the mortar bed, we recommend the underside of the product should be brushed first with a mix of;

- 2-litre latex based bonding agent (ie. Kemcrete, Weldcrete)
- 4-kg neat cement
- 2 litres clean water

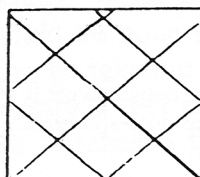
This should be brushed on the underside of each piece as they are being laid. Keep 50mm from the edge of the product to allow for handling. Be sure to sponge off any spills on the face of the product immediately.

Laying Patterns

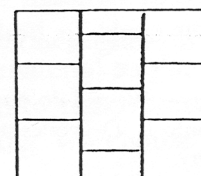
Stack Bond



45° Stack Bond



Stretcher Bond



Drainage

Suitable 'drainage considerations' must be taken into account before laying any pavers or bullnose coping/steptreads. Good surface, subsurface and subsoil drainage is essential for good long-term performance of the paving. Drainage needs to be considered during the design, specification and construction phases of the project.

Pool Surrounds and Steptreads

If there is any chance of substrate movement, it is recommended a 2-pack rubber ceramic tile adhesive (10-12mm base) be used for pool surrounds or slabs that may have not cured sufficiently. It is important not to use this type of adhesive under the waterline. Pool coping and paving should not be laid over the expansion joint between the pool shell/bond beam and concrete slab. Ideally, the width of the pool coping should equal the width of the pool shell/bond beam.

NOTE: Chelmstone does not recommend that any of our products be laid under water.

Remember Chelmstone has the widest range of Pool Copings in Queensland, from our standard 400 x 400 width (base measurement), to a variety of specialty sizes that can be adjusted to suit (ideal for pool refurb's)

DO NOT USE HYDROCHLORIC ACID

JOINTS

Grout Joints

As part of the Chelmstone service, matching coloured grout is available. We recommend 6-10mm grout joints. When filling joints all excess material must be cleaned off immediately. This should be done using a 2-bucket method of clean water and sponges. It is essential that care be taken to remove ALL excess material as you go. If this is not done it may be necessary to get professional cleaners in who may be able to remove excess grout. Large grouting guns can be purchased from The Waterproofing Warehouse Ph. 3272 1404.

Butt Jointing

We recommend a 2-3mm joint, with kiln dried jointing sand brushed between pavers. It is important not to leave excess jointing sand on the pavers as this could stain the paving, especially if it becomes wet.

Expansion Joints

As with all paving it is important that appropriate expansion joints be used to allow for natural movement. These should be incorporated every 4 meters, in accordance with AS2359. There should be expansion joints between Chelmstone and any other products or surface.

Site Care

Remember it is important to ensure that the laid area is protected from other trades. No foot traffic should be allowed on the newly laid pavers/bullnose for at least 2 days.

CLEANING AND SEALING (general guidelines only)

All Chelmstone products are 'factory pre-sealed' for ease of installation only. This does not mean that the product does not need further treatment once installed. It depends on the application and customers preference whether or not sealing is to be applied.

Chelmstone recommends that experienced cleaning and sealing contractors attend to the paved areas as soon as they are laid. Inexperienced attempts at cleaning can make the area look worse off.

For general cleaning, use a light solution of Phosphoric acid (do not use Hydrochloric acid). 1 part phosphoric acid to 15 parts water. Wet down the area thoroughly before brushing 1-2sqm of area at a time, washing down immediately after with plenty of water.

Do not leave acid on the surface. Do not use over strength acid as this can cause pitting of the surface.

It is essential to keep the pavers or tiles clean and free from soil oxides, cement, mortar droppings, leaves, bark, rubber marks, etc during and after laying as these will possibly stain the pavers. Cover if necessary.

As with many products such as stamped or stencilled concrete unglazed Terracotta tiles and various other masonry products we recommend sealing. In particular BBQ areas, driveways, leafy or muddy areas need to be sealed prior to use to prevent staining. There are many suitable sealers available. We now have available direct from Chelmstone "Dry Treats - Stain Proof Penetrating Shield sealer" (Dry Treat can also be contacted for your nearest distributor on 1800 675 119). Alternatively we can refer you to Know How Concrete Technology on 07 3274 1000.

Pools – Salt Safe

Chelmstone products have been tested salt safe (AS/ANS 4456.10), however we recommend the sealing of all pool surrounds to guard against salt variations. Sealing the product will protect it from most stains and slow the aging process. Sealing cannot take place until the stone is completely dry, including the mortar joints.

CARE AND MAINTENANCE

Chelmstone products are manufactured with natural and authentic looks in mind. As such, the products will perform and should be treated similarly to natural stone. Unsealed and over a period of time the products will age naturally showing variations in tone – this is a unique characteristic of the product.

Care must be taken to prevent more serious staining, but for general cleaning and maintenance it is recommended that hot water and a scrubbing brush be used. The frequency of cleaning will depend on the customers' perception of what is tolerable. We have found that with nearly all stains on Chelmstone products they will weather away in the long-term. Colour selection, and drainage should be taken into consideration for long-term performance in your application.

Chelmstone recommends that black soled rubber boots should be removed before walking on paved areas. When used in driveways, tyre markings can appear, as with any type of paved area due to rubber tyre compounds and direction of the vehicle. Paved areas must also be covered when using wheelbarrows.

For assistance with cleaning of your Chelmstone Product you can contact any of the following companies, Dry Treat on 1800 675 119, Know How Concrete Technologies 07 3274 1000 or Klen International 1800 819 939.

Common Stains, Causes & Cleaning Methods

Stain	Cause	Suggested Cleaning Method
Mortar / Cutting Residue	Inadequate sponging during installation, washing during cutting	Techni-Seal, Phosphoric acid (25% solution), High-pressure Gerni (no less than 24" from the surface)
Soil	Wearing dirty boots, unwashed jointing / bedding sands, poor drainage	Light bleach and brushing, 15:1 Diluted liquid pool chlorine
Efflorescence	Salts (Calcium carbonates) from natural hydration of new masonry products	Techni-Seal Cleaner, Phosphoric acid, Anti Eff from Klen International (to be used according to manufacturers instructions)
Moss & Mould	Continual damp shaded areas	Light bleach and brushing, 15:1 Diluted liquid pool chlorine
Rubber marks, Tar, Oil	Rubber boots, wheelbarrows, car tyres	Prevention first, Light bleach and brushing, 15:1 diluted liquid pool chlorine, scrubbing brush, emulsifying agent (degreaser), Gerni (no less than 24" from the surface)
Graffiti/Paint	Inadequate protection during installation	Prevention first, Generic paint stripper (test first)
Food	Spills	Light bleach and brushing, 15:1 diluted liquid pool chlorine, brushing, Selly's concrete cleaner
Red Wine	Spills	Prevention first, Light bleach and brushing, 15:1 diluted liquid pool chlorine, brushing, Selly's concrete cleaner
Rust	Outdoor furniture, nails	Techni-Seal Rust Remover, Oxalic Acid (5%)
Timber	Water spreading tannins and resins from wood	AvSyntac Sapless Stain Remover, Oxalic Acid (5%)

(NOTE: These are general guidelines and it is essential to complete a test area before treating the whole area.)

Efflorescence

Chelmstone have few problems with efflorescence as we try to maintain quality standard by adding an efflorescence reducing additive, although we have on going research in this area it is none the less a potential problem to the clay and masonry industry. As it is beyond our control no guarantees are given. If efflorescence appears it is visible as a uniform powder on the surface and is sometimes mistaken as fading. Major industry studies show that weathering will eliminate the problem or in most cases the application of a sealer will prevent the potential problem. Good drainage in most cases will also assist greatly in limiting efflorescence.

EXPERIENCED INSTALLERS

Remember, to achieve the best results from our Chelmstone Pavers and Bullnose products, we recommend you use a qualified paviour / stonemason / tiler, that has experience in laying the Chelmstone products. Please see our list of 'Chelmstone Experienced Installers'.

QUALITY TEST INDICATORS

As a commitment to its customers, all Chelmstone products have been tested to the relevant Australian Standards. Full test details are available on request only.

RAW MATERIAL QUALITY STANDARDS

All Chelmstone raw materials are sourced from the best suppliers available, as per Australian Standards AS3972:1991, AS2758.1:1985, AS1478:1992, AS1465, BS101A.

