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## PRODUCT TECHNICAL STATEMENT - RESIDENTIAL

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### PRODUCT DESCRIPTION

Dricon Trade Mortars are formulations containing cement, sand, oxides and admixtures which when mixed with water form a mortar. Dricon Trade Mortar products are supplied under the trade names of Trade Mortar (TM), Brick Mortar (BM), Coloured Mortar (CM), Coloured Architectural Masonry Mortar (AM) and Trade Mortar Extra (TX). The appropriate mortar product and the expected performance is described in the Dricon Product Manual. Dricon manufactures Trade Mortar products to exceed the requirements of NZS 4210:2001 Masonry Construction: Materials and Workmanship, with an independently audited quality management system confirming to AS/NZS ISO9001.

### SCOPE OF USE

Dricon Trade Mortars are suitable for use with structural wall and/or external wall cladding work and for laying brick veneers. All products achieve 28 day compressive strengths greater than 12.5MPa to achieve compliance with NZS4210 when used in accordance with the instructions on the bag. The intended use of the mortars are:

**Trade Mortar** - Primarily used for block laying though can be used for brick laying and other general purpose mortar work

**Brick Mortar** - For the laying of concrete and clay brick veneers though can be used for block laying and other general purpose mortar work

**Coloured Mortar** - Primarily used for laying concrete and clay brick veneers though can be used for block laying and other general purpose mortar work. Available in a range of colours with varying sand sizes throughout the range

**Coloured Architectural Masonry Mortar** - Primarily designed for use with Firth Architectural Masonry products. Has the addition of a water resistant additive

**Trade Mortar Extra** - Designed for the laying of recycled brick veneers, new and used schist and stonework. Has the addition of a bonding additive for improved bond strength

### COMPLIANCE WITH THE NEW ZEALAND BUILDING CODE

Dricon Trade Mortars are combined with other products such as brick veneers, hollow masonry blocks, veneer ties, reinforcement and coatings to make up a system such as a structural or masonry veneer wall. To ensure compliance with the NZ Building Code the appropriate Dricon product must be selected (refer Dricon Product Manual). The product must be mixed and used in accordance with the instructions printed on the bags and the masonry wall constructed in accordance with NZS4210.

**Structure - B1:** Dricon Trade Mortars achieve a compressive strength of 12.5MPa required by NZS4210 to achieve compliance with the requirements of section B1 of the NZBC

**Durability - B2:** Dricon Trade Mortars achieve a compressive strength of 12.5MPa required by NZS4210 to achieve compliance with the requirements of section B2 of the NZBC

**External Moisture - E2:** Dricon Trade Mortars achieve a compressive strength of 12.5MPa required by section 9.2 of E2/AS1, or section 3.2 and 4.6 of CCANZ CP:01 (E2/AS3) to ensure compliance with section E2 of the NZBC and have a chloride content less than 0.04% by mass required by NZS4210 for mortars exposed to weather

**Fire Performance - C:** Dricon Trade Mortars are classified as non-combustible

**Hazardous Building Materials - F2:** Dricon Trade Mortars comply with the requirements of section F2.3.1 of the NZBC. Safety data sheets are available on the Dricon website ([www.dricon.co.nz](http://www.dricon.co.nz))

### INSTALLATION

Mortar products shall be installed by suitably trained/experienced brick and blocklayers familiar with the requirements of NZS4210. If only part of the bag is required it is important to first re-mix the entire contents in its dry state in a wheelbarrow or bucket, in order to re-integrate the materials which may have segregated during initial bag handling.

Cold, damp conditions will prevent any type of mortar from setting, resulting in weak product. Cement cannot effectively set in low temperatures. Freezing conditions will disrupt the crystalline structure that is being formed as the cement hydrates, leading to a poor quality of set mortar.

Due to the nature of the raw materials available, formulations may vary between the differing Dricon manufacturing plants. This may result in varying water demands for Trade Mortars from plant to plant. Subsequently some bags do offer a water range in the mixing instructions.

Dricon Trade Mortars have been specifically formulated so that when enough water is added to achieve an 80-100mm slump (the normal working consistency of concrete) the correct compressive strength will be achieved. Some small amount of variability in water addition is allowable, however do not exceed more than the maximum water prescribed on the bag, as the higher the amount of water, the lower the strength. Once the specific desired water ratio is selected, consistent quantity of water per mix lot is important.

Mixing time is important to the performance of all mortars. The longer the product is mixed, the more sloppy it may become, to a point where

if over-mixed it may be unusable. In general 5-6 minutes mixing time is best for consistency. If any type of mortar is mixed for too long, an excessive amount of air is incorporated resulting in a weaker product.

To test Trade Mortar, scoop a portion on to the trowel then tap the bottom of the trowel against a hard surface 1-2 times. Next tip the trowel upside down. The mortar should stick to the trowel.

The workability (board life) of Trade Mortars, under normal weather conditions of around 21 degrees celsius, is on average 30-35 minutes.

Any unused Trade Mortar that has started to stiffen must be disposed of and not re-worked with more water.

Hot, dry and windy conditions may result in any type of mortar drying out before the cement can hydrate.

All mortars need to be kept damp during the curing period. After tooling the mortar joints and before the mortar dries, moisten the entire wall, then keep the mortar damp for at least 7 days.

For all Dricon Trade Mortars, instructions are on the bags.

#### **APPEARANCE**

Texture and colour variations due to the natural materials used in manufacturing can occur in Trade Mortar products and are not deemed a product defect. Dricon makes every endeavour to manufacture a consistent colour from batch to batch, however if the manufacturing dates (batch number) differ from bag to bag, it is advisable to double check the mortar colours first use to ensure consistency.

Consistent shades and colours of any given mortar may not be achieved if the mixing time and/or amount of water added when mixing is varied from mix to mix.

Consistent tooling (finishing) is important to achieving a consistent appearance and shade for all mortars from joint to joint. 'Over-tooling' (aggressive or elongated) may draw more cement fines to the surface than desired which may 'burn' the mortar. 'Under-tooling' may result in larger sand particles showing in the finished surface which may not be an acceptable finish for the specified project. Care must also be taken to ensure tooling is carried out at a consistent time period after placing all mortars.

The Dricon Trade Mortar product names do not necessarily indicate a match to any current brick names available. The natural texture differential between bricks and mortars will mean that absolute and exacting matches between any given brick and any given Trade Mortar cannot be achieved.

Efflorescence (coloured deposits, often white and powdery or calcified, which sometimes form on concrete and mortar products) is not deemed to be a defect as it is a natural part of the curing process. Efflorescence is a temporary phenomenon that may manifest, at any time, for undefinable periods of time and with varying severity. Its management is outside of the control of Dricon and in general it is recommended to let it run its course. If desired, methods and products to reduce/remove efflorescence are available from Dricon stockists.

#### **MAINTENANCE**

Trade Mortar products shall be maintained by annual inspection with cleaning and repair of any cracks as necessary.