

### PORCELAIN STONEWARE

A superior product that provides superior strength.

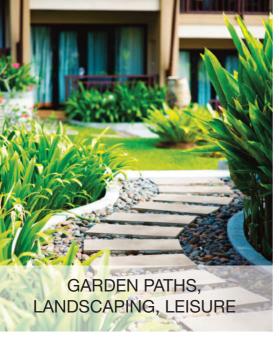
# OUTSIDE C M

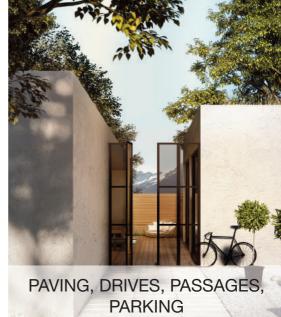
# OUTSIDE IN PUBLIC OR PRIVATE SPACES

A selection of monolithic, 2cm thick, vitrified flagstones. A classic palette of natural Granites and Limestones.

60 x 60 x 2.0

81 x 40 x 2.0







RESTAURANTS, GASTRO-PUBS, PATIOS, TERRACING









Heavy load bearing



Permanent or temporary



Scratch resistant



Chemical & stain resistant



Easy clean



Slip resistant



# **GRANITE**

Subtle Granite hues allow traditional or contemporary designs.
Create a spectacular landscape that requires minimal maintenance.
Open up space for creative expression. Make maximum use of your opportunities.

# RECTIFIED **GRANITE**

### **OUTDOOR COLLECTION** 60 x 60 x 2cm







Frost resistant



Heavy load bearing



Permanent or temporary



Scratch resistant



Chemical & stain resistant





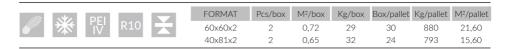




# RECTIFIED GRANITE

81 x 40 x 2cm (Special Order)









### **RECTIFIED**

# PIETRA SERENA

**OUTDOOR COLLECTION** 60 x 60 x 2cm











Heavy load bearing



Permanent or temporary



Scratch resistant



Chemical & stain resistant







Slip resistant





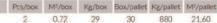


















# **CRACOVIA**

Clean and Modern, yet with the shadows and natural nuance of Northern European Royal Palaces. Cracovia has a natural feel with its Limestone surface..... with a contemporary twist.

# **CRACOVIA**

### **OUTDOOR COLLECTION** 81 x 40 x 2cm



























Moss & Grass resistant

resistant

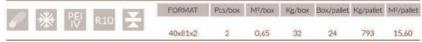
Heavy load bearing

Permanent or temporary

Scratch resistant

& stain resistant clean

Slip resistant







# **DOVER**

### INDOOR OUTDOOR COLLECTION 60 x 60 x 2cm 59 x 59 x 1cm (Special Order)















Heavy load bearing



Permanent or temporary



Scratch resistant



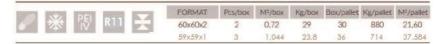
Chemical & stain resistant



Easy clean



Slip resistant





### GENERAL APPLICATION GUIDE

#### STEP 1: MARKING OUT

Mark out the area, allowing an extra 150-300mm for working room.

#### STEP 2: EXCAVATION

Excavate a total depth of 150mm, allowing for a 100mm sub-base, a 30mm mortar bed and the paving itself. To comply with building regulations and protect your property from damp, the paving must also be at least 150mm below any damp-proof course (DPC).

#### STEP 3: ESTABLISHING LINES AND LEVELS

The paving needs a slope or fall of around 1:60, i.e. 17mm of fall for every metre width or length of the patio. Use one taught string line to guide alignment along the length of the paving, and a second along the breadth. When laying, you should use a straight edge and spirit level to repeatedly check that each new paving unit correlates to both lines, adjusting the height up or down to give the necessary fall.

#### STEP 4: SUB-BASE

A Type 1 or MOT sub-base is required to give strength and stability to your patio. If the area you are paving is unreliable or has persistent weeds, place a geo-textile over the ground first. Spread the aggregate out, forming an even layer roughly 30-40mm below the string line. Use a plate compactor to consolidate the aggregate down to 25-30mm.

#### STEP 5: BEDDING

Use a mechanical mixer to make a mortar of 4:1 sharp sand to Ordinary Portland Cement (OPC). Avoid building sand or white cement. The mortar should bind together without being sloppy or runny. A plasticiser can help get a more workable consistency.

#### STEP 6: PREPARING THE BED

Using a shovel or trowel, apply the mortar to the sub-base, levelling it out. Ideally, the bed will hold the flag 5-8mm above the required level. Ripple or roughen up the surface of the bed so there will be some leeway once the paving unit is placed. Spread only enough mortar for one flag at a time, ensuring the bed is larger than the flagstone.

#### STEP 7: PRIMER

Use a slurry primer to help the paving adhere to the bed. Use a masonry brush to coat the entire underside of the flag immediately prior to laying. Be careful not to get any primer on the flag's face. Wipe off quickly if you do as it can be impossible to remove once dry.

#### STEP 8: PLACING

Once primed, the paving unit can be placed onto the bed. Carefully lower each one onto the bed. Beware of any drips or splashes from the primer and use spacers to guide your joint widths (which should be at least 5mm). If you need to cut any flags to fit, use a top quality diamond blade fitted to a bench saw with dust

suppression.

#### STEP9: COMPACTION

Use a rubber mallet to tap the flags down to the correct level. Check there are no high spots or hollows to ensure complete contact between the primer-coated base and mortar. You should also check against the string lines to make sure each flag is level and aligned. Make any adjustments now before the mortar becomes too stiff and wipe down the paving once again in case any primer or mortar has touched the face of the flags. Better to be safe than sorry!

#### STEP 10: JOINTING AND DRESSING

Apply the jointing sand then cordon off the freshly paved area, avoiding any foot traffic for at least 24 hours.

# SPECIFIC APPLICATIONS



### ON GRAVEL

A system of quick laying onto Sand or Gravel allows for simple temporary or permanent fixing. For temporary surfaces you may wish to use the OUTSIDE 2CM without adhesive or jointing material.

However, remember to always allow for good water drainage, with wide joints, achieving a flat surface.

Example of Installation

- 1. OUTSIDE 2CM TILE
- 2. Fine Gravel Layer
- 3. Stabilising Layer
- 4. Drainage Layer
- 5. Soil

### ON GRASS

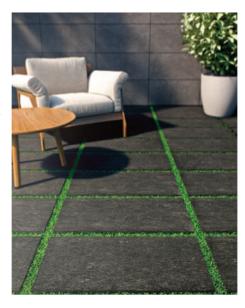
If laying onto established grass over a flat surface, again you can achieve a rapid temporary or a permanent fixing.

Remember to use some stabilising material to support the OUTSIDE 2CM, and allow for good drainage in case of rainfall and use wide joints. If its also flat then its ready for light pedestrian use.

Here is an example for creating areas from scratch.

Example of Installation

- 1. OUTSIDE 2CM TILE
- 2. Layer of Soil with real or synthetic Grass
- 2. Fine Gravel Layer
- 3. Stabilising Layer
- 4. Drainage Layer
- 5. Soil



# SPECIFIC APPLICATIONS

### ON RAISED FLOORS

Using polypropylene supports, fixed, adjustable or self-leveling, you can lay a Raised Floor. You may wish to do this to create space beneath the floor to allow for hidden service pipes or wires or to effect a rapid installation. The self levelling options can facilitate the removal of some layers indicated below.

Here is an example of how that can be achieved.

#### Example of Installation

- 1. OUTSIDE 2CM TILE
- 2. Distance Support Pedestal (fixed, regulated, self-levelling)
- 3. Separating Layer
- 4. Thermal Insulating Layer
- Impermeable Coating/Damp Proof Membrane Layer
- 6. Sloped Sub-Base
- 7. Subfloor





### ON SUB-FLOORS

For a surface that offers maximum strength, load bearing and stability or where you are expecting heavy foot traffic or some vehicles then the "Thin Bed" or "Thick Bed" fixing methods are ideal. Qualified Tiling or Landscaping professionals will advise you further on which fixing method is suitable for your particular project; and they may well prefer a sand and cement or more traditional Landscaping application. Whatever the circumstances we have included some suggested fixing and grouting/jointing materials in our "Accessories Section".

#### Example of Installation

- 1. OUTSIDE 2CM TILE
- 2. Adhesive/Cement Base Layer
- 3. Separating Layer
- 4. Thermal Insulating Layer
- Impermeable Coating/Damp Proof Membrane Laver
- 6. Sloped Sub-base
- 7. Floor Slab

# **TECHNICAL PARAMETERS**

## 2CM

| PROPERTIES                 | TEST ACCORDING TO | PARAMETERS            |     |
|----------------------------|-------------------|-----------------------|-----|
| WATER ABSORPTION (%)       | ISO 10545-3       | EB ≤ 0,5              |     |
| MODULUS OF RUPTURE (N/mm²) | ISO 10545-4       | MIN. 35               |     |
| BREAKING STRENGTH (N)      | ISO 10545-4       | MIN. 7000             |     |
| ABRASION CLASS PEI         | ISO 10545-7       | 4                     |     |
| CRAZING RESISTANCE         | ISO 10545-11v     | RESISTANT             |     |
| FROST RESISTANCE           | ISO 10545-12      | RESISTANT             |     |
| RESISTANCE TO CHEMICALS    | ISO 10545-13      | AMMONIUM CHLORIDE     | GA  |
|                            |                   | SODIUM HYPOCHLORITE   | GA  |
|                            |                   | HYDROCHLORIC ACID L   | GLA |
|                            |                   | CITRIC ACID           | GLA |
|                            |                   | POTASSIUM HYDRÓXIDE L | GLA |
| RESISTANCE TO STAINING     | ISO 10545-14      | CLASS 5               |     |
| SLIP R RATING              | DIN 51130         | R10                   |     |

## **DOVER**

| PROPERTIES  | TEST ACCORDING TO   | PARAMETERS           |
|---|---------------------|----------------------|
| WATER ABSORPTION  | UNE-EN-ISO 10545-3  | <0.2%                |
| MODULUS OF RUPTURE  | UNE-EN-ISO 10545-4  | 42 N/mm <sup>2</sup> |
| BREAKING STRENGTH   | UNE-EN-ISO 10545-4  | 11050 N              |
| RESISTANCE TO DEEP ABRASION                               | UNE-EN-ISO 10545-6  | <145 mm²             |
| RESISTANCE TO THERMAL SHOCK                               | UNE-EN-ISO 10545-9  | RESISTS              |
| CRAZING RESISTANCE  | UNE-EN-ISO 10545-11 | RESISTS              |
| FROST RESISTANCE  | UNE-EN-ISO 10545-12 | RESISTS              |
| CHEMICAL RESISTANCE: ACIDS AND LOW CONCENTRATION ALKALIS  | UNE-EN-ISO 10545-13 | GLA                  |
| CHEMICAL RESISTANCE: ACIDS AND HIGH CONCENTRATION ALKALIS | UNE-EN-ISO 10545-13 | GHA                  |
| CHEMICAL RESISTANCE: HOUSEHOLD PRODUCTS AND POOL SALTS    | UNE-EN-ISO 10545-13 | GA                   |
| RESISTANCE TO STAINS                                      | UNE-EN-ISO 10545-14 | CLASS 5              |
| CRITICAL SLIP ANGLE (RAMP)                                | DIN 511130:2010     | R11                  |
| SLIP RESISTANCE (PENDULE)                                 | UNE-EN-V 12633:2003 | RD 55, CLASS 3       |

