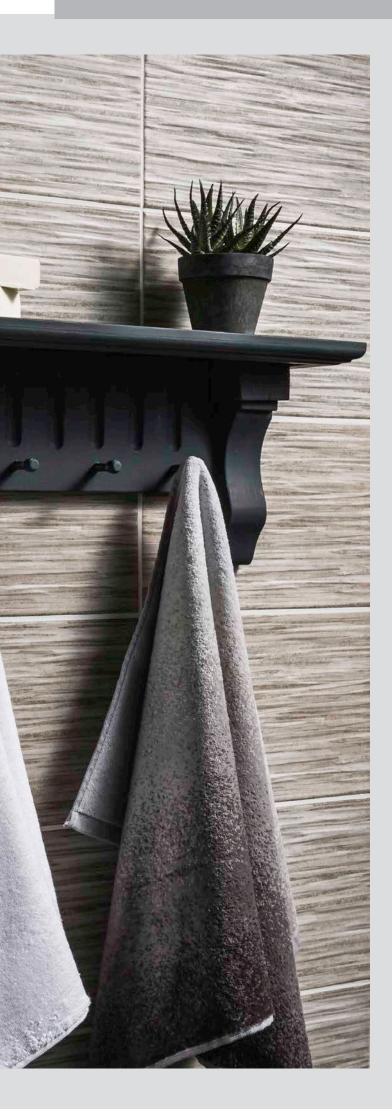
# INTRO COLLECTION

CERAMIC, VITRIFIED & PORCELAIN WALL & FLOOR TILES





### **CONTENTS**

#### INTRO COLLECTION RANGES:

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#### 48. TECHNICAL INFORMATION

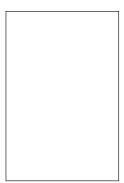
SPECIFICATION, FLOOR VALUES, COLOUR NOTATIONS, PHYSICAL PROPERTIES, INSTALLATION ADVICE, CLEANING AND MAINTENANCE, ETC...

## **ASHLAR**

### GLAZED CERAMIC | WALL TILES

One Size Format

Available Size:



One Finish

Available Finish:

T Textured Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

300x200mm

\_\_\_\_\_ 8mm thick

### Three Colour Options



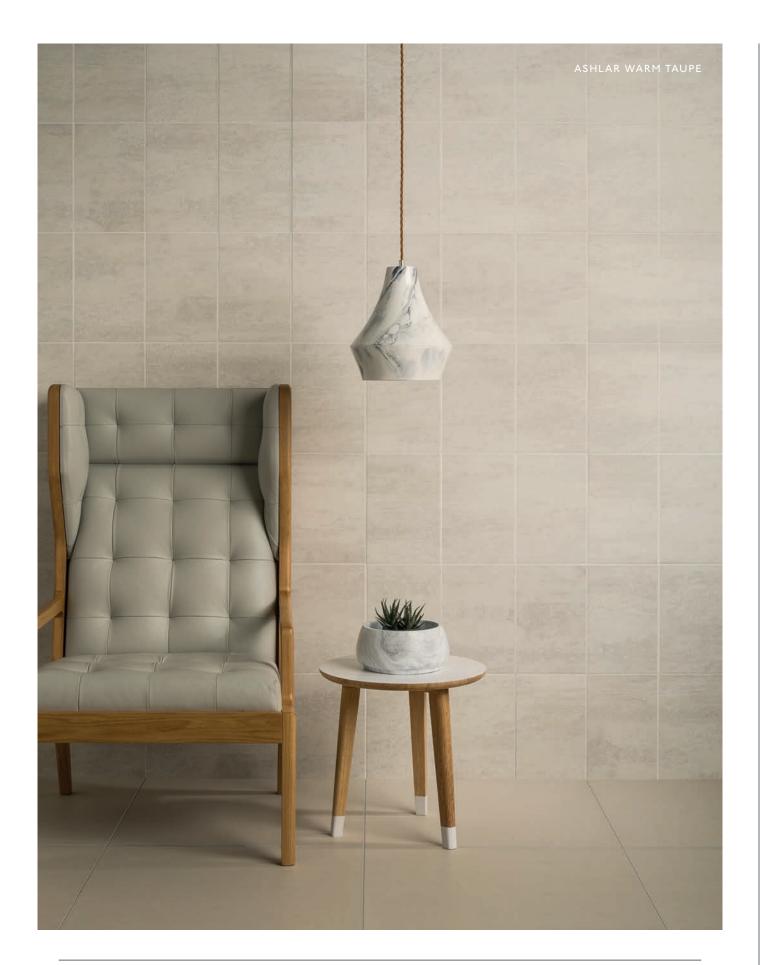
▲ Warm Taupe



▲ Weathered White



▲ Crafted Grey





#### 300x200x8mm

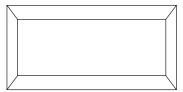
- ALR01A Warm Taupe Textured Finish - ALR02A Weathered White Textured Finish - ALR03A Crafted Grey Textured Finish

## BEVEL BRICK

### GLAZED CERAMIC | WALL TILES

### One Size Format

Available Size:



200x100mm Bevel

\_\_\_\_ 6.5mm thick

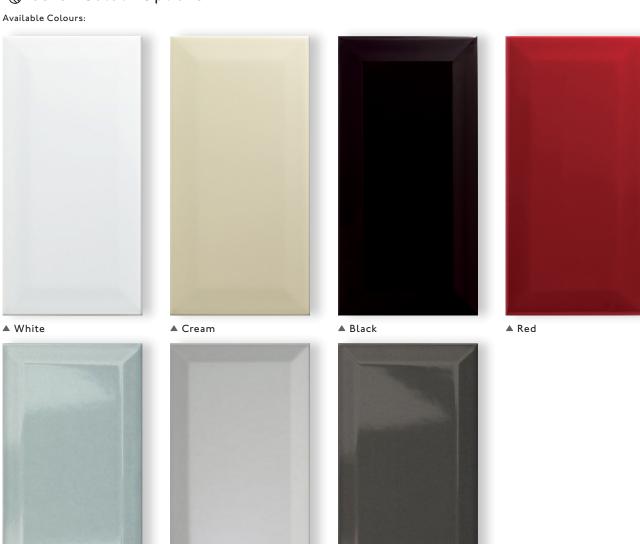
### One Finish

Available Finish:

G Gloss Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

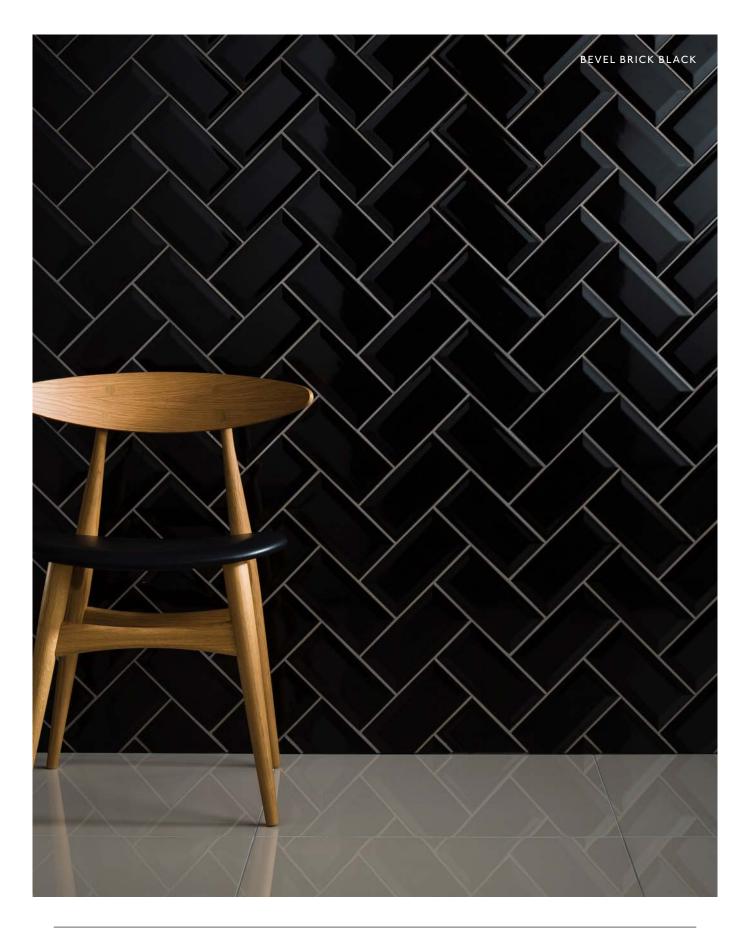
### Seven Colour Options



▲ Sage

▲ Light Grey

▲ Dark Grey



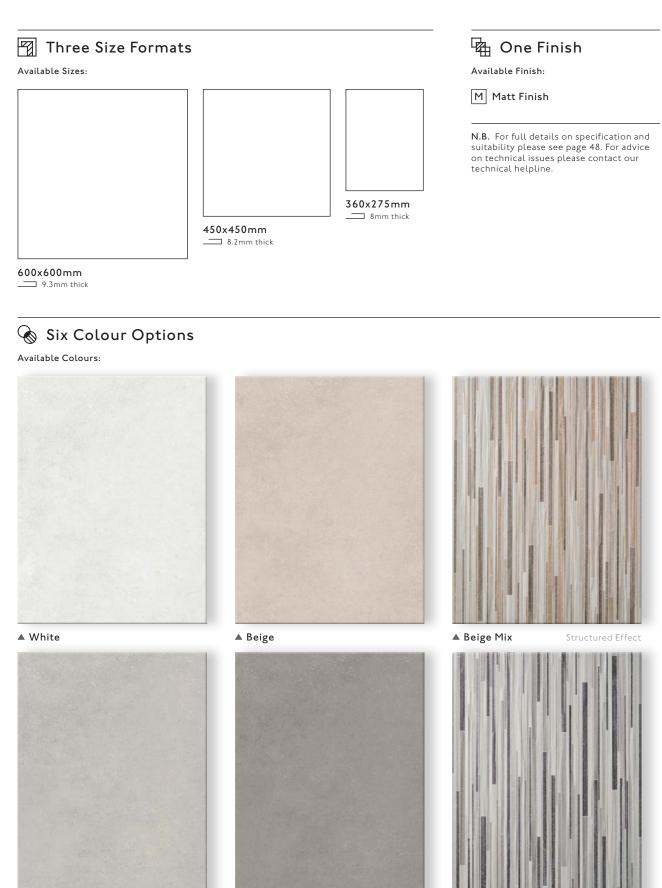


#### 200x100x6.5mm Bevel

- BVBRIA White Gloss Finish - BVBR3A Black Gloss Finish
- BVBR2A Cream Gloss Finish
- BVBR4A Red Gloss Finish
   BVBR5A Sage Gloss Finish
   BVBR7A Dark Grey Gloss Finish

## CITY TOUCHSTONE

GLAZED CERAMIC & PORCELAIN | WALL & FLOOR TILES

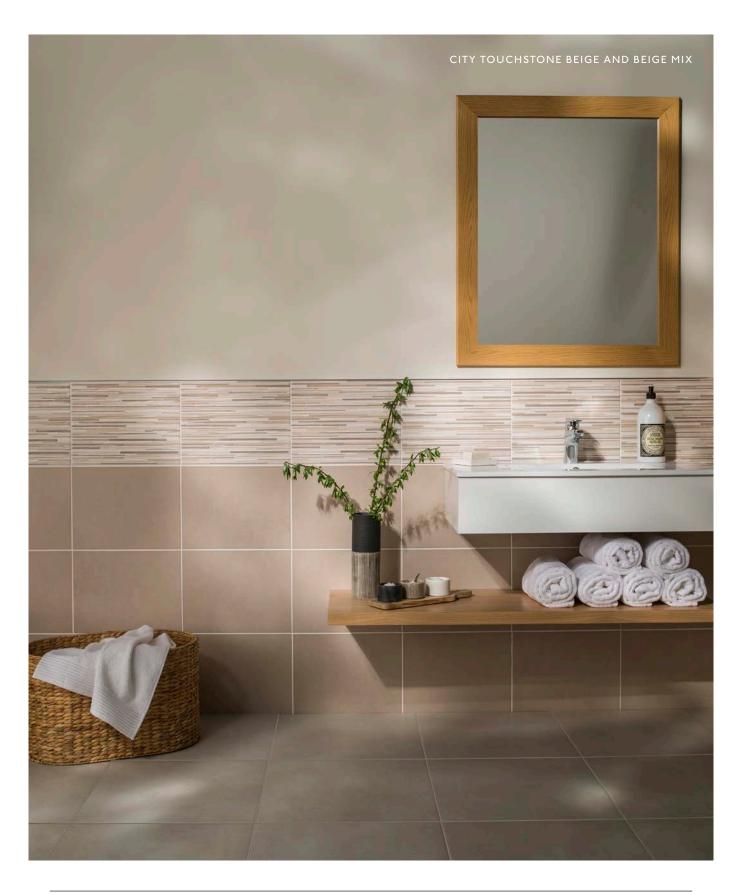


▲ Mid Grey

▲ Grey Mix

Structured Effect

▲ Light Grey





#### 360x275x8mm ONLY

- CTOIA White Matt Finish
- CTO2A Beige Matt Finish

- CTO3A Light Grey Matt Finish
   CTO4A Mid Grey Matt Finish
   CTO1L Beige Mix Structured Matt Finish
- CTO2L Grey Mix Structured Matt Finish

#### 600x600x9.3mm & 450x450x8.2mm ONLY

- CTOIF White Matt Finish
- CTO2F Beige Matt Finish
- CTO3F Light Grey Matt Finish CTO4F Mid Grey Matt Finish

## **CLASSICS**

### GLAZED CERAMIC | WALL TILES

#### One Size Format

Available Size:



300x200mm
\_\_\_\_\_ 8mm thick

### Three Finishes

Available Finishes:

G Gloss Finish

S Satin Finish

S Silk Finish

**N.B.** For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

### Six Colour Options



▲ White Carrara



▲ Brushed Stone



▲ Travertine



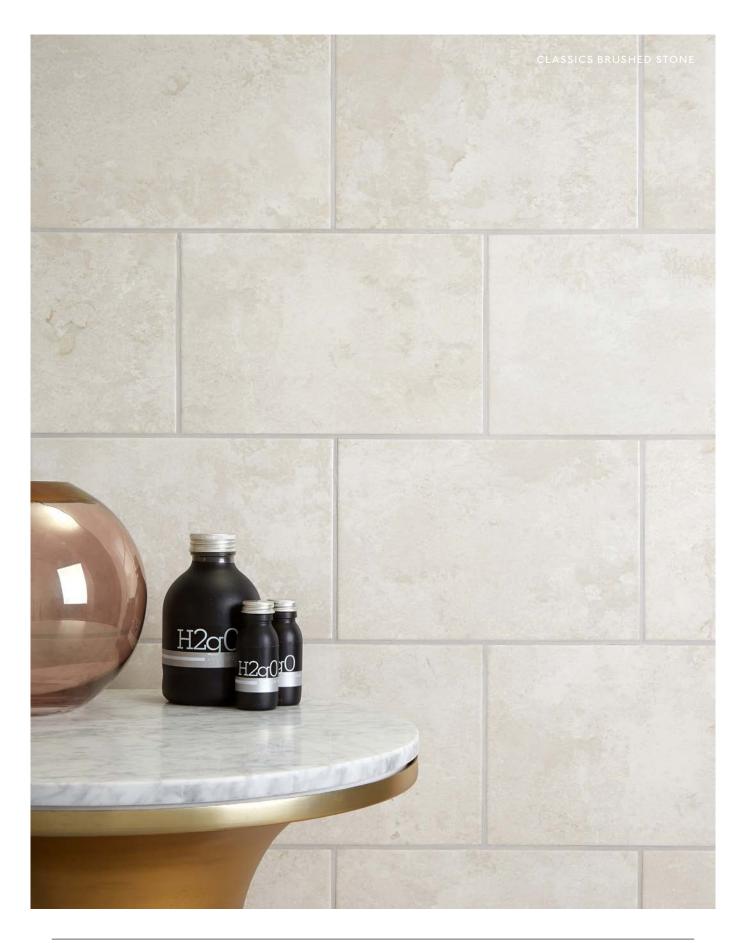
▲ Marblestone



▲ Crema Marfil



▲ Slate



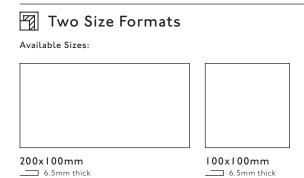


#### 300x200x8mm

- CICS1A White Carrara Gloss Finish CICS3A Crema Marfil Satin Finish CICS5A Marblestone Gloss Finish CICS2A Travertine Satin Finish CICS4A Brushed Stone Silk Finish CICS6A Slate Satin Finish

## **COUNTRY STONES**

### GLAZED VITRIFIED | WALL TILES



One Finish

Available Finish:

S Satin Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

### Seven Colour Options



▲ Clay Brown



▲ Dovetail



▲ Barley Cream



▲ Hearth Grey



▲ Millstone White



Summer Storm



▲ Midnight



#### 100x100x6.5mm ONLY

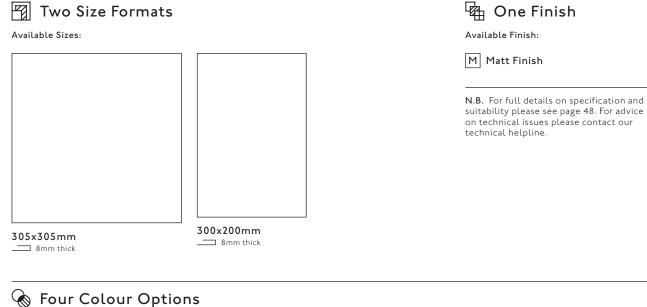
- COS01A Clay Brown Satin FinishCOS02A Barley Cream Satin Finish
- COS04A Dovetail Satin Finish
- COS05A Hearth Grey Satin Finish
- COS06A Summer Storm Satin Finish
- COS07A Midnight Satin Finish

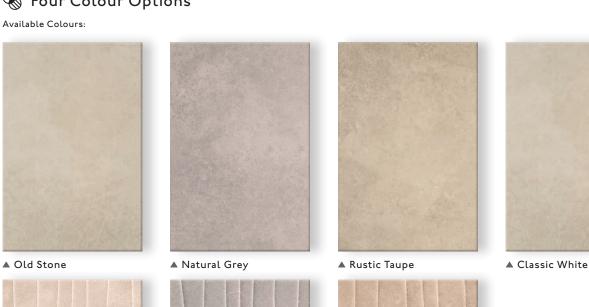
#### 200x100x6.5mm ONLY

- COSOIA Clay Brown Satin Finish
- COS02A Barley Cream Satin Finish
- COS03A Millstone White Satin Finish
- COS04A Dovetail Satin Finish
- COS07A Midnight Satin Finish

## COUNTY

### GLAZED CERAMIC & PORCELAIN | WALL & FLOOR TILES







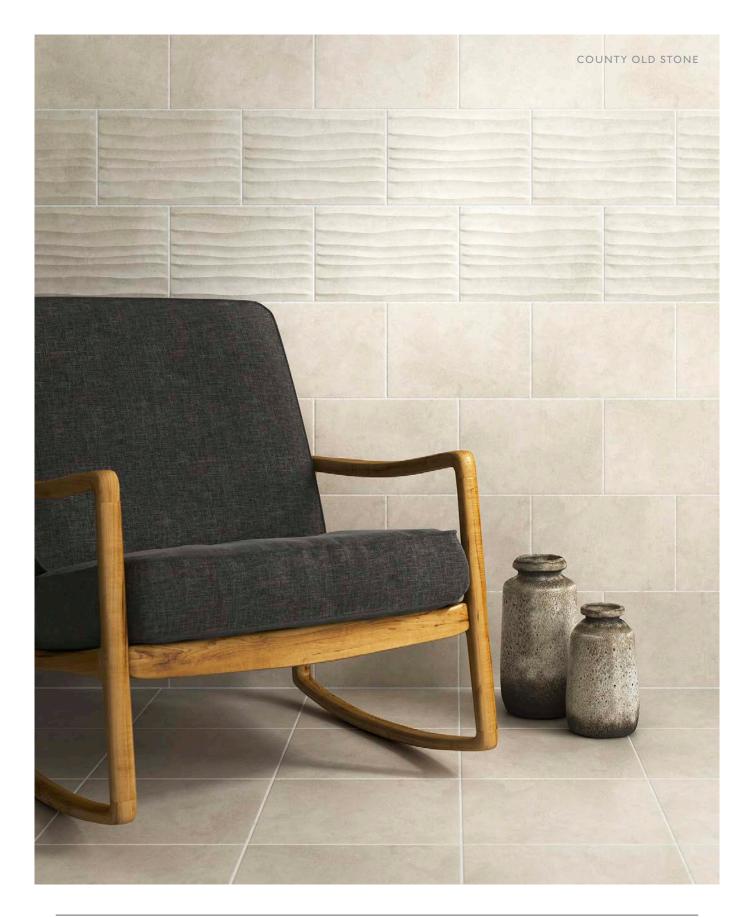
▲ Old Stone Wave Effect



▲ Natural Grey Wave Effect



▲ Rustic Taupe
Wave Effect





#### 300x200x8mm ONLY

- CNYOIA Old Stone Matt Finish
- CNY02A Classic White Matt Finish
- CNY03A Natural Grey Matt Finish - CNY04A Rustic Taupe Matt Finish
- CNY01W Old Stone Wave Matt Finish
- CNY03W Natural Grey Wave Matt Finish
- CNY04W Rustic Taupe Wave Matt Finish

#### 305x305x8mm ONLY

- CNY01F Old Stone Matt Finish
- CNY02F Classic White Matt Finish
- CNY03F Natural Grey Matt Finish
- CNY04F Rustic Taupe Matt Finish

## CRISTAL

### GLAZED CERAMIC | WALL TILES

## Two Size Formats Available Sizes: 150x150mm \_\_\_\_\_ 5.5mm thick

**N.B.** For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

One Finish

Available Finish: G Gloss Finish

### Five Colour Options

#### Available Colours:

250x200mm 5.5mm thick





▲ White/Grey Stripe Border



▲ White Bumpy Effect



▲ White/Grey Stripe Inset



▲ Cream Bumpy Effect



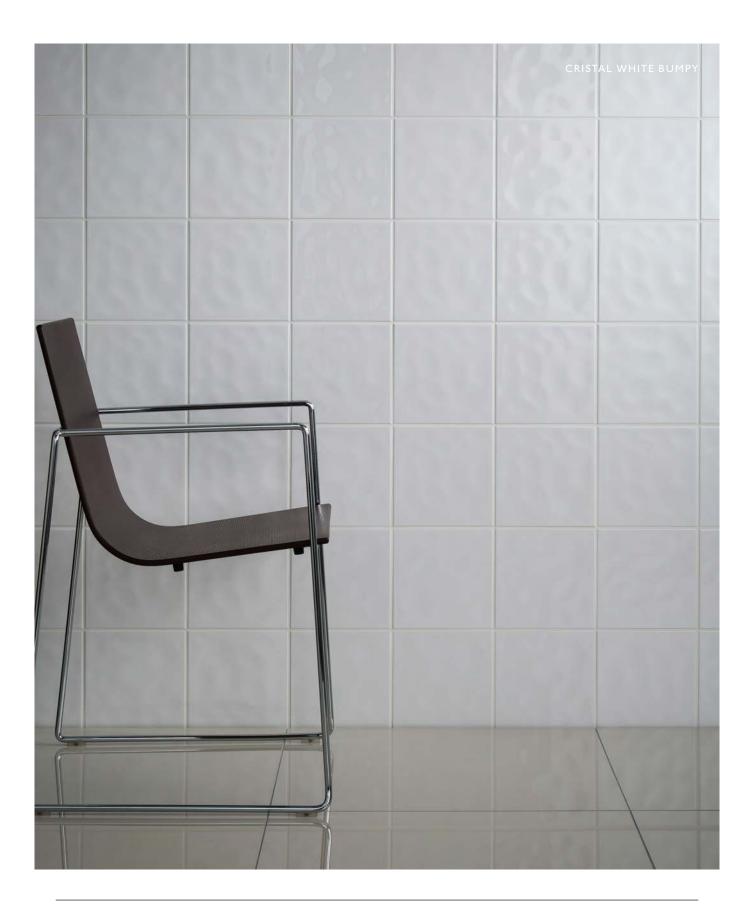
▲ White/Beige Stripe Border



▲ White/Blue Stripe Inset



▲ White/Beige Stripe Inset



#### 150x150x5.5mm ONLY

- CRWHIT White Gloss Finish
   CRWHIB White/Grey Stripe Border Gloss Finish
   CRWHII White/Grey Stripe Inset Gloss Finish
   CRWH2B White/Beige Stripe Border Gloss Finish
- CRWH2I White/Beige Stripe Inset Gloss Finish
- CRWH3I White/Blue Stripe Inset Gloss Finish

#### All Sizes

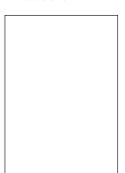
- CBWHIT White Bumpy Gloss Finish CBCREM Cream Bumpy Gloss Finish

## DRIFT

### GLAZED CERAMIC | WALL TILES

One Size Format

Available Size:



One Finish

Available Finish:

M Matt Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

300x200mm

\_\_\_\_\_ 8mm thick

### Three Colour Options



▲ Autumn Reeds Structured Effect



▲ Spring Frost
Structured Effect



▲ Summer Shadows
Structured Effect



### 

#### 300x200x8mm

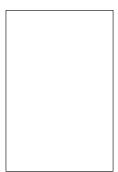
- DRIF1A Autumn Reeds Structured Matt Finish - DRIF2A Spring Frost Structured Matt Finish - DRIF3A Summer Shadows Structured Matt Finish N.B For the most up-to-date availability information, please visit our website - www.johnson-tiles.com

## **ECHO**

### GLAZED CERAMIC | WALL TILES

### One Size Format

Available Size:



300x200mm \_\_\_\_\_ 8mm thick

### One Finish

Available Finish:

G Gloss Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

### Three Colour Options







▲ Glacier
Linear Effect



▲ Shadow



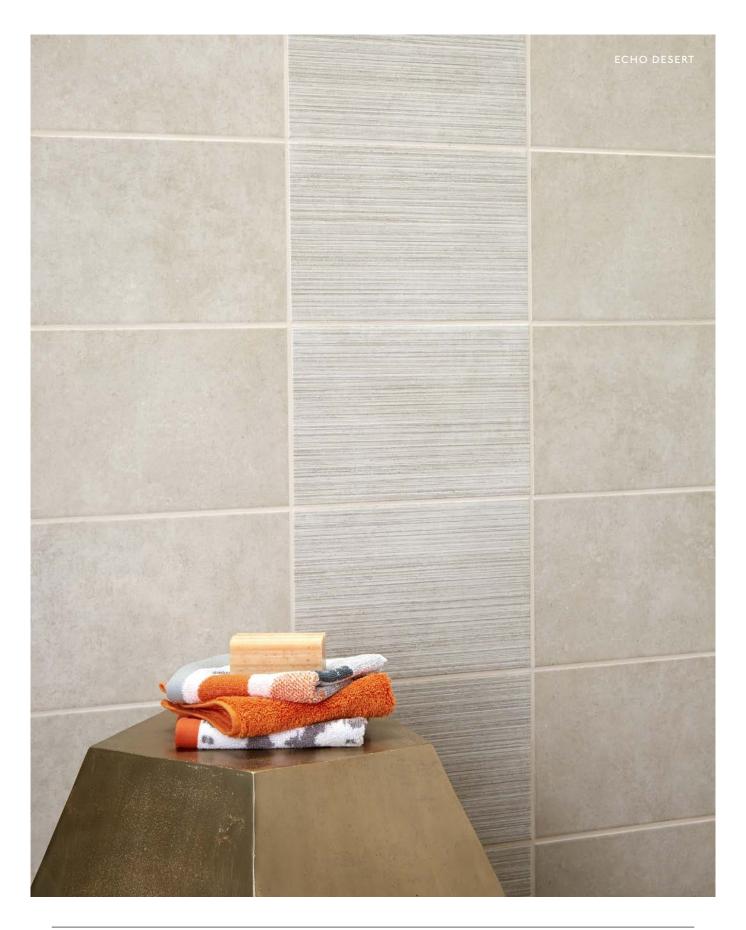
▲ Shadow Linear Effect



▲ Desert



▲ Desert
Linear Effect



#### 300x200x8mm

- ECHOIA Glacier Gloss Finish
- ECHOIL Glacier Linear Gloss Finish
- ECHO2L Shadow Linear Gloss Finish ECHO3L Desert Linear Gloss Finish
- ECHO2A Shadow Gloss FinishECHO3A Desert Gloss Finish

## GRAIN

### GLAZED CERAMIC | WALL TILES

#### One Size Format One Finish Available Size: Available Borders: Available Finish: M Matt Finish Sheet Size: 300x58mm **N.B.** For full details on specification and suitability please see page 48. For advice on technical issues please contact our Tessera Size: 75x27mm \_\_\_\_\_ 8mm thick technical helpline. Sheet Size: 300x58mm Tessera Size: 27x27mm \_\_\_\_\_ 8mm thick 300x200mm ■ 8mm thick

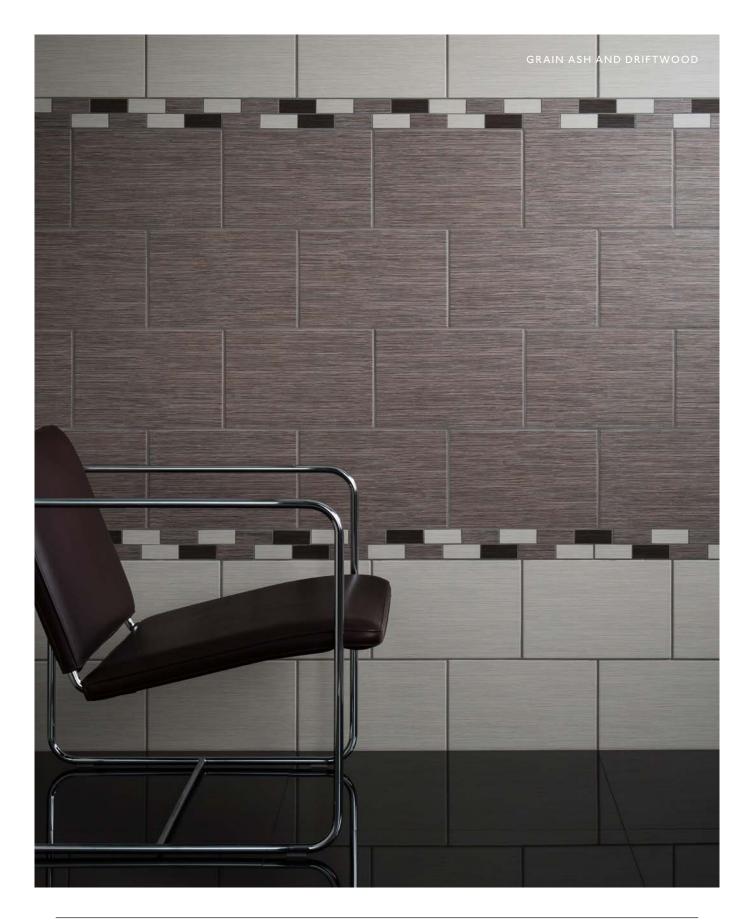
### Two Colour Options



▲ Ash Woodgrain Effect



▲ Driftwood Woodgrain Effect





#### 300x200x8mm

- GRIN1A Ash Woodgrain Matt Finish
   GRIN2A Driftwood Woodgrain Matt Finish

#### 300x58x8mm [75x27mm Border]

- GRINIB Ash, Driftwood & Mahogany Mix Woodgrain Matt Finish

#### $300x58x8mm \left[ 27x27mm \ Border \right]$

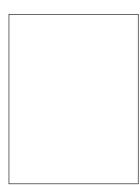
- GRIN2B Ash, Driftwood & Mahogany Mix Woodgrain Matt Finish

## **GRASMERE**

GLAZED CERAMIC | WALL TILES

One Size Format

Available Size:



One Finish

Available Finish:

M Matt Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

360x275mm \_\_\_\_\_ 8mm thick



Available Colours:





▲ Bracken

**▲** Slate



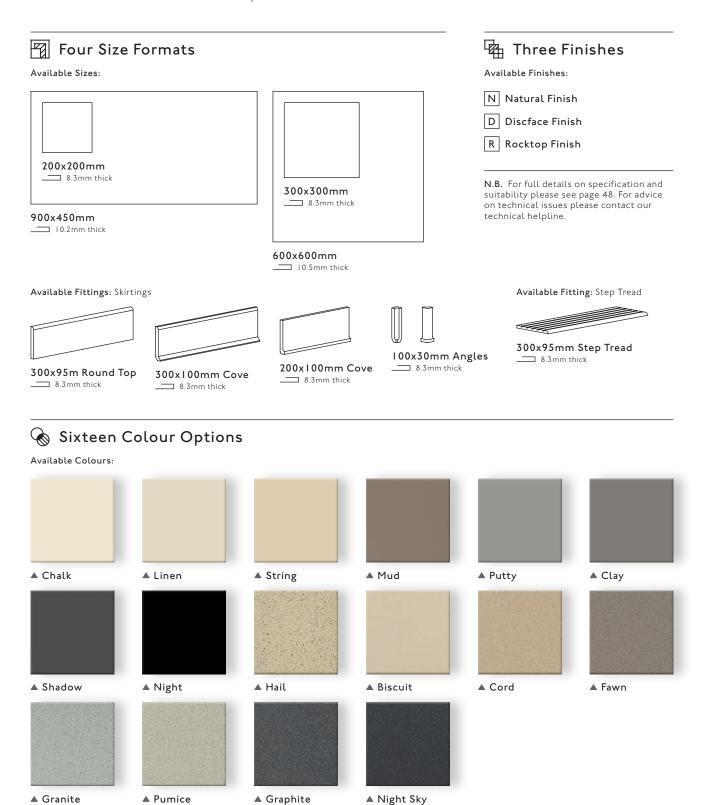


#### 360x275x8mm

- GRAIA Bracken Matt Finish - GRA2A Slate Matt Finish

## **KERASTAR**

#### UN-GLAZED PORCELAIN | WALL & FLOOR TILES







#### 200x200x8.3mm ONLY

- KER501 Chalk Natural Finish
- KER502 Linen Natural Finish - KER503 String Natural Finish
- KER504 Mud Natural Finish
- KER505 Putty Natural Finish
- KER506 Clay Natural Finish
- KER507 Shadow Natural Finish
- KER508 Night Natural Finish
- KER509 Hail Natural Finish
- KER510 Biscuit Natural Finish
- KER511 Cord Natural Finish
- KER512 Fawn Natural Finish
- KER514 Pumice Natural Finish - KER515 Graphite Natural Finish
- KER516 Night Sky Natural Finish
- KER517 Granite Natural Finish
- KER509 Hail Discface Finish
- KER515 Graphite Discface Finish - KER517 Granite Discface Finish
- RT509 Hail Rocktop Finish
- RT515 Graphite Rocktop Finish - RT517 Granite Rocktop Finish

#### 300x300x8.3mm ONLY

- KER501 Chalk Natural Finish
- KER502 Linen Natural Finish - KER503 String Natural Finish
- KER504 Mud Natural Finish
- KER505 Putty Natural Finish
- KER506 Clay Natural Finish
- KER507 Shadow Natural Finish - KER508 Night Natural Finish
- KER509 Hail Natural Finish
- KER510 Biscuit Natural Finish
- KER511 Cord Natural Finish
- KER512 Fawn Natural Finish
- KER514 Pumice Natural Finish
- KER515 Graphite Natural Finish
- KER516 Night Sky Natural Finish - KER517 Granite Natural Finish
- RT509 Hail Rocktop Finish
- RT515 Graphite Rocktop Finish
- RT517 Granite Rocktop Finish

#### 600x600x10.5mm & 900x450x10.2mm ONLY

- KER503 String Natural Finish
- KER506 Clay Natural Finish
- KER507 Shadow Natural Finish

#### All Fittings

- KER503 String Natural Finish
- KER506 Clay Natural Finish
- KER507 Shadow Natural Finish

#### All Fittings EXCEPT 300x95x8.3mm Step Tread [Fittings]

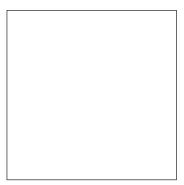
- KER501 Chalk Natural Finish
- KER502 Linen Natural Finish
- KER504 Mud Natural Finish
- KER505 Putty Natural Finish
- KER508 Night Natural Finish
- KER509 Hail Natural Finish
- KER510 Biscuit Natural Finish
- KER511 Cord Natural Finish
- KER512 Fawn Natural Finish
- KER514 Pumice Natural Finish
- KER515 Graphite Natural Finish - KER516 Night Sky Natural Finish
- KER517 Granite Natural Finish

## LAGOS

### GLAZED PORCLAIN | WALL & FLOOR TILES

### One Size Format

Available Size:



One Finish

Available Finish:

M Matt Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

#### 330x330mm

8.5mm thick

### Five Colour Options



▲ White Slate Effect



▲ Beige Slate Effect



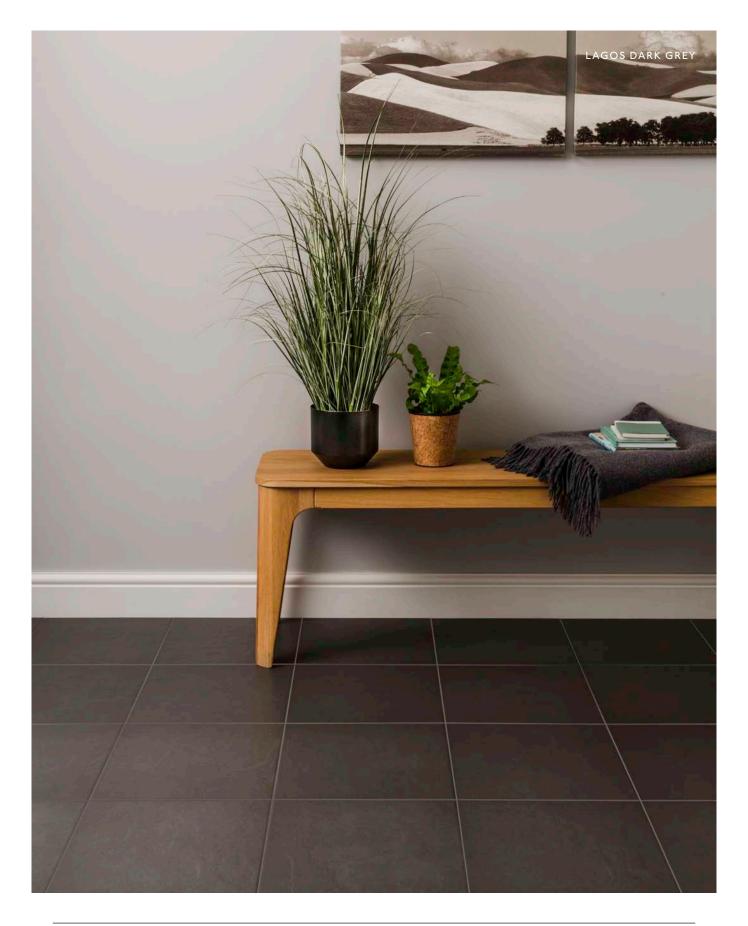
▲ Light Grey Slate Effect



▲ Dark Grey Slate Effect



▲ Black
Slate Effect

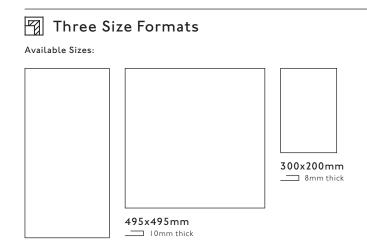


#### 330x330x8.5mm

- LAGOIF Dark Grey Slate Matt Finish
- LAGO2F Black Slate Matt Finish
- LAGO3F Light Grey Slate Matt Finish
- LAGO4F White Slate Matt FinishLAGO5F Beige Slate Matt Finish

## MELFORD MARBLE

GLAZED CERAMIC & PORCELAIN | WALL & FLOOR TILES





Available Finish:

M Matt Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

## Two Colour Options

Available Colours:

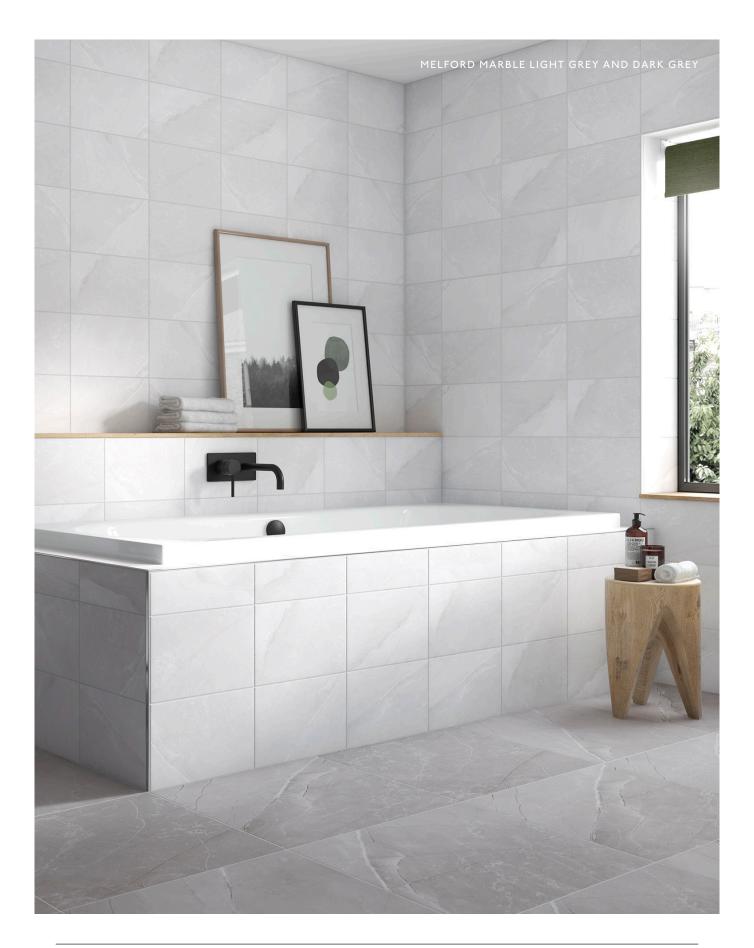
600x300mm
\_\_\_\_\_ l0mm thick







▲ Dark Grey





#### 600x300x10mm & 300x200x8mm ONLY

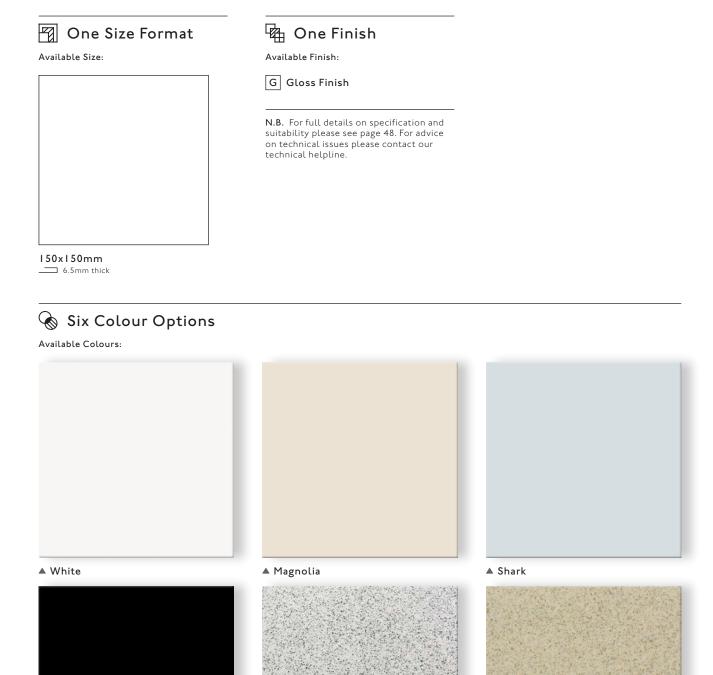
- MELOIA Light Grey Matt FinishMELO2A Dark Grey Matt Finish

#### 495x495x10mm ONLY

- MELOIF Light Grey Matt FinishMELO2F Dark Grey Matt Finish

## **MICROS**

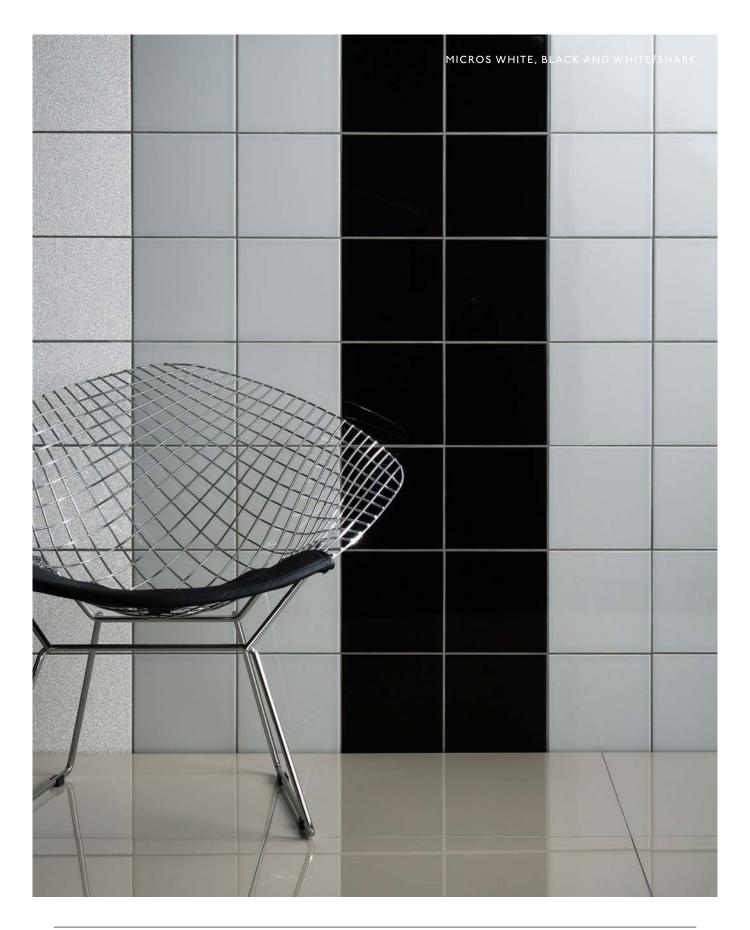
### GLAZED CERAMIC | WALL TILES



▲ White/Shark

▲ Magnolia/Redwood

▲ Black





- PRGI White Gloss Finish
- PRG20 Magnolia Gloss Finish
- PRGII Shark Gloss Finish
- PRG6 Black Gloss Finish
- PRM57 White/Shark Gloss FinishPRM60 Magnolia/Redwood Gloss Finish

## **POLAR**

### GLAZED CERAMIC | WALL TILES



▲ White

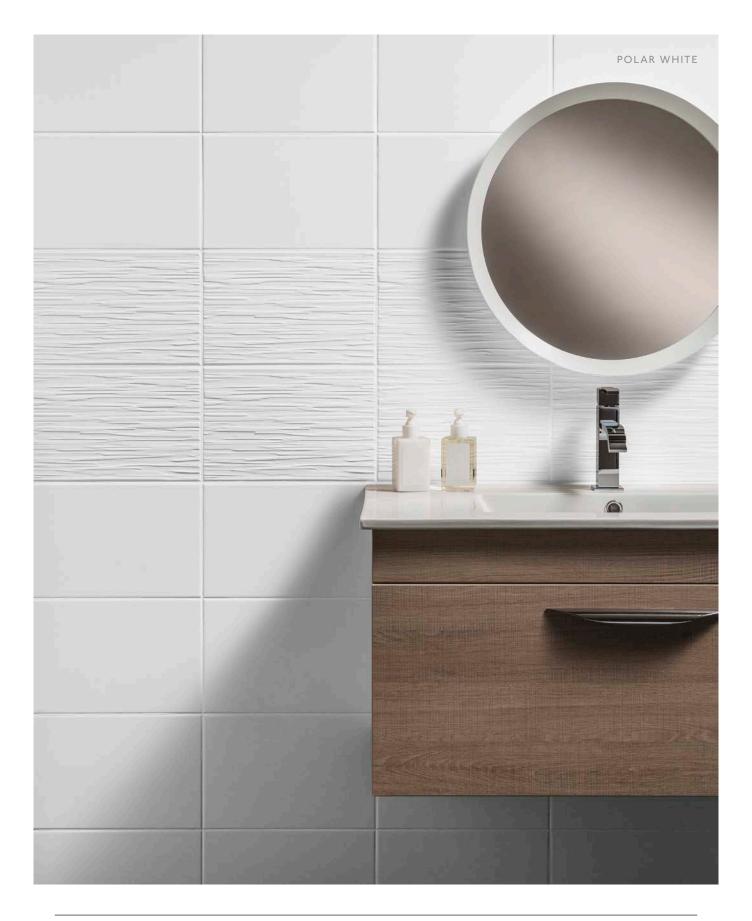
Structured Effect

▲ White

Bumpy Effect

■ White

Wave Effect





#### 300x200x8mm ONLY

- PUREIA White Gloss Finish
- PUREIE White Scored One Way Gloss Finish
- PUREIW White Wave Gloss Finish
- CLASIA White Satin Finish
   CLASIE White Scored One Way Satin Finish
- PUREIF White Scored Two Ways Gloss Finish CLASIL White Structured Satin Finish

#### All Sizes

- ALPNIA White Bumpy Gloss Finish

## SANCTUARY

GLAZED CERAMIC | WALL TILES

### One Size Format

Available Size:



300x200mm \_\_\_\_\_ 8mm thick

### Two Finishes

Available Finishes:

G Gloss Finish

S Satin Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

### **Solution** Five Colour Options



▲ Bianco Carrara



▲ Matlock



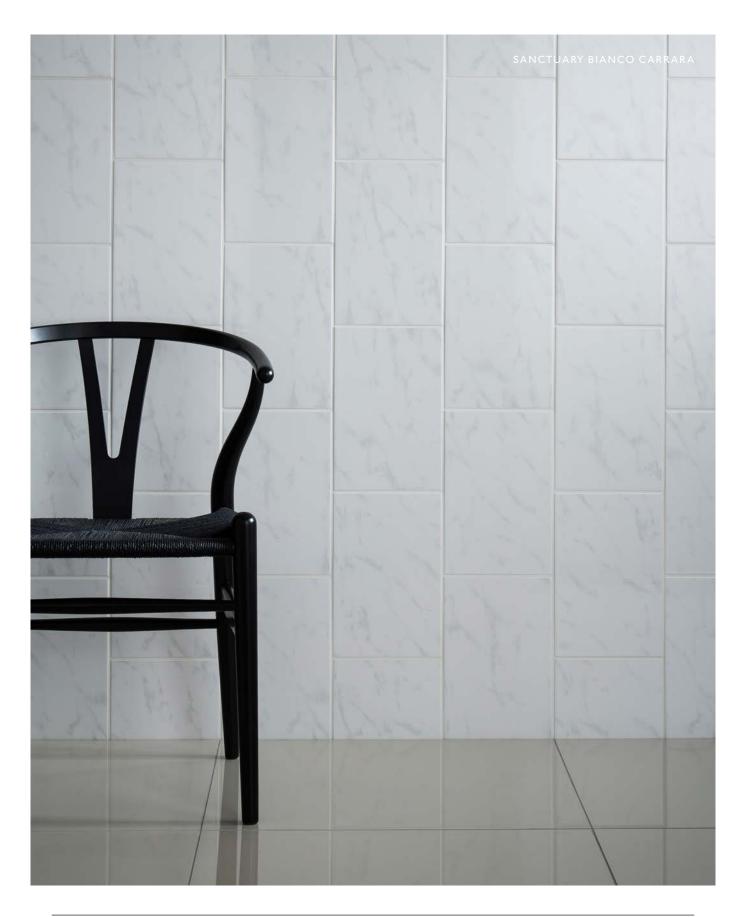
▲ Horizon



▲ Buxton



▲ Bath



# Availability

#### 300x200x8mm

- CTBC1A Bianco Carrara Gloss Finish
   CTBC2A Bianco Carrara Satin Finish
   MLOCKA Matlock Gloss Finish
   MLOCKS Matlock Satin Finish
   BATH1A Bath Gloss Finish
   BATH2A Bath Satin Finish

# SHIMMER

## GLAZED CERAMIC & VITRIFIED | WALL & FLOOR TILES

| Two Size Formats      |           | One Finish   |
|-----------------------|-----------|--|
| Available Sizes:      |           | Available Finish:  |
|                       |           | S Satin Finish   |
| 600x200mm 9.5mm thick |           | N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline. |
|                       | 316x316mm |  |

AVAILABLE WHILE STOCKS LAST 600X200MM SIZE FORMAT ONLY

## Three Colour Options

Available Colours:

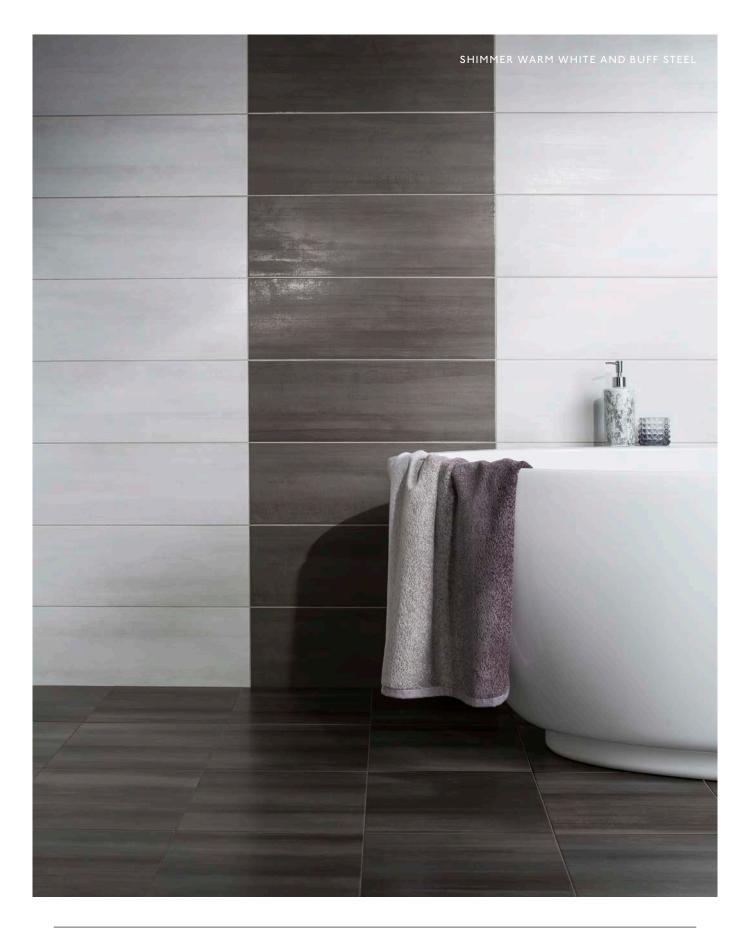






▲ Buff Steel

▲ Warm White





#### 600x200x9.5mm ONLY

- SHIOIA Warm White Satin Finish
- SHI02A Platinum Satin FinishSHI03A Buff Steel Satin Finish

#### 316x316x9.5mm ONLY

- SHIOIF Warm White Satin Finish
- SHI03F Buff Steel Satin Finish

# STUDIO

## GLAZED CERAMIC | WALL TILES

| One Size For               | mat                      |                             | Two F  | inishes  |
|----------------------------|--------------------------|-----------------------------|--|--|
| Available Size:            | Available Borders:       |                             | Available Finish   | es:  |
|                            |                          |                             | G Gloss Fini   | sh   |
|                            | 360x50mm 8mm thick       |                             | S Satin Finis  | h  |
|                            | Simil tillek             |                             | N.B. For full det  | ails on specification and                                |
|                            |                          |                             | suitability please<br>on technical issu<br>technical helplin | e see page 48. For advice<br>es please contact our<br>e. |
| 360x275mm 8mm thick        |                          |                             |  |  |
| Four Colour (              | Options                  |                             |  |  |
|                            |                          |                             |  |  |
| ▲ Tundra                   | ▲ Haze                   | ▲ Sand                      | ▲ Mist   | ▲ Beige Mix Structured Effect                            |
|                            |                          |                             |  |  |
| ▲ Tundra<br>Scored One Way | ▲ Haze<br>Scored One Way | ▲ Sand<br>Scored One Way    | ▲ Mist<br>Scored One Way                                     | ▲ Grey Mix Structured Effect                             |
|                            |                          |                             |  |  |
| ▲ Tundra Structured Effect | ▲ Haze Structured Effect | ▲ Sand<br>Structured Effect | ▲ Mist Structured Effect                                     |  |





### 

#### 360x275x8mm

- TUNDIA Tundra Gloss Finish
- TUND2A Tundra Satin Finish
- TUND2E Tundra Scored One Way Satin Finish
- TUND2L Tundra Structured Satin Finish
- STUD2G Haze Gloss Finish STUD2S Haze Satin Finish
- STUD2E Haze Scored One Way Satin Finish
- STUD2L Haze Structured Satin Finish
- STUD3G Sand Gloss Finish
- STUD3S Sand Satin Finish
- STUD3E Sand Scored One Way Satin Finish
- STUD3L Sand Structured Satin Finish
- STUD4G Mist Gloss Finish
- STUD4S Mist Satin Finish
- STUD4E Mist Scored One Way Satin Finish
- STUD4L Mist Structured Satin Finish

N.B For the most up-to-date availability information, please visit our website - www.johnson-tiles.com

#### 360x50x8mm [Border]

- STUDIB Beige Mix Structured Satin Finish
- STUD2B Grey Mix Structured Satin Finish

# **THREADS**

## GLAZED CERAMIC | WALL TILES

One Size Format

Available Size:

One Finish

Available Finish:

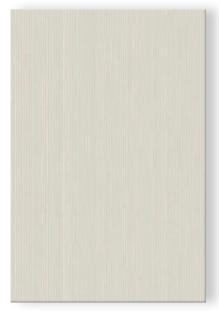
S Satin Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

300x200mm 8mm thick



Available Colours:



▲ Cotton Linear Effect



▲ Taupe Linear Effect



▲ Flax
Linear Effect





#### 300x200x8mm

- THRD1A Cotton Linear Satin Finish - THRD2A Taupe Linear Satin Finish - THRD3A Flax Linear Satin Finish

# **TUNDRA**

## GLAZED CERAMIC | WALL TILES

# One Size Format Available Size:

Two Finishes

Available Finishes:

G Gloss Finish

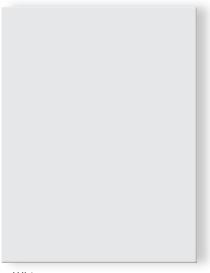
S Satin Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

360x275mm \_\_\_\_\_ 8mm thick



Available Colour:



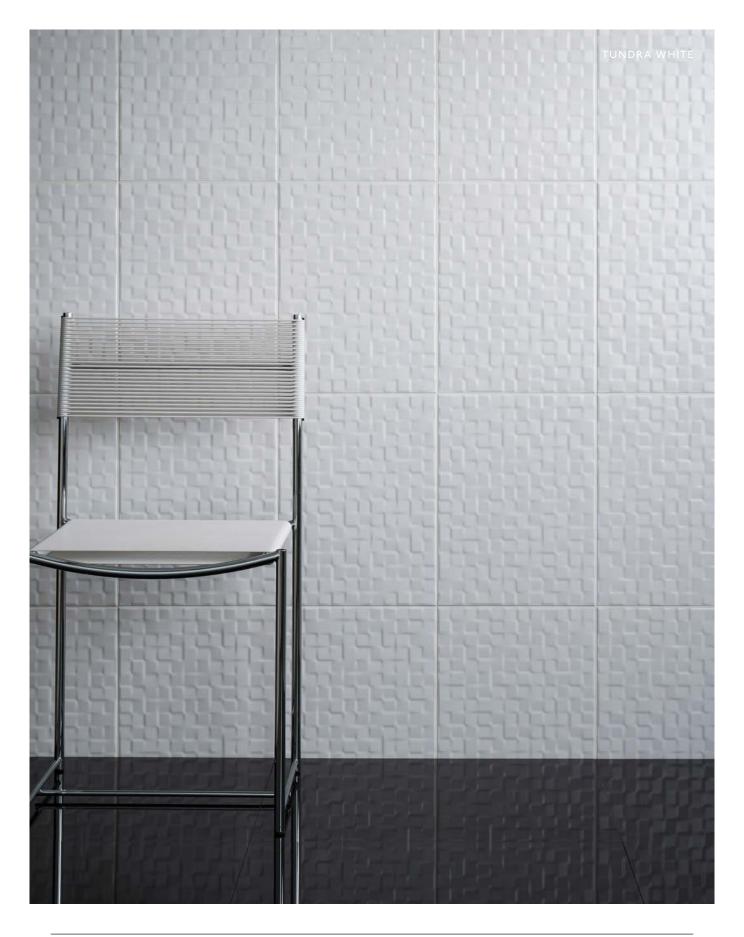
▲ White



Dimensions Effect



▲ White Polygon Effect



# Availability

#### 360x275x8mm

- TUNDIA White Gloss Finish TUND2A White Satin Finish
- DMNSIA White Dimensions Gloss Finish POLYIA White Polygon Satin Finish
- DMNS2A White Dimensions Satin Finish

# URBANIQUE

GLAZED CERAMIC | WALL TILES

## One Size Format

Available Size:



360x275mm \_\_\_\_\_ 8mm thick

## One Finish

Available Finish:

M Matt Finish

N.B. For full details on specification and suitability please see page 48. For advice on technical issues please contact our technical helpline.

## Three Colour Options

Available Colours:



▲ Stone



▲ Stone
Scored Two Ways



▲ Honey



▲ Honey

Scored Two Ways

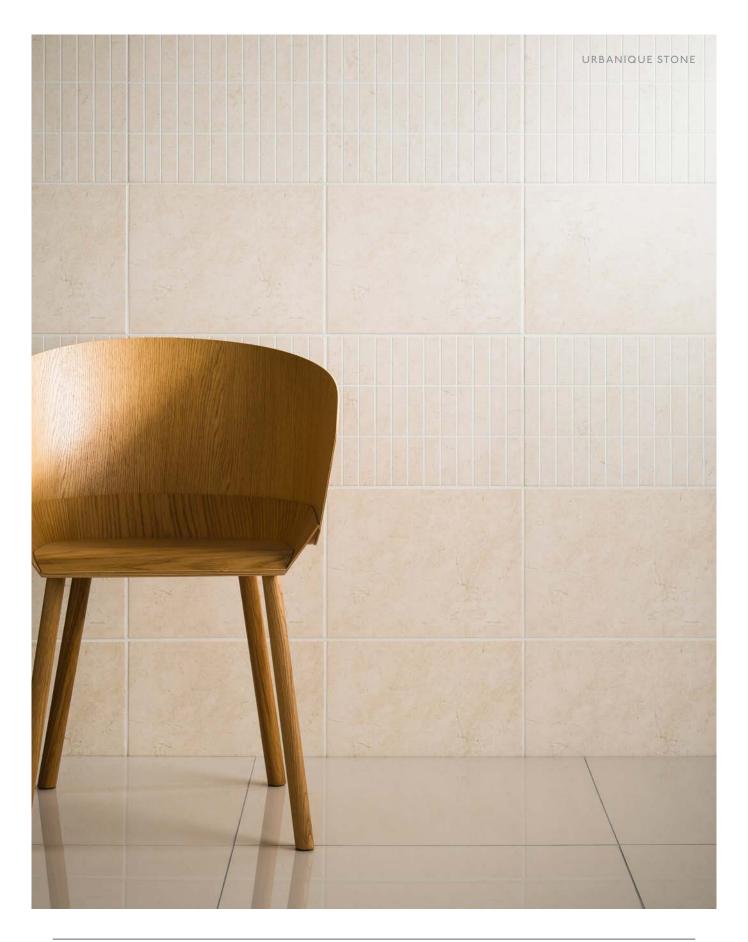


▲ Mink



■ Mink

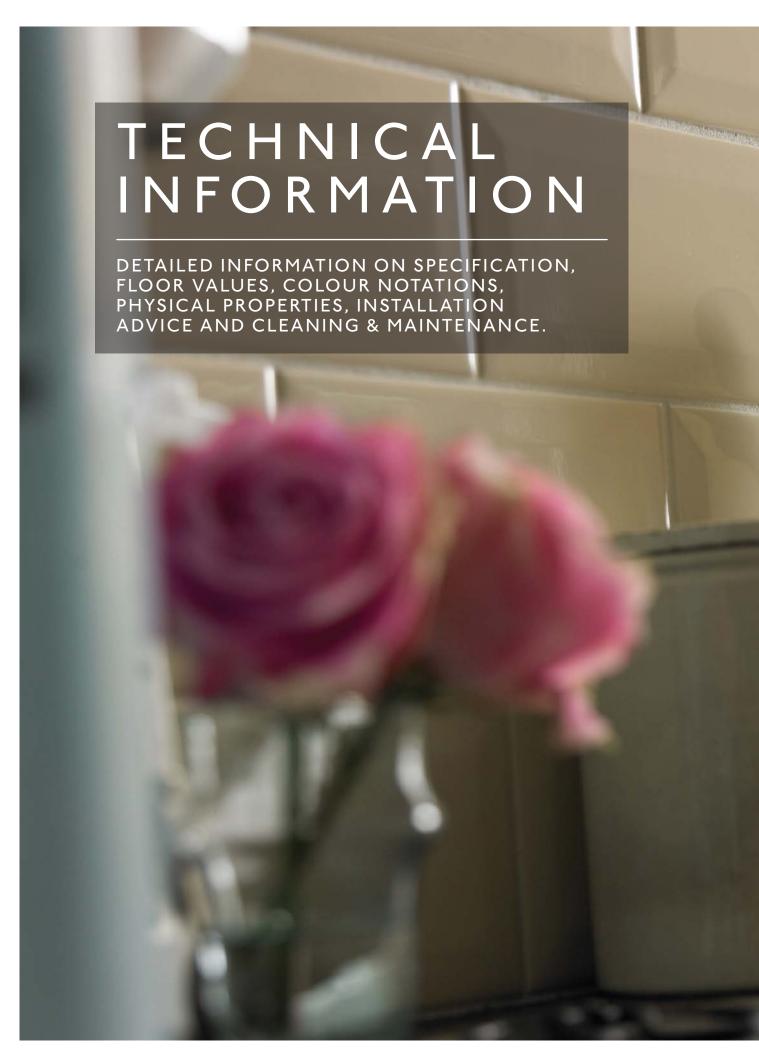
Scored Two Ways





#### 360x275x8mm

- URBNIA Stone Matt Finish
- URBNIS Stone Scored Two Ways Matt Finish
- URBN2A Honey Matt Finish URBN2S Honey Scored Two Ways Matt Finish
- URBN3A Mink Matt Finish
- URBN3S Mink Scored Two Ways Matt Finish





## $\widehat{\mathbf{i}}$ Technical Information

### Specification

| Ashlar         300x20x8mm         Internal         -         V3         Glazed Ceramic [8III]           Bevel Brick         200x10x6.5mm         Internal         -         V1         Glazed Ceramic [8III]           Zing Tauchistone         450x450x6.2mm         Internal & External         Internal         V2         Glazed Porcelain [8III]           Classics         300x20x8mm         Internal         -         V2         Glazed Porcelain [8III]           Country Stones         All Sizes         Internal         -         V2         Glazed Ceramic [8III]           Country Stones         All Sizes         Internal         -         V2         Glazed Ceramic [8III]           Country Stones         All Sizes         Internal         -         V3         Glazed Ceramic [8III]           Country         300x200x8mm         Internal         -         V3         Glazed Ceramic [8III]           Cristal         All Sizes         Internal & External         Internal         V3         Glazed Ceramic [8III]           Echo         300x200x8mm         Internal & External         -         V2         Glazed Ceramic [8III]           Grain         300x200x8mm         Internal & External         -         V2         Glazed Ceramic [8III]  | Range           | Size          | Wall Usage          | Floor Usage | CSV | Material                  |
|--|-----------------|---------------|---------------------|-------------|-----|---------------------------|
| City Touchstone         360x275x8mm         Internal         -         V2         Glazed Coranic [8III]           City Touchstone         450x450x82mm         Internal & External         Internal         V2         Glazed Porcelain [8Ia]           Classics         300x200x8mm         Internal         -         V2         Glazed Ceranic [8III]           Country Stones         All Sizes         Internal         -         V2         Glazed Ceranic [8III]           Country Stones         All Sizes         Internal         -         V3         Glazed Ceranic [8III]           Country Stones         All Sizes         Internal         -         V3         Glazed Ceranic [8III]           Country         300x200x8mm         Internal         -         V1         Glazed Ceranic [8III]           Cristal         All Sizes         Internal         -         V2         Glazed Ceranic [8III]           Grain         300x200x8mm         Internal         -         V2         Glazed Ceranic [8III]           Grasmer         360x275x8mm         Internal         -         V2         Glazed Ceranic [8III]           Kerastar         Internal & External         Internal & External         V1         Glazed Porcelain [8Ia]           Melford Marbie  | Ashlar          | 300x200x8mm   | Internal            | -           | V3  | Glazed Ceramic [BIII]     |
|  | Bevel Brick     | 200x100x6.5mm | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
| City Tourbstone         450x450x8.2mm         Internal & External         Internal         V2         Glazed Porcelain [Bia]           Classics         300x20x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Cuastics         300x20x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Country         300x20x8mm         Internal         -         V3         Glazed Ceramic [Bill]           Country         300x20x8mm         Internal         -         V3         Glazed Ceramic [Bill]           Cristal         All Sizes         Internal         -         V1         Glazed Ceramic [Bill]           Drift         300x20x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Echo         300x20x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Grasmere         360x275x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Grasmere         300x20x8mm         Internal         -         V2         Glazed Ceramic [Bill]           Lagos         330x33x8.5mm         Internal         -         V2         Glazed Ceramic [Bill]           Metford Marble         600x30x10mm         <   |                 |               | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Classics   300x200x8mm   | City Touchstone |               | Internal & External | Internal    | V2  | Glazed Porcelain [BIa]    |
| Country Stones   |                 | 600x600x9.3mm | Internal & External | Internal    | V2  | Glazed Porcelain [BIa]    |
| County   | Classics        | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| County   | Country Stones  | All Sizes     | Internal            | -           | V2  | Glazed Vitrified [BIIa]   |
| Turnata   Turn |                 |               | Internal            | -           | V3  | Glazed Ceramic [BIII]     |
| Drift   300x200x8mm  | County          |               | Internal & External | Internal    | V3  | Glazed Porcelain [BIa]    |
| Echo         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Grain         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Grasmere         360x275x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Kerastar         All Sizes         Internal & External         Internal & External*         VI         Un-Glazed Porcelain [BIa]           Lagos         330x330x8.5mm         Internal & External         Internal         VI         Glazed Porcelain [BIa]           Metford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [BIII]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Porcelain [BIa]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Ceramic [BIII]           Polar         All Sizes         Internal         -         V1         Glazed Ceramic [BIII]           Sanctuary         300x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio  | Cristal         | All Sizes     | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
| Grain         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Grasmere         360x275x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Kerastar         All Sizes         Internal & External         Internal & External * VI         Un-Glazed Porcelain [BIa]           Lagos         330x330x8.5mm         Internal & External         Internal         VI         Glazed Porcelain [BIa]           Melford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [BIII]           Micros         150x150x6.5mm         Internal & External         Internal         V2         Glazed Porcelain [BIa]           Polar         All Sizes         Internal         -         V1         Glazed Porcelain [BIII]           Sanctuary         300x200x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         316x316x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Tundra <td>Drift</td> <td>300x200x8mm</td> <td>Internal</td> <td>-</td> <td>V2</td> <td>Glazed Ceramic [BIII]</td>  | Drift           | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Grasmere         360x275x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Kerastar         All Sizes         Internal & External         Internal & External         VI         Un-Glazed Porcelain [BIa]           Lagos         330x30x8.5mm         Internal & External         Internal         VI         Glazed Porcelain [BIa]           Melford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [BIII]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Porcelain [BIa]           Polar         All Sizes         Internal         -         V1         Glazed Porcelain [BIII]           Sanctuary         300x20x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Shimmer         600x20x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   | Echo            | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Kerastar         All Sizes         Internal & External         Internal & External *         VI         Un-Glazed Porcelain [Bla]           Lagos         330x330x8.5mm         Internal & External         Internal         VI         Glazed Porcelain [Bla]           Melford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [Bll]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Ceramic [Bll]           Polar         All Sizes         Internal         -         V1         Glazed Ceramic [Bll]           Sanctuary         300x200x8mm         Internal         -         V1         Glazed Ceramic [Bll]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [Bll]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [Bll]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [Bll]   | Grain           | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Lagos   330x330x8.5mm  | Grasmere        | 360x275x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Melford Marble   |                 |               |                     |             | VI  | Un-Glazed Porcelain [BIa] |
| Melford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [BIII]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Ceramic [BIII]           Polar         All Sizes         Internal         -         V1         Glazed Ceramic [BIII]           Sanctuary         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   | Lagos           | 330x330x8.5mm | Internal & External | Internal    | VI  | Glazed Porcelain [BIa]    |
| Melford Marble         600x300x10mm         Internal         -         V2         Glazed Ceramic [BIII]           495x495x10mm         Internal & External         Internal         V2         Glazed Porcelain [BII]           Micros         150x150x6.5mm         Internal         -         V1         Glazed Ceramic [BIII]           Polar         All Sizes         Internal         -         V1         Glazed Ceramic [BIII]           Sanctuary         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio         316x316x9.5mm         Internal         -         V1         Glazed Ceramic [BIII]           Threads         300x200x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   |                 |               | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Micros         150x150x6.5mm         Internal & External         Internal         V2         Glazed Porcelain [Bla]           Polar         All Sizes         Internal         -         V1         Glazed Ceramic [BIII]           Sanctuary         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V2         Glazed Ceramic [BIII]  | Melford Marble  | 600x300x10mm  | Internal            | -           | V2  |                           |
| Polar   All Sizes   Internal   -     VI   Glazed Ceramic [BIII]  |                 |               | Internal & External | Internal    | V2  |                           |
| Sanctuary         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           Shimmer         316x316x9.5mm         Internal         Internal         V2         Glazed Vitrified [BIIa]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   | Micros          | 150x150x6.5mm | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
| Shimmer         600x200x9.5mm         Internal         -         V2         Glazed Ceramic [BIII]           316x316x9.5mm         Internal         Internal         V2         Glazed Vitrified [BIIa]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   | Polar           | All Sizes     | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
| Shimmer         316x316x9.5mm         Internal         Internal         V2         Glazed Vitrified [Blla]           Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [Blll]           Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [Blll]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [Blll]   | Sanctuary       | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Studio         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]           Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]  |                 | 600x200x9.5mm | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Threads         300x200x8mm         Internal         -         V2         Glazed Ceramic [BIII]           Tundra         360x275x8mm         Internal         -         V1         Glazed Ceramic [BIII]   | Shimmer         | 316x316x9.5mm | Internal            | Internal    | V2  | Glazed Vitrified [BIIa]   |
| Tundra 360x275x8mm Internal - VI Glazed Ceramic [BIII]   | Studio          | 360x275x8mm   | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
|  | Threads         | 300x200x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |
| Urbanique 360x275x8mm Internal - V2 Glazed Ceramic [BIII]  | Tundra          | 360x275x8mm   | Internal            | -           | VI  | Glazed Ceramic [BIII]     |
|  | Urbanique       | 360x275x8mm   | Internal            | -           | V2  | Glazed Ceramic [BIII]     |

#### Floor Values

| Range [Finish]         | Colour            | Pendulum 4S         | R Value | Wet<br>Ramp | Wet<br>Barefoot | PEI | Traffic          |
|------------------------|-------------------|---------------------|---------|-------------|-----------------|-----|------------------|
| City Touchstone [Matt] | White             | Dry 36+ Wet 25 - 35 | -       | -           | -               | IV  | Commercial       |
|                        | All Other Colours | Dry 36+ Wet 25 - 35 | -       | -           | -               | III | Light Commercial |

#### Floor Values

| Range [Finish]          | Colour            | Pendulum 4S         | R Value | Wet<br>Ramp | Wet<br>Barefoot | PEI | Traffic          |
|-------------------------|-------------------|---------------------|---------|-------------|-----------------|-----|------------------|
| County [Matt]           | All Colours       | Dry 36+ Wet 25 - 35 | -       | -           | -               | III | Light Commercial |
| Kerastar [Natural]      | All Colours       | Dry 36+ Wet 36+     | R9      | -           | -               | -   | Commercial       |
| Kerastar [Discface]     | All Colours       | Dry 36+ Wet 36+     | RII     | С           | Yes             | -   | Commercial       |
| Kerastar [Rocktop]      | All Colours       | Dry 36+ Wet 36+     | RI2     | С           | Yes             | -   | Commercial       |
|                         | White             | Dry 36+ Wet 0 - 24  | -       | -           | -               | IV  | Commercial       |
| Lagos [Matt]            | Beige             | Dry 36+ Wet 0 - 24  | -       | -           | -               | III | Light Commercial |
| Slate Effect            | Light Grey        | Dry 36+ Wet 0 - 24  | -       | -           | -               | II  | Domestic         |
|                         | All Other Colours | Dry 36+ Wet 0 - 24  | -       | -           | -               | I   | Light Domestic   |
| Molford Mouble (M. v.)  | Light Grey        | Dry 36+ Wet 0 - 24  | -       | -           | _               | IV  | Commercial       |
| Melford Marble [Matt] - | Dark Grey         | Dry 36+ Wet 0 - 24  | -       | -           | -               | III | Light Commercial |
| Shimmer [Satin] -       | Buff Steel        | Dry 36+ Wet 25 - 35 | -       | -           | -               | II  | Domestic         |
|                         | Warm White        | Dry 36+ Wet 0 - 24  | -       | -           | _               | IV  | Commercial       |

N.B Due to the manufacturing process of all floor tiles there may be small variations in slip resistance. Given this, please refer to our website or call our technical helpline for the most up-to-date information.

#### **Colour Notations**

| Black 900-N 4 Cream 1505-Y40R 62 Dark Grey 5502-B 21 Beyel Brick Light Grey 3005-R50B 42 White 1002-Y50R 73  Beige 3005-Y20R 42 White 1002-Y50R 73  Beige 3005-Y20R 42 White 2002-Y50R 55 Light Grey 3502-Y 38 Mid Grey 5005-Y80R 24 White 2002-Y50R 55 Light Grey 3502-Y 38 City Touchstone Light Grey 3502-Y 38 Light Grey 3502-Y  | Range            | Colour                  | NCS                  | LRV  | Range                                   | Colour  | NCS  | LR' |
|--|------------------|-------------------------|----------------------|------|---|---|--|-----|
| Ashlar Warm laupe   1505-Y50R 62   Weathered White   1002-Y50R 73    Black   9000-N   4   Cream   1505-Y40R 62   Dark Grey   5502-B   21   Bevel Brick   Light Grey   3005-R50B   42   White   1002-Y50R 73    Beige   3005-G50Y   42   White   1002-Y50R 73    City Touchstone   Light Grey   3502-Y   38   Mid Grey   5005-Y80R   24   White   2002-Y50R   55   City Touchstone   Light Grey   3502-Y   38   N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics   Classics, accurate LNCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classic White   1002-Y50R 54    Country Stones   Hearth Grey   4005-Y50R 53    Country Stones   Hearth Grey   4005-Y50R 62    Summer Storm   6500-N   16    Classic White   1505-Y70R 62    Country Stores   Natural Grey   2005-Y80R 53    Co |                  | Crafted Grey            | 2002-Y50R            | 55   | Cointel                                 | Cream   | 1005-Y20R  | 7   |
| Black 9000-N 4 Cream 1505-Y40R 62 Dark Grey 5502-B 21 Bevel Brick Light Grey 3005-R50B 42 White 1002-Y50R 73  Beige 3005-Y20R 42 City Touchstone Light Grey 3502-Y 38 Mid Grey 5005-Y80R 24 White 2002-Y50R 55  N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Classics Hearth Grey 4005-Y50R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Country Stones Hearth Grey 4005-Y50R 53 Midight 8000-N 8 Millistone White 1505-Y50R 62 Summer Storm 6500-N 16 Classic White 1505-Y70R 62 Summer Storm 6500-N 16 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  | Ashlar           | Warm Taupe              | 1505-Y50R            | 62   | Cristal                                 | White   | 0500-N   | 86  |
| Black Cream 1505-Y40R 62 Dark Grey 5502-B 21 Bevel Brick Light Grey 3005-R50B 42 Light Grey 3005-R50B 42 White 1002-Y50R 73  Beige 3005-C50Y 42 White 1002-Y50R 73  Beige 3005-Y20R 42 Light Grey 5005-Y80R 42 White 1002-Y50R 73  City Touchstone Mid Grey 5005-Y80R 24 White 2002-Y50R 55  N.B Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our technical Helpline below.  Classics  Due to the variation in colour of all tiles in Classics, accurate NC5 and LRV readings cannot be calculated. For further information, please contact our Technical Helpline.  Classics Clay Brown 5010-Y10R 24 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Country Stones Hearth Grey 4005-Y50R 31 Midlight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Country Store Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Store Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53   |                  | Weathered White         | 1002-Y50R            | 73   | N.B Due to the co<br>Grey Stripe Border | lour variation of Beige Strip<br>, Grey Stripe Inset and Blue | e Border, Beige Stripe Inset<br>Stripe Inset, accurate Light | ,   |
| Bevel Brick    Dark Grey   5502-B   21   |                  | Black                   | 9000-N               | 4    |   |   |  | er  |
| Bevel Brick  Light Grey Red 1580-Y90R 14 Red 1580-Y90R 14 Red 1580-Y90R 14 Red 1002-Y50R 73   Desert Red Rod 1580-Y90R Rod Rod Rod Rod Rod Rod Rod Rod Rod Ro  |                  | Cream                   | 1505-Y40R            | 62   |   |   |  |     |
| Bevel Brick    Red   |                  | Dark Grey               | 5502-B               | 2    |   | Due to the variation  | on in colour of all tiles in                                 |     |
| Red 1580-Y90R 14 Sage 3005-G50Y 42 White 1002-Y50R 73  Beige 3005-F20R 42 Ether Store 1002-Y50R 73  Beige 3005-Y20R 42 Light Grey 3502-Y 38 Mid Grey 5005-Y80R 24 White 2002-Y50R 55 N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Bartley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53  Country Stones Hearth Grey 4005-Y50R 31 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53   | Bevel Brick      | Light Grey              | 3005-R50B            | 42   | D 16                                    |   |  |     |
| White 1002-Y50R 73  Beige 3005-Y20R 42 Light Grey 3502-Y 38 Mid Grey 5005-Y80R 24 White 2002-Y50R 55  N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics Classics accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 33  Country Stones Hearth Grey 4005-Y50R 31 Millistone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53   |                  |                         |                      |      | Drift                                   |   |  |     |
| City Touchstone  Beige 3005-Y20R 42 Light Grey 3502-Y 38 Mid Grey 5005-Y80R 24 White 2002-Y50R 55 N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53  Country Stones Hearth Grey 4005-Y50R 31 Midlistone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  |                  | Sage                    |                      |      |   | contact our techni  | cal helpline below.  |     |
| City Touchstone    Beige   3005-Y20R   42   42   5105-Y50R   3502-Y   38   7.7   38   38   38   38   38   38   38   3  |                  | White                   | 1002-Y50R            | 73   |   |   |  |     |
| City Touchstone  Light Grey Mid Grey S005-Y80R 24 White 2002-Y50R 55  N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream Clay Brown S010-Y10R Country Stones Hearth Grey Midnight Millstone White 1505-Y50R S1  Classic White 1505-Y50R Classic White 1505-Y50R Classic White 1505-Y70R Classic White 1505-Y70R Classic White 1505-Y50R Classic White 1505-Y |                  |                         |                      |      |   | Desert  |  |     |
| City Touchstone  Mid Grey White  5005-Y80R 24 White  5005-Y80R 55  N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics  Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream Clay Brown Dovetail Dovetail 2005-Y50R Hearth Grey Midnight Millstone White 1505-Y50R Summer Storm Classic White 1505-Y70R C |                  | Beige                   | 3005-Y20R            | 42   | Echo                                    | Glacier   | 1002-Y50R  | 7.  |
| Mid Grey White 2002-Y50R 55  N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream Classics accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 33  Country Stones Hearth Grey Midnight 8000-N Millstone White 1505-Y50R 62 Summer Storm 6500-N  Classic White Natural Grey Natural Grey 2005-Y80R 53  Classic White Natural Grey 2005-Y80R 53  Classic White Natural Grey 2005-Y80R 53  Country Stones N.B. Due to the colour variation of Glacier Linear, Shadow Linear and Desert Linear accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Grain  Ash 1505-Y70R 62 Driftwood 4005-Y50R 3  Grasmere Grasmere Grasmere  Grasmere  Grasmere  Biscuit 2005-Y40R 54 Clay 5502-R 2 Cord 3010-Y20R 4  Kerastar Fawn 5005-Y50R 2 Graphite 7000-N 1  Graphite 7000-N 1  Hail 3005-Y20R 4  Elinear accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.   | City Taylohatana | Light Grey              | 3502-Y               | 38   |   | Shadow  | 1502-Y50R  | 64  |
| N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream Clay Brown Clay Brown Clay Brown Clay Brown Clay Brown Clay Brown Country Stones  Hearth Grey Midnight Millstone White Mi | City fouchstone  | Mid Grey                | 5005-Y80R            |      | N.B Due to the co                       | lour variation of Glacier Line                                | ear, Shadow Linear and Des                                   | ert |
| N.B. Due to the colour variation of Beige Mix and Grey Mix, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.  Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Country Stones Hearth Grey 4005-Y50R 31 Midnight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Stones Natural Grey 2005-Y80R 53  |                  | White                   | 2002-Y50R            | 55   |   |   |  |     |
| Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Country Stones Hearth Grey 4005-Y50R 31 Midnight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Stones Hearth Grey 405-Y50R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Stones Hearth Grey 4005-Y50R 31 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  |                  |                         |                      |      | calculated. For fur                     | ther information, please cor                                  | tact our Technical Helplin                                   | e.  |
| Classics  Due to the variation in colour of all tiles in Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Chalk 1505-G90Y 64 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Stones Hearth Grey 4005-Y50R 31 Clay 5005-Y50R 24 Graphite 7000-N 13 Grap |                  |                         |                      |      |   | Ash   | 1505-Y70R  | 62  |
| Classics  Classics, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Country Stones Hearth Grey 4005-Y50R 31 Midnight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y80R 53  Classic White 1505-Y80R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y80R 62 Natural Grey 2005-Y80R 53  Classic White 1505-Y80R 53  Classic White 1505-Y80R 53  Due to the variation in colour of all tiles in Grasmere, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Biscuit 2005-Y40R 54 Chalk 1505-G90Y 64 Clay 5502-R 24 Cord 3010-Y20R 40 Granite 4005-Y20R 37 Graphite 7000-N 13 Hail 3005-Y20R 47   |                  |                         |                      |      | Grain                                   | Driftwood   | 4005-Y50R  | 3   |
| Country Stones Hearth Grey 4005-Y50R 31 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16  Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Country Stones Cannot be calculated. For further information, please contact our technical helpline below.  Grasmere Grasmere Due to the variation in colour of all tiles in Grasmere, accurate NCS and LRV readings cannot be calculated. For further information, please contact our technical helpline below.  Barley Cream 2005-Y40R 54 Clay Brown 5010-Y10R 24 Dovetail 2005-Y50R 53 Chalk 1505-G90Y 64 Clay 5502-R 21 Clay 5502-R 21 Cord 3010-Y20R 40 Granite 4005-Y50R 32 Graphite 7000-N 13 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53   |                  |                         |                      |      | -                                       |   |  |     |
| Country Stones Hearth Grey 4005-Y50R 31 Midnight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53 Chask 1505-Y20R 32 Graphite 7000-N 13 Natural Grey 2005-Y80R 53 Chask 1505-Y20R 40 Country Stones Raile Storm 65 Natural Grey 2005-Y80R 53 Chask 1505-G90Y 64 Clay 5502-R 21 Clay 5502-R 21 Clay 5502-R 21 Clay 5502-R 22 Cord 3010-Y20R 40 Cord 3010 | Classics         |                         |                      | ion, |   |   |  | ı   |
| Barley Cream   2005-Y40R   54     Clay Brown   5010-Y10R   24   Dovetail   2005-Y50R   53   Chalk   1505-G90Y   64   Clay Brown   64   Clay Brown   65   Clay      |                  | please contact our tech | nnical helpline belo | W.   | Grasmere                                |   |  | ion |
| Barley Cream   2005-Y40R   54  |                  |                         |                      |      |   |   |  |     |
| Dovetail   2005-Y50R   53   Chalk   1505-G90Y   62   Classic White   1505-Y70R   62   Classic White   1505-Y70R   62   Classic White   1505-Y50R   62   Classic Whi   |                  | Barley Cream            | 2005-Y40R            |      |   |   |  |     |
| Dovetail   2005-Y50R   53  |                  | Clay Brown              | 5010-Y10R            |      |   | Biscuit   | 2005-Y40R  | 5.4 |
| Country Stones   Hearth Grey   4005-Y50R   31     Clay   5502-R   2  |                  | Dovetail                |                      |      |   |   |  | _   |
| Midnight 8000-N 8 Millstone White 1505-Y50R 62 Summer Storm 6500-N 16 Classic White 1505-Y70R 62 Natural Grey 2005-Y80R 53  Midnight 8000-N 8 Cord 3010-Y20R 40 Kerastar Fawn 5005-Y50R 24 Granite 4005-Y20R 37 Graphite 7000-N 17 Graphite 3005-Y20R 47 Metal Grey 2005-Y80R 53   | Country Stones   | Hearth Grey             | 4005-Y50R            | 3    |   |   |  | _   |
| Millstone White 1505-Y50R 62 Kerastar Fawn 5005-Y50R 24 Summer Storm 6500-N 16 Granite 4005-Y20R 32 Graphite 7000-N 13 Classic White 1505-Y70R 62 Hail 3005-Y20R 42 Natural Grey 2005-Y80R 53  |                  |                         |                      | -    |   |   |  |     |
| Summer Storm         6500-N         16         Granite         4005-Y20R         33           Graphite         7000-N         13           Classic White         1505-Y70R         62         Hail         3005-Y20R         43           Natural Grey         2005-Y80R         53  |                  |                         |                      | 62   | Kerastar                                |   |  |     |
| Graphite 7000-N 13 Classic White 1505-Y70R 62 Hail 3005-Y20R 43 Natural Grey 2005-Y80R 53  |                  | Summer Storm            | 6500-N               | 16   |   |   |  |     |
| Classic White 1505-Y70R 62 Hail 3005-Y20R 4: Natural Grey 2005-Y80R 53   |                  |                         |                      |      |   |   |  |     |
| Natural Grey 2005-Y80R 53 ———————————————————————————————————  |                  | Classic White           | 1505-Y70R            | 62   |   |   |  |     |
| County   |                  |                         |                      |      |   | 11010   | 3003 12010   | т.  |
| 010 010110 2000 10011 31   | County           |                         |                      |      |   |   |  |     |
| Rustic Taupe 3005-Y50R 40  |                  |                         |                      |      |   |   |  |     |

## i Technical Information

#### **Colour Notations**

| Range          | Colour     | NCS       | LRV |
|----------------|------------|-----------|-----|
| Kerastar       | Linen      | 2005-Y30R | 55  |
|                | Mud        | 5005-Y80R | 24  |
|                | Night      | 8000-N    | 8   |
|                | Night Sky  | 8000-N    | 8   |
|                | Pumice     | 3502-Y    | 38  |
|                | Putty      | 4502-Y    | 29  |
|                | Shadow     | 7005-R50B | 12  |
|                | String     | 2005-Y40R | 54  |
| Lagos          | Beige      | 2005-Y40R | 54  |
|                | Black      | 8500-N    | 6   |
|                | Dark Grey  | 7000-N    | 13  |
|                | Light Grey | 4502-Y    | 29  |
|                | White      | 1502-Y50R | 64  |
| Melford Marble | Dark Grey  | 3005-Y80R | 42  |
|                | Light Grey | 2000-N    | 57  |
| Micros         | Black      | 9000-N    | 4   |
|                | Magnolia   | 1005-Y40R | 7 I |
|                | Shark      | 2002-G50Y | 57  |
|                | White      | 0500-N    | 86  |

 $N.B. \ \ Due to the colour variation of \ White/Shark and Magnolia/Redwood, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.$ 

| Polar     | White          | 0500-N    | 86 |
|-----------|----------------|-----------|----|
| Sanctuary | Bath           | 1000-N    | 74 |
|           | Bianco Carrara | 0500-N    | 86 |
|           | Buxton         | 1005-Y50R | 70 |
|           | Horizon        | 1005-Y20R | 71 |
|           | Matlock        | 0603-Y40R | 82 |

| Range  | Colour     | NCS       | LRV |  |
|--|------------|-----------|-----|--|
| Shimmer  | Buff Steel | 6005-Y80R | 18  |  |
|  | Platinum   | 2500-N    | 50  |  |
|  | Warm White | 1000-N    | 74  |  |
| Studio   | Haze       | 1005-Y30R | 70  |  |
|  | Mist       | 3005-Y80R | 42  |  |
|  | Sand       | 3005-Y50R | 40  |  |
|  | Tundra     | 0500-N    | 86  |  |
| N.P. Due to the colour variation of Reign Miv and Gray Miv Rorders, accurate |            |           |     |  |

N.B. Due to the colour variation of Beige Mix and Grey Mix Borders, accurate Light Reflectance values and Colour Notations cannot be calculated. For further information, please contact our Technical Helpline.

| Threads   | Cotton | 1505-Y70R | 62  |
|-----------|--------|-----------|-----|
|           | Flax   | 7005-Y50R | 12  |
|           | Taupe  | 4005-Y50R | 31  |
| Tundra    | White  | 0500-N    | 86  |
| Urbanique | Honey  | 1515-Y30R | 58  |
|           | Mink   | 3010-Y40R | 39  |
|           | Stone  | 1005-Y20R | 7 I |

N.B. These results are from Johnson Tiles' internal test reports and are to be used for guidance only. NCS: Natural Colour System. LRV: Light Reflectance Value [Reflectance Y].



#### Physical Properties - Ceramic Tiles

| Tes     | t                    | Standard          | Requirements   | Typical Test Result  |
|---------|----------------------|-------------------|----------------|--|
|         | Length / Width       | EN ISO 10545 - 2  | ±0.5% ≤ ±2mm   | Pass   |
| <u></u> | Thickness            | EN ISO 10545 - 2  | ±10% ≤ ±0.5mm  | Pass   |
|         | Straightness of Side | EN ISO 10545 - 2  | ±0.3% ≤ ±1.5mm | Pass   |
|         | Water Absorption     | EN ISO 10545 - 3  | 10% to 20%     | Pass   |
|         | Modulus of Rupture   | EN ISO 10545 - 4  | Min I5N / mm²  | Pass   |
| *       | Frost Resistance     | EN ISO 10545 - 12 |                | Not suitable for installations where temperatures may fall below freezing. |
|         | Stain Resistance     | EN ISO 10545 - 14 | Min Class 3    | Pass   |

N.B Classed as BIII products [Glazed Ceramic]. All products conform to BS EN 14411.

#### Physical Properties - Vitrified Tiles

| Tes     | st                   | Standard          | Requirements   | Typical Test Result  |
|---------|----------------------|-------------------|----------------|--|
|         | Length / Width       | EN ISO 10545 - 2  | ±0.6% ≤ ±2mm   | Pass   |
| <u></u> | Thickness            | EN ISO 10545 - 2  | ±5% ≤ ±0.5mm   | Pass   |
| - +     | Straightness of Side | EN ISO 10545 - 2  | ±0.5% ≤ ±1.5mm | Pass   |
|         | Water Absorption     | EN ISO 10545 - 3  | 3% to 6%       | Pass   |
|         | Modulus of Rupture   | EN ISO 10545 - 4  | Min 22N / mm²  | Pass   |
| *       | Frost Resistance     | EN ISO 10545 - 12 |                | Not suitable for installations<br>where temperatures may fall<br>below freezing. |
|         | Stain Resistance     | EN ISO 10545 - 14 | Min Class 3    | Pass   |

 $<sup>\</sup>textbf{N.B.}$  Classed as BIIa products [Glazed Vitrified]. All products conform to BS EN 14411.

#### Physical Properties - Porcelain Tiles

| Test    |                      | Standard          | Requirements   | Typical Test Result |
|---------|----------------------|-------------------|----------------|---------------------|
|         | Length / Width       | EN ISO 10545 - 2  | ±0.6% ≤ ±2mm   | Pass                |
| <u></u> | Thickness            | EN ISO 10545 - 2  | ±5% ≤ ±0.5mm   | Pass                |
| +       | Straightness of Side | EN ISO 10545 - 2  | ±0.5% ≤ ±1.5mm | Pass                |
|         | Water Absorption     | EN ISO 10545 - 3  | ≤ 0.5%         | Pass                |
|         | Modulus of Rupture   | EN ISO 10545 - 4  | Min 35N / mm²  | Pass                |
| *       | Frost Resistance     | EN ISO 10545 - 12 | Resistant      | Resistant           |
|         | Stain Resistance     | EN ISO 10545 - 14 | Min Class 3    | Pass                |

 $\textbf{N.B.} \ \ \textbf{Classed as Bla products} \ \ [\textbf{Glazed Porcelain}]. \ \ \textbf{All products conform to BS EN 14411}.$ 

#### (i) Technical Information

#### Colour Shade Variation

Colour Shade Variation [CSV] values are assigned to wall and floor tiles within this booklet. These values are to be used for guidance only

Shade, colour and pattern variation are inherent characteristics of all ceramic, vitrified and porcelain tiles. Before fixing, several cartons should be opened and their contents mixed to ensure that the shade variation and/or patterning are acceptable

Colour Shade Variation [CSV] is split into four categories:



#### VI [Low Shade Variation]

Least possible shade variation between tiles in a box. When installed and mixed correctly the effect is a consistent overall appearance.



#### V2 [Low to Moderate Shade Variation]

Low to moderate shade variation within a box. When installed and mixed correctly the effect is a finish with subtle shade differences. These differences are a design feature of V2 rated tiles.



#### V3 [Moderate to High Shade Variation]

Considerable shade variation within a box When installed and mixed correctly the effect is a finish with a high degree of shade variation. These differences are a design feature of V3



#### V4 [High Shade Variation]

Highest possible shade variation within a box. Colours vary from tile to tile and when mixed and fixed correctly create a high degree of shade variation. This high shade variation is a design feature of V4 rated tiles.

#### Pendulum 4S Results

The slip resistance of a floor finish is the most important safety consideration. Effective and suitable slip-resistant characteristics will reduce the likelihood of slipping, particularly for older, mobility impaired and visually impaired people.

The Pendulum Test is the standard and preferred Health and Safety Executive [HSE] test method for the assessment of floor slipperiness in dry and contaminated conditions. This portable test can be used to test floor products in the laboratory or in-situ and uses a swinging test apparatus, which simulates the act of walking over the flooring materials.

The 4S Slider 96 [Pendulum 4S] replicates typical shod trafficking. Products are tested dry and with a water lubricant and are then classed into one of the following three groups as an indication of their suitability:

0 - 24 [High Slip Potential]

25 - 35 [Moderate Slip Potential]

**36+** [Low Slip Potential]

The Pendulum 4S results contained in this booklet are based on Johnson Tiles' internal test reports along with information available at the time of print and are to be used for guidance purposes only.

Project-specific requirements should be used and checks should be made so that the requirements at the time of specification are incorporated. Further information is available from - www.hse.gov.uk

#### **R Values**

The German ramp test is used to generate the R Value ratings [DIN 51130] used commonly in North Europe. This test can only be carried out in a laboratory, so does not allow in-situ testing of materials.

This is a shod foot test which uses oil as a contaminant. These results are then interpreted into one of the following five groups:

#### **R9** [6° to 10°]

Entrances and stairways accessed from outside, restaurants, shops, hospitals, clinic, schools etc.

#### **RIO** [10° to 19°]

Shared toilets and showers, small kitchens in restaurants and cafés, garages and basements etc.

#### **RII** [19° to 27°]

Food production facilities; mid sized kitchens in restaurants and cafés, working environments where there is a lot of water, laboratories, laundries, hangers etc.

#### **RI2** [27° to 35°]

Production facilities for foods rich in fats; such as dairy products, food oils and cured meats, large kitchens in restaurants and cafés, industrial areas where slippery substances are used etc.

#### R13 [>35°]

Areas where large quantities of fats are used; food processing areas etc.

R Value ratings have generally been used to assess product suitability in the UK. However, this is changing dramatically following recommendations from the HSE with the preferred test method being the Pendulum test.

#### PEI Ratings and Traffic

Porcelain Enamel Institute [PEI] ratings refer to the surface abrasion resistance of a glazed floor tile. The test is only used for glazed tiles - through-body porcelain and un-glazed porcelain are tested using the EN ISO 10545-6 Deep Abrasion Test.

All glazed floor tiles within this booklet are rated with a PEI value along with a foot traffic suitability recommendation, these values and recommendations are split into the following five categories:

#### PEII [Light Domestic Traffic]

Floors walked on with soft soled footwear with no scratching dirt - for example; residential bathrooms without direct outside access, en-suite bathrooms etc.

#### **PEI II** [Domestic Traffic]

Floors walked on with soft soled or normal footwear with occasional small amounts of scratching dirt - for example rooms in living areas of home, but not kitchens.

#### PEI III [Light Commercial Traffic]

Floors walked on with normal footwear with small amounts of scratching dirt - for example; residential halls, corridors, kitchens or conservatories.

#### PEI IV [Commercial Traffic]

Floors walked on by regular traffic with the presence of some scratching dirt but more severe than PEI III's – for example; hotels, restaurants and shops without direct external access.

#### PEI V [Heavy Commercial Traffic]

Floors subject to severe pedestrian traffic over sustained periods with the presence of some scratching dirt - for example; shopping centres, hotel foyers, commercial floors, institutional uses etc.

#### Wet Ramp

The German ramp test is used to generate the ABC ratings [DIN 51097] used commonly in North Europe. These tests can only be carried out in a laboratory, so does not allow in-situ testing of materials.

This a wet barefoot test where a soap solution is applied as a contaminant, the results from this test are placed into one of the following three categories:

#### **Class A** [12° to 17°]

Dry areas including dry changing room areas, dry barefoot corridors etc.

#### **Class B** [18° to 23°]

Same as Class A with the addition of swimming pool surrounds, communal showers, pool beach areas, disinfectant spray areas, wet changing room areas etc

#### Class C [>23°]

Same as Class A and Class B with the addition of swimming pool surround inclines, walk through pools, jacuzzi floors and seats, inclined pool edges and steps etc.

ABC ratings have generally been used to assess product suitability in the UK. However, this is changing dramatically following recommendations from the HSE with the preferred test method being the Pendulum test.

#### Wet Barefoot Areas

The slip resistance of a floor finish is the most important safety consideration. Effective and suitable slip-resistant characteristics will reduce the likelihood of slipping, particularly for older, mobility impaired and visually impaired people.

The Pendulum Test is the standard and preferred Health and Safety Executive [HSE] test method for the assessment of floor slipperiness in dry and contaminated conditions. This portable test can be used to test floor products in the laboratory or in-situ and uses a swinging test apparatus, which simulates the act of walking over the flooring materials.

The Slider 55 [Pendulum TRRL] replicates wet barefoot trafficking for areas such as; wet changing rooms, swimming pool surrounds, shower areas, etc. Products are tested with a water lubricant and are then given a 'Yes' classification if they're suitable for Wet Barefoot

The Pendulum TRRL results contained in this booklet are based on Johnson Tiles' internal test reports along with information available at the time of print and are to be used for guidance purposes only.

Project-specific requirements should be used and checks should be made so that the requirements at the time of specification are incorporated. Further information is available from - www.hse.gov.uk

#### Light Reflectance Values

LRV is a general term for contrast and is measured as the proportion of useful light reflected by a coloured object, floor, wall or ceiling. LRV is measured on a scale of 0 to 100 where 0 is perfect black and 100 is perfect white.

The current guidelines from Building Regulations Approved Document M on contrast are that a minimum difference of 30 LRV points should be specified for adjacent surfaces to ensure that visually impaired people are not discriminated against.



#### Colours are notated by the Natural Colour System (NCS).

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#### Accessibility and Support

The Equality Act 2010 has replaced the Disability Discrimination Act and in general, carries forward the protection that the Disability Discrimination Act provided for disabled people. The Disability Discrimination Act was repealed in October 2010.

The Equality Act requires accessible environments to be provided for disabled people, either in their place of work or for access to goods, services or facilities [public spaces]. Those commissioning new buildings or adaptations to existing buildings must consider the implications of the Equality Act and their ability to provide buildings that do not discriminate against disabled people [physical or mental impairments].

#### Colour Reflectance [Contrast]

The Equality Act gives guidance on good visual contrast for the visually impaired between various elements of a building by the use of Light Reflectance Values [LRV].

LRV is a general term for contrast and is measured as the proportion of useful light reflected by a coloured object, floor, wall or ceiling. LRV is measured on a scale of 0 to 100 where 0 is perfect black and 100 perfect white (in reality 0 and 100 are unobtainable colours). According to NCS Colour Centre in practical terms black is approx 6 and white approx 85.

The current guidelines from Building Regulations Approved Document M on contrast are that a minimum different of 30 LRV points should be specified for adjacent surfaces to ensure that visually impaired people are not discriminated against. In a specific example of ceramic tiles this difference should be between:

#### Floors to Walls

#### Ceiling to Walls

#### Handrails to Walls

#### Sanitary Fittings to Walls

The visual contrast between floors and walls is important in enabling visually impaired people to assess and gauge the size and shape of a room. The greatest visual contrast must occur where the floor meets the wall [skirting] as this gives the most accurate visual indication of the extent of the room. Where provided, skirting's should contrast visually with the floor and be similar in colour and tone to the wall surface.

This information is not exhaustive and the requirements at the time of specification must be checked

BS8300:2001 Amendment I indicates that there is anecdotal evidence to suggest that a 20 point LRV difference may be sufficient – especially where large adjacent areas are involved.

It must be noted that the guidance on LRV values given in this booklet is correct at the time of print. This is a subject that may be reviewed by the regulatory body at any time so it is advisable to check the guidelines at the time of specification of product.

The Equality Act details given in this brochure are to be used as an outline guide only and are the details as Johnson Tiles understand them at the time of print. Further qualified advice should be sought if any of the details given above are in doubt

#### (i) Technical Information

#### Installation Advice

#### Codes of Practice

All fixing of floor and cladding tiles should be in accordance with the following codes of practice guidelines:

[Code of practice for the design and installation of internal wall tiling and mosaics in normal conditions]

#### BS5385 Part 2 - 2006

[Code of practice for the design and installation of external ceramic wall tiling and mosaics]

#### BS5385 Part 3 - 1989

[Code of practice for the design and installation of ceramic floor tiles and mosaics]

#### BS5385 Part 4 - 1992

[Code of practice for ceramic tiling and mosaic in specific conditions

BS8000 Section I I.I - 1989 [Workmanship on Building Sites, Part I I, Code of practice for wall and floor tiling]

Floor and cladding tiles are made from quality refined raw materials and are classed as Bla [Porcelain] products, as such they require the use of polymer modified adhesives [classification C2\*] and grouts specially formulated for fixing and grouting of porcelain tiles.

\* Check with adhesive manufacturer for additional CI product suitability.

Before tiling is commenced it is important to ensure that the correct minimum curing periods have been observed for all

#### Concrete [6 Weeks]

Screed - Non Modified [3 Weeks]

Rendering - Non Modified [2 Weeks]

Gypsum Plastering [4 Weeks]

Brickwork / Blockwork [6 Weeks]

Accuracy of the substrate must be checked to ensure that the guidance given in BS5385 has been achieved i.e. "local variations in level for a nominally flat floor or wall should be such that, when checked with a 2m straightedge, any gap under the straightedge between points of contact does not exceed 3mm".

The location, type and scope of all movement joints must be ascertained prior to any fixing works. All structural joints must be followed through to the face of the tile at full width with intermediate movement joints [minimum 6mm wide] being

#### Changes of Plane

Wall / Floor Junctions

#### Where Tiling Abuts Other Materials

Additionally at 3 to 4.5m maximum centres for wall tiling and 8 to 10m maximum bay centres for floor tiling [in suspended floors the bay dimensions should be reduced by providing additional joints over supporting walls and beams].

Movement joints can either be filled with a suitable backer, bond breaker and filler [e.g. epoxy polysulphide - please check with manufacturer for suitability] or be of the pre-formed variety.

#### Design / Layout

Consideration to locations of plane changes and room sizes should be undertaken to ensure the best tile size is selected to minimise cutting and improve aesthetics.

#### Adhesives

Adhesives should be in accordance with BS EN 12004, Class C2\*. Particular adhesive choice will be governed by the substrate.

\* Check with adhesive manufacturer for additional CI product suitability.

Johnson Tiles recommend the use of Norcros Adhesives products, see below:

| Substrate             | Product   |
|-----------------------|---|
| Concrete              | Rapid Set / Rapid Set Flexible                                  |
| Sand / Cement Screed  | Rapid Set / Rapid Set Flexible                                  |
| Wood Floors           | Speed Flex Overlay with minimum 12mm WBP / marine ply and prime |
| Brickwork / Blockwork | One Part Flexible   |
| Sand / Cement Render  | One Part Flexible   |
| Plasterboard          | One Part Flexible<br>Prime with Prime & Seal                    |
|                       |   |

The choice of grout type should reflect the expected service conditions of the installation.

For general floor tiling grouts should be class CG2 i.e. Wide Joint Flexible Grout.

For floors subject to frequent wetting i.e. showers and pool halls grout should be class CG2 for hard water areas or RG1 for soft water areas i.e. Wide Joint Flexible Grout [CG2], Easy Clean Epoxy [RGI].

Where hygiene is important ie commercial kitchens and hospitals grout should be class RGI i.e. Easy Clean Epoxy.

#### Fixing Tiles

All floor tiles should be fixed with a solid bed of adhesive, this ensures maximum durability and strength within the installation and long term adhesion performance. This is achieved with the use  $% \left\{ 1\right\} =\left\{ 1\right\} =$ of a notched solid bed trowel. It is good practice to periodically remove a recently fixed tile to ensure that the correct bedding is being achieved and maintained. When fixing all tiles care must be taken to ensure that no lipping of tiles occurs.

#### Cleaning and Maintenance

Maintaining the appearance and characteristics [especially slip resistance values] of floor tiles is achieved with the implementation of a suitable cleaning regime. It must be stressed that the cleaning material manufacturers instructions must be followed at all times. Regular and correctly undertaken cleaning should maintain a flooring product as close to its original state as possible. Incorrect or infrequent cleaning will adversely affect the properties of the flooring material and increase potential hazards. Generally the smoother the surface of the tile the easier it is to clean. However, it should be noted that textured products, required to give adequate slip resistance when wet, can be satisfactorily cleaned – the cleanability of a surface is more a function of the contaminant than the texture of the surface. It is therefore essential when selecting and specifying a floor finish that the use of the area and likely contaminants, safety, aesthetic and hygiene requirements are all taken into account at the specification stage.

Cleaning can be split into several categories, each of which is dependant upon installation type [i.e. wet barefoot areas, shopping malls, public toilets, etc] and frequency of usage [i.e. high, medium or low traffic]:

#### **Builders Clean**

This should be undertaken before a floor is being brought into service. The builders clean removes any residual film leftover from the grouting operation and is a one-off cleaning process. This must be carried out as any grout residues left behind will act as a key for dirt resulting in the installation being difficult to clean.

Temporary sealers may be used to facilitate cleaning off after laying which can be removed with the use of alkaline detergents.

#### Cementitious Grouts

The use of a mild acid de-cementing solution followed by thorough rinsing will remove all but the most stubborn of cement residues.

#### **Epoxide Grouts**

It is essential that ALL residue must be removed from the surface of the tiles during the grouting process and before the resin cures. Failure to achieve this will result in a very difficult and expensive process using gel-type epoxide removers.

#### Routine Cleaning

The regular use of detergents or other cleaning agents, which are excessively acidic or alkaline could cause irreversible damage to the ceramic tile surface. Degreasing agents that contain wax, sodium silicate or other additives which leave sticky deposits and thus retain dirt should be avoided. Oil residues or build-ups of wax can be removed with a proprietary wax and polish remover.

#### Manual Cleaning

In normal conditions tiles require little maintenance and can be easily kept clean by sweeping and then mopping with warm water to which a neutral or nearly neutral detergent has been added. The cleaning solution should remain on the floor for 5 to 15 minutes [see manufacturers instructions] to allow it to penetrate and emulsify the dirt after which it should be removed by rinsing thoroughly with clean water. The rinsing process removes the dirt so the use of clean water is important.

#### Mechanical Cleaning

For larger floor areas or areas of textured tiles the use of a rotary scrubbing machine is recommended [machines should not be used at speeds in excess of 450rpm]. The choice of brush type is very important. Union mix brushes are suitable for light washing and scrubbing, polypropylene brushes are suitable where dirt deposits are especially heavy. The cleaning solution should remain on the floor for 5 to 15 minutes [see manufacturers instructions] after which a secondary scrubbing action and clean mop or suction should be undertaken to remove the solution and dirt.

#### High Pressure Cleaning

Tiles seldom require the use of high-pressure cleaning. Whilst the process will not damage the tiles care must be taken to avoid erosion of the grout. To minimise grout erosion ensure that the water beam is continually moved from side to side and not allowed to concentrate on the grouted joints. Water containing abrasives or steam cleaners should not be used on ceramic tiles.

#### Wet Areas

Wet barefoot areas may attract build-ups of body fats, soaps, oil residues and organic growth. To prevent these a mildly acidic cleaning agent used regularly is preferable. If build-up has been allowed a preliminary deep clean with a proprietary cleaner is required followed by regular use of a mildly acidic cleaning agent solution.

#### Periodic Deep Cleaning

Occasionally foreign matter may cause surface marks that cannot be removed with the usual cleaning processes and materials. If the surface mark cannot be removed, other materials should be considered [it is advisable to experiment on a small inconspicuous area]:

Paint - Paint Remover

Organic Stains - Bleach / one off treatment with Washing Soda

Rust - Masonry Cleaner

Oil / Fat / Grease - Detergent or Degreaser

Mould Growth - Household Bleach / Proprietary Cleaner

Tea / Coffee / Ink - Household Bleach / Proprietary Cleaner

Abrasive powders or cleaners should never be used on ceramic tiles.

#### Important Information

During the manufacturing process of ceramic, vitrified and porcelain tiles, some variation in shade or pattern can occur. Before fixing any tiles, several cartons should be opened and their contents mixed, to ensure that the size, shade, colour and patterning are acceptable. The tiles shown in the booklet are quality products and conform to the physical properties listed in this booklet.

For specific suitability and fit-for-purpose details, contact our Technical Helpline.

Johnson Tiles cannot accept responsibility for any tiles that have been fixed.  $% \label{eq:controller}$ 

Every effort has been made to ensure the accuracy of the information given in this booklet.

In the interest of progress, Johnson Tiles reserves the right to change specifications and availability without prior notice.

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Printed in England







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Updated: January 2020

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