

## Independent Test to TopCer Unglazed Porcelain Tiles

## Norms EN 14411/ISO 13006 Group Bla

| Dimensions surface quality              | ISO 10545-2  | 10 X 10 Smooth Texture   |  | CO40868(ITC)   |   |                              |  |                      |
|---|--|--|--|--|---|------------------------------|--|----------------------|
| Surface quality                         | ISO 10545-2  | 10x10 Smooth Texture   |  | CO40869(ITC)   |   |                              |  |                      |
| Water absorption                        | ISO 10545-3  | Boiling Method<br>Boiling Method<br>Vacuum Method  | Values   |  | CO40870 (ITC)<br>1.5.2299/08 (CTCV)<br>1.5.2300/08 (CTCV)   |                              |  |                      |
|   |  |  | 0,1 %<br>0,06%<br>0,04%  |  |   |                              |  |                      |
|   | ASTM C 373   | Boiling Method   | 0,02%  |  | 1.5.2301/08 (CTCV)  |                              |  |                      |
| Breaking Strenght<br>Modulus of rupture | ISO 10545-4  | 10X10 - 8 mm<br>10X10 - 8 mm<br>10X10 - 8 mm<br>10X10 - 8 mm<br>15X15 - 8mm<br>15X15 - 8mm<br>15X15 - 8mm<br>15X15 - 8mm<br>15X15 - 12mm<br>7,5X15 - 8 mm<br>7,5X15 - 8 mm<br>7,5X15 - 8mm<br>10X30 - 8,5 mm<br>30X30 - 8,5 mm<br>30X30 - 8,5 mm<br>30X30 - 8,5 mm | Values   |  | 1911/09 (CTCV)<br>CO40871 (ITC)<br>2533/08 (CTCV)<br>4983/10 (CTCV)<br>3056/09 (CTCV)<br>2534/08 (CTCV)<br>5225/10 (CTCV)<br>2535/08 (CTCV)<br>3055/09 (CTCV)<br>2536/08 (CTCV)<br>5224/10 (CTCV)<br>3057/09 (CTCV)<br>2110/09 (CTCV)<br>2537/08 (CTCV)<br>4986/10 (CTCV) |                              |  |                      |
|   |  |  | 2078<br>1808<br>1967<br>1959<br>1955<br>1941<br>2228<br>4456<br>2093<br>2178<br>2160<br>2194<br>2003<br>2219<br>2254 | 56,3<br>52,0<br>51,5<br>51,2<br>52,0<br>52,6<br>60,8<br>56,2<br>60,0<br>58,4<br>56,8<br>55,3<br>51,3<br>56,5<br>55,7 |   |                              |  |                      |
|   |  |  | Impact resistance  | ISO 10545-5  |   | 10x10 Smooth Texture         |  | CO40872(ITC)         |
|   |  |  | Resistance to deep abrasion  | ISO 10545-6  |   | 10x10 Smooth Texture         |  | CO40873(ITC)         |
|   |  |  | Détermination de la Tenue au Choc Lourd  | UPEC ANNEXE 6  |   | 6601 - 12mm                  |  | 1.5.1442/2010 (CTCV) |
|   |  |  | Resistance au Roulage  | UPEC ANNEXE 5  |   | 6601 - 12 mm                 |  | 1.5.1443/2010 (CTCV) |
|   |  |  | Scratch hardness of surface according to MOHS  | EN101/176  |   | 10x10 Smooth Texture         |  | 1826/97 (DAR)        |
|   |  |  | Coefficient of linear thermal expansion  | ISO 10545-8  |   | 10x10 Smooth Texture         |  | CO40874 (ITC)        |
|   |  |  | Thermal shock resistance   | ISO 10545-9  |   | 10x10 Smooth Texture         |  | CO40875 (ITC)        |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 3054/09 (CTCV)       |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 2533/08 (CTCV)       |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 4983/10 (CTCV)       |
|   |  |  | Moisture expansion   | ISO 10545-10   |   | 10x10 Smooth Texture         |  | CO40876(ITC)         |
|   |  |  | Frost resistance   | ISO 10545-12   |   | 10x10 Smooth Texture         |  | CO40877(ITC)         |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 3054/09 (CTCV)       |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 2533/08 (CTCV)       |
|   |  |  |  |  |   | 10x10 Smooth Texture         |  | 4983/10 (CTCV)       |
| Chemical resistance                     | ISO10545-13  | 10x10 Smooth Texture   |  | CO40878 (ITC)<br>1221/02 (CTCV)<br>1224/02 (CTCV)<br>1437/00 (CTCV)  |   |                              |  |                      |
| Stain Resistance                        | ISO 10545-14   | 10x10 Smooth Texture   |  | CO40879(ITC)<br>1437/00 (CTCV)   |   |                              |  |                      |
|   | (Ramp)<br><br>DIN 51 097<br><br>by German Institutes |  |  | Values   |   |                              |  |                      |
|   |  |  |  | Angle  | Category  |                              |  |                      |
|   |  | 10x10 Smooth Texture   |  | 19°  | B   | 72529901-001 (Säure-flisner) |  |                      |
|   |  | 15x15 Smooth Texture   |  | 14,5°  | A   | KP17 - 2/08 (FH - Koblenz)   |  |                      |
|   |  | 15x15 Rubber dies  |  | 19°  | B   | 72529906-001 (Säure-flisner) |  |                      |
|   |  | 30X30 Smooth   |  | 12,8°  | A   | KP 38 - 4/08 (FH - Koblenz)  |  |                      |
|   |  | 30X30 Smooth   |  | 14,0°  | A   | KP 38 - 3/08 (FH - Koblenz)  |  |                      |
|   |  | 30X30 Smooth R   |  | 21,5°  | B   | KP 107 - 3/10 (FH - Koblenz) |  |                      |
| 10x10 Round Studs (RC)                  |  | 26°  | C  | 5432/2/92 ((Säure-flisner)   |   |                              |  |                      |

|   |  |  |                               |            |  |  |
|---|--|--|-------------------------------|------------|--|--|
| SLIP RESISTANCE<br>Bare-footed areas  | (values explanation)                   | 10x10 Square Studs (SS1 mm)            | 29,5°                         | C          | <a href="#">KP 107 - 2/10 (FH - Koblenz)</a>   |  |
|   |  | 15x15 Riven Texture(RT)                | 22°                           | B          | <a href="#">1323/96 (Alpha Labor)</a>  |  |
|   |  | 15x15 Square Studs (SS)                | 18°                           | B          | <a href="#">62410402 001(FEV)</a>  |  |
|   |  | 15x15 Square Studs (SS1 mm)            | 35                            | C          | <a href="#">KP 107 - 1/10 (FH - Koblenz)</a>   |  |
|   | (Ramp)<br>DIN 51 097<br>By Ceram UK    | (values explanation)                   | .                             | Angle      | Category   |  |
|   |  |  | 10x10 Smooth Texture          | 19.0°      | B  | <a href="#">(086579)-30001 CERAM - UK</a>    |
|   |  |  | 15x15 Smooth Texture          | 18.0°      | B  | <a href="#">(086579)-30000 CERAM - UK</a>    |
|   |  |  | 15x15 Round Stud (RC)         | 30.0°      | C  | <a href="#">(086579)-29999 CERAM - UK</a>    |
|   |  |  | 15x15 Square Studs (SS)       | 30.0°      | C  | <a href="#">(086579)-29998 CERAM - UK</a>    |
|   |  |  | 15x15 Diamond Studs (DD)      | 30.0°      | C  | <a href="#">(086579)-29997 CERAM - UK</a>    |
|   |  |  | 15x15 Riven Texture (RT)      | 30.0°      | C  | <a href="#">(086579)-29996 CERAM - UK</a>    |
|   | SLIP RESISTANCE<br>Areas with footwear | (Ramp)<br>DIN 51130                    | 10 X 10 Plain Finish (smooth) | 10,9°      | R10  | <a href="#">KP 256 - 5/08 (FH - Koblenz)</a> |
| 10x10 Square Studs (SS1 mm)   |  |  | 21,4°                         | R11        | <a href="#">KP 107 - 5/10 (FH - Koblenz)</a>   |  |
| 15 X 15 Plain Finish (smooth)   |  |  | 10,8°                         | R10        | <a href="#">KP 17 - 1/08 (FH - Koblenz)</a><br><a href="#">KP 31 - 1/08 (FH - Koblenz)</a> |  |
| 15x15 Square Studs (SS1 mm)   |  |  | 22,6°                         | R11        | <a href="#">KP 107 - 4/10 (FH - Koblenz)</a>   |  |
| 30 X 30 Plain Finish (smooth)   |  |  | 8,1°                          | R9         | <a href="#">KP 38 - 1/08 (FH - Koblenz)</a><br><a href="#">KP 38 - 2/08 (FH - Koblenz)</a> |  |
| BRG181<br>(Drainage)  |  | 30X30 Smooth R                         | 22,4°                         | R11        | <a href="#">KP 107 - 6/10 (FH - Koblenz)</a>   |  |
|   |  | 15 X 15 Square Studs (SS)              | 23,5°                         | R11 (V5)   | <a href="#">KP 256 - 3/08 (FH - Koblenz)</a>   |  |
|   |  | 15 X 15 Round Studs (RC)               | 24,5°                         | R11 (V6)   | <a href="#">KP 256 - 2/08 (FH - Koblenz)</a>   |  |
|   |  | 15 x 15 Diamond Studs (DD)             | 31,1°                         | R12 (V7)   | <a href="#">KP 256 - 4/08 (FH - Koblenz)</a>   |  |
|   |  | 15 X 15 Riven (RT)                     | 28,9°                         | R12 (V5)   | <a href="#">KP 256 - 1/08 (FH - Koblenz)</a>   |  |
|   |  | .                                      | Dry Values                    | Wet Values | .  |  |
| SLIP RESISTANCE<br>Areas with footwear  | (pendulum)<br>BS 7976 - 2:<br>2002     | 10 X 10 Plain Finish (smooth)          | 60                            | 37         | <a href="#">086579 - 30001 CERAM UK</a>  |  |
|   |  | 15 X 15 Plain Finish (smooth)          | 60                            | 39         | <a href="#">086579 - 30000 CERAM UK</a>  |  |
|   |  | 15 X 15 Round Studs (RC)               | 81                            | 70         | <a href="#">086579 - 29999 CERAM UK</a>  |  |
|   |  | 15 X 15 Square Studs (SS)              | 67                            | 54         | <a href="#">086579 - 29998 CERAM UK</a>  |  |
|   |  | 15 x 15 Diamond Studs (DD)             | 87                            | 72         | <a href="#">086579 - 29997 CERAM UK</a>  |  |
|   |  | 15 X 15 Riven (RT)                     | 61                            | 53         | <a href="#">086579 - 29996 CERAM UK</a>  |  |
| Determination of slip resistance of ceramic tiles" by the Pendulum method"<br><br>Determinación de la Resistencia al deslizamiento de Baldosas Cerámicas "Metodo Del Péndolo" | UNE-ENV - 12633:2003                   | .                                      | Value                         | Valor      | .  |  |
|   |  | 30 X 30 Smooth - uni color - English   | 25                            |            | <a href="#">C070363 (ITC)</a>  |  |
|   |  | 30 X 30 Liso - monocolor - Spanish     |                               | 25         | <a href="#">C070362(ITC)</a>   |  |
|   |  | 30 X 30 Liso molde caucho - Spanish    |                               | 48         | <a href="#">C092766(ITC)</a>   |  |
|   |  | 15 X 15 Smooth                         |                               | 24         | <a href="#">1.5.2914/09 (CTCV)</a>   |  |
|   |  | 15 X 15 SS                             |                               | 57         | <a href="#">1.5.4979/10 (CTCV)</a>   |  |
|   |  | 15 X 15 Smooth                         |                               | 33         | <a href="#">1.5.4986/10 (CTCV)</a>   |  |
|   |  | 15 X 15 RC                             |                               | 56         | <a href="#">1.5.4981/10 (CTCV)</a>   |  |
|   |  | 15 X 15 RT                             |                               | 52         | <a href="#">1.5.4980/10 (CTCV)</a>   |  |
|   |  | 15 X 15 DD                             |                               | 63         | <a href="#">1.5.4982/10 (CTCV)</a>   |  |
|   |  | 10 X 10 Smooth uni color - English     | 26                            |            | <a href="#">C070357 (ITC)</a>  |  |
|   |  | 10 X 10 Liso - monocolor - Spanish     |                               | 26         | <a href="#">C070356 (ITC)</a>  |  |
|   |  | 10 X 10 Smooth granite - English       | 33                            |            | <a href="#">C070351 (ITC)</a>  |  |
|   |  | 10 X 10 Liso pigmentada - Spanish      |                               | 33         | <a href="#">C070350 (ITC)</a>  |  |
|   |  | 10 X 10 Smooth ruber dies - English    | 43                            |            | <a href="#">C070353 (ITC)</a>  |  |
|   |  | 10 X 10 Liso molde de caucho - Spanish |                               | 43         | <a href="#">C070352 (ITC)</a>  |  |
|   |  | 10 X 10 SS Spec 1 mm - Spanish         |                               | 55         | <a href="#">C100453 (ITC)</a>  |  |
|   |  | 10 X 10 SS uni color - English         | 45                            |            | <a href="#">C070355 (ITC)</a>  |  |
|   |  | 10 X 10 SS monocolor - Spanish         |                               | 45         | <a href="#">C070354 (ITC)</a>  |  |
| 10 X 10 RT uni color - English  | 46                                     |  | <a href="#">C070349 (ITC)</a> |            |  |  |
| 10 X 10 RT monocolor - Spanish  |  | 46                                     | <a href="#">C070348 (ITC)</a> |            |  |  |

|  |                                |    |    |                               |
|--|--------------------------------|----|----|-------------------------------|
|  | 10 X 10 DD color - English     | 49 |    | <a href="#">C070361 (ITC)</a> |
|  | 10 X 10 DD monocolor - Spanish |    | 49 | <a href="#">C070360 (ITC)</a> |
|  | 10 X 10 RC uni color - English | 52 |    | <a href="#">C070359 (ITC)</a> |
|  | 10 X 10 RC monocolor - Spanish |    | 52 | <a href="#">C070358 (ITC)</a> |