

# TECHNICAL DATA

Unglazed porcelain tiles – ISO 13006 and EN 14411 - Annex G - Group Bla							
SIZES:	M(=N)	10x10	10x30	7.5x15	15x15	30x30	DESIGNING COMPONENTS <sup>a)</sup>
	W	96x96x8	96x296x8	71x146x8	146x146x8	296x296x8,5	
a) Including 6STP (W29x146x8), 5STP (W21x137x8), 6D (W64x64x8), 3D (W29x29x8), LZ (W96x44x52x8), TR (W93x93x8, W64x64x8, W45x45x8, W25x25x8 y W20x20x8)							
PHYSICAL PROPERTIES		TEST STANDARD	REQUIREMENTS			TOPCER VALUE	
DIMENSION AND SURFACE QUALITY:			Area ≤ 49 cm <sup>2</sup> or N < 7 cm	7 cm ≤ N < 15 cm	N ≥ 15 cm		
Length and width	ISO 10545-2	± 0,5mm	± 0,9mm	± 0,6% / ± 2,0mm	Conforms		
Thickness	ISO 10545-2	No testing	± 0,5mm	± 5,0% / ± 0,5mm	Conforms		
Straightness of sides	ISO 10545-2	No testing	± 0,75mm	± 0,5% / ± 1,5mm	Conforms		
Rectangularity	ISO 10545-2	No testing	± 0,75mm	± 0,5% / ± 2,0mm	Conforms		
Surface flatness, (curvature and warpage)	ISO 10545-2	No testing	± 0,75mm	± 0,5% / ± 2,0mm	Conforms		
Surface quality	ISO 10545-2		≥ 95%		Conforms		
PRODUCT QUALITY AND DURABILITY:							
Water absorption	ISO 10545-3		≤ 0,5%		≤ 0,1%		
Breaking strength	ISO 10545-4		≥ 1300 N		≥ 1800 N		
Modulus of rupture	ISO 10545-4		≥ 35 N/mm <sup>2</sup>		≥ 50 N/mm <sup>2</sup>		
Impact resistance	ISO 10545-5		Declared Value		No visible defects		
Resistance to deep abrasion (unglazed tiles)	ISO 10545-6		≤ 175 mm <sup>3</sup>		123 mm <sup>3</sup>		
Coefficient of linear thermal expansion	ISO 10545-8		Declared Value		5,6 x 10 <sup>-6</sup> °C <sup>-1</sup>		
Thermal shock resistance	ISO 10545-9		No visible defects		Conforms		
Moisture expansion	ISO 10545-10		Declared Value		< 0,1 mm/m		
Frost resistance	ISO 10545-12		No visible defects		Conforms		
Resistance to chemicals	ISO 10545-13		No visible defects		Conforms		
Resistance to staining	ISO 10545-14		No permanent staining		Conforms		
SLIP RESISTANCE: (For the designing components, the slip resistance is equal or better than size 10x10 smooth)							
Areas with footwear	<b>Dynamic Coefficient of Friction (DCOF)</b>						
		VALUES:					
	ASTM - ANSI A 137.1-2012 (INTERTEK - CA)	0.62	10x10 / 4"x4 Plain Finish (smooth)				
		0.65	10x10 / 4"x4 Riven (RT) finish				
	AS 4586:2013 Apendix B (ATTAR - AU)	0.65	10x10 / 4"x4 Plain Finish (smooth)				
	<b>Wet Pendulum Slip Resistance</b>						
	AS 4586:2013 Apendix A (ATTAR - AU)	47	10x10 / 4"x4 Plain Finish (smooth)				
	<b>Pendulum</b>		VALUES:				
		DRY	WET	SIZES / SURFACE TEXTURE			
	BS-7976-2 (CERAM - UK)	60	37	10x10 / 15x15 Plain finish (smooth)			
	61	53	15x15 Riven (RT) finish				
	67	54	15x15 Square studs (SS) finish				
	81	70	15x15 Round studs (RC) finish				
	87	72	15x15 Diamond studs (DD) finish				
	USRV	Class	SIZES / SURFACE TEXTURE				
	25	1	10x10, 15x15, 30x30 Plain finish (smooth)				
	48	3	30x30 Dies lined with spec. rubber (R) Plain finish				
	42	2	10x10 / 15x15 Dies lined with spec. rubber (R) Plain finish				
	46	3	10x10 Riven (RT) finish				
UNE-ENV 12633 (ITC - SPAIN)	52	3	15x15 Riven (RT) finish				
	55	3	10x10 Square studs (SS) finish				
	48	3	15x15 Square studs (SS) finish				
	52	3	10x10 Round studs (RC) finish				
	56	3	15x15 Round studs (RC) finish				
	49	3	10x10 Diamond studs (DD) finish				
	59	3	15x15 Diamond studs (DD) finish				
<b>Ramp Test</b>		VALUES:					
	6° ≤ R9 ≤ 10°	30x30 Plain finish (smooth)					
	10° < R10 ≤ 19°	10x10 (also Hexagon and Octagon) / 10x30 / 15x15 Plain finish (smooth)					
	19° < R11 ≤ 27°	10x10 / 15x15 Square studs (SS) and in Round studs (RC) 30x30 Rubber (R), 30x30 Riven (RT)					
	27° R12 ≤ 35°	10x10 / 15x15 Riven (RT) and in Diamond studs (DD)					
Displacement volume / Expulsion space		V5	15x15 Square studs (SS) and Riven (RT)				
		V6	10x10 Square studs (SS) and Riven (RT), 15x15 Round studs (RC)				
		V7	15x15 Diamond studs (DD)				
		V8	10x10 Round studs (RC)				
Areas with bare-footed	DIN 51097 (HS-KOBLENZ - DE)	12° ≤ A < 18°	30x30 Plain finish (smooth)				
	(HS-KOBLENZ - DE)	18° ≤ B < 24°	10x10 (also Hexagon and Octagon) / 10x30 / 15x15 Plain finish (smooth) 30x30 Rubber (R), 30x30 Riven (RT)				
	(CERAM - UK)	18° ≤ B < 24°	10x10 / 15x15 Plain finish (smooth)				
	(CERAM - UK)	C ≥ 24°	15x15 Round studs (RC)+Diamond studs (DD)+Riven (RT)+Square studs (SS)				
	(HS-KOBLENZ - DE)	C ≥ 24°	10x10 / 15x15 Round studs (RC)+Diamond studs (DD)+Riven (RT)+Square studs (SS)				

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