

# Atria 20mm Porcelain Tiles

## Technical Datasheet

Last Updated: February 2022

Atria 20mm thick Italian manufactured porcelain tiles available in a range of styles, sizes and colours.

### REGULARITY CHARACTERISTICS

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED		ATRIA VALUES
Length and Width	ISO 10545-2	± 0.6 %	± 2 mm	≥ 3400 N
Thickness	ISO 10545-2	± 5.0 %	± 0.5 mm	≥ 2720 N
Squareness	ISO 10545-2	± 0.5 %	± 2 mm	≤ 1.8 mm
Straightness of sides	ISO 10545-2	± 0.5 %	± 1.5 mm	≤ 13 mm
Surface Flatness	ISO 10545-2	± 0.5 %	± 2 mm	≤ 7.0 %

### STRUCTURAL CHARACTERISTICS

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED		ATRIA VALUES
Water Absorption	ISO 10545-3	± 0.5 %		± 0.1 %
	ASTM C373			In Accordance
Breaking Strength	ISO 10545-4	≥ 1300 N		≥ 10,000 N
Modulus of Rupture	ISO 10545-4	≥ 35 mm <sup>2</sup>		≥ 45 N/mm <sup>2</sup>
Breaking Load Class	EN 1339	± 0.5 %		U 11
				T 11

### SURFACE CHARACTERISTICS

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED	ATRIA VALUES
Resistance to Deep Abrasion	ISO 10545-6	≤ 175 mm <sup>3</sup>	≤ 155 mm <sup>3</sup>

### THERMAL AND HYGROMETRIC CHARACTERISTICS

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED	ATRIA VALUES
Coefficient of Linear Thermal Expansion	ISO 10545-8	Test Method Available	< 7 x 10 <sup>-6</sup> °C <sup>-1</sup>
Thermal Shock Resistance	ISO 10545-9	Test Method Available	Guaranteed
Frost Resistance	ISO 10545-12	Required	In Accordance



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### CHEMICAL CHARACTERISTICS

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED	ATRIA VALUES
Chemical Resistance	ISO 10545-13	Test Method Available	Guaranteed
Stain Resistance	ISO 10545-14	Test Method Available	Guaranteed

### SLIP RESISTANCE

TECHNICAL FEATURES	SPECIFICATION	VALUES REQUIRED	ATRIA VALUES
Dynamic Slider	BCRA	Test Method Available	> 0.4
Static Slider	ASTM C1028	Test Method Available	
Inclined Platform	DIN 51130	Test Method Available	R11
Pendulum Test Value (PTV) - Dry Surface	BS EN 14231	36+	72
Pendulum Test Value (PTV) - Wet Surface	BS EN 14231	36+	65

### WORKING SIZE AND WEIGHT

TILE SIZE	ACTUAL RECTIFIED SIZE	M <sup>2</sup> /TILE	KG/TILE
225 x 225	n/a	0.0506	=2.37
225 x 454	n/a	0.1022	=4.79
300 x 600	297 x 596	0.1800	=8.44
300 x 1200	297 x 1195	0.3600	=16.88
600 x 600	596 x 596	0.3600	=16.88
450 x 900	446 x 895	0.4050	=18.99
400 x 1200	397 x 1195	0.4800	=22.51
600 x 900	596 x 1195	0.5400	=25.33
750 x 750	748 x 748	0.5625	=26.68
300 x 2400	297 x 2390	0.7200	=33.77
600 x 1200	596 x 1195	0.7200	=33.77
900 x 900	895 x 895	0.8100	=37.99
1200 x 1200	1194 x 1194	1.4400	=67.54
1200 x 2400	1194 x 2390	2.8800	=135.07

### INSTALLATION INFORMATION

By mounting on adjustable pedestal systems or solid concrete bases. If mounting on adjustable pedestals over 100mm in height, an optional fiberglass mesh is available upon request.



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### PROTECTIVE EQUIPMENT

We recommend that PPE (Personal Protective Equipment) is used when installing Atria Tiles:

- a) Good strong safety boots/shoes to protect the feet.
- b) Protective eyewear such as safety glasses.
- c) Strong gloves to protect the hands.
- d) If using loud cutting equipment then ear plugs or defenders should be worn.

### FIRST AID

The Health and Safety Regulations 1981 require all construction sites to have the following:

- a) A first aid box with enough equipment to cope with the number of workers on site.
- b) An Appointed Person to take charge of first-aid arrangements. The Appointed Person looks after first aid equipment and facilities and calls the emergency services when required. Appointed Persons do not need first aid training.
- c) A First-Aider who has undertaken training and holds an HSE approved qualification to administer first-aid. This means that they must hold a valid certificate of competence in either:
  - First aid at work (FAW) issued by a training organisation approved by HSE
  - Emergency first aid at work (EFAW) issued by a training organisation approved by HSE
  - A recognised Awarding body of Ofqual/Scottish Qualifications Authority.
- d) The number of first-aiders will depend on the site.
- e) Information should be clearly displayed on site telling workers the name of the Appointed Person(s) or First Aider(s) and where to find them.

### FIRE PROTECTION

Atria Tiles are made using porcelain which does not burn and is not a fire hazard.

### STABILITY

Atria porcelain tiles are high performance products that are hard-wearing, frost-proof, non-slip and UV stable. They are also easy to clean and resistant to mildew, moss and algae making them exceptionally suitable for external terrace and balcony areas, and public outdoor spaces.

### ENVIRONMENTAL ISSUES

Atria porcelain tiles are manufactured by dry pressing and kilning a mixture of naturally occurring minerals and clays to create a stable and durable product with a long-life expectancy. Porcelain tiles have a lower environmental impact than many other finishing materials: they will not act as a 'sink' absorbing volatile organic compounds (VOCs) or other chemicals from surrounding materials, nor are they a source of harmful contaminants. They can also be easily maintained without the need for solvent-based cleaners.

### SUPPORTING DOCUMENTS

More information on Atria Tile products can be found at [raaft.co/products/porcelain-tiles](http://raaft.co/products/porcelain-tiles).

### PROVEN WIND UPLIFT RESISTANCE

What is wind uplift?

When air currents pass over a flat surface they create pockets of low air pressure, and because the air pressure underneath the surface is higher, the surface is pushed upwards towards the lower pressure area. This is the principle behind aircraft wings.

On a roof deck, where the deck surface is loose-laid into a supporting frame, this can result in the surface lifting from the frame and becoming unstable or damaged. In more extreme conditions, the surface components can cause damage to surrounding structures and even injury to persons.



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### HOW RAAFT OVERCOME WIND UPLIFT WITH ATRIA PORCELAIN TILES

To overcome wind uplift challenges on roof terraces, RaafT has developed Atria + wind uplift resistance tiles. Products that claim to be resistant to wind uplift must meet BS EN 1991-1-4: 2005 + A1:2010 Eurocode 1 regulations, so we put our tiles and clips to the test. Following the principles of BS 14437:2004, the tests were conducted by independent testers BRE Group on both types of clip, fixing 600 x 600 mm, 20 mm thick Atria + Porcelain Tiles, with two clips per tile attaching them to the RaafT Aluminium Joists. Tests were also carried out on the Pedestal Joist Connectors.

Testing applied an uplift pressure of 4536N/m<sup>2</sup> and as the products were tested to destruction, no partial safety factors were used. The results were as follows:

- Using stainless steel clips, the characteristic wind uplift resistance per clip was 738.1N
- Using nylon clips, the characteristic wind uplift resistance per clip was 51.6N
- By also fixing the tile with Formoa 017FE hybrid polymer adhesive the indicative wind uplift resistance per clip was 2943N
- The pedestal joist connector returned a wind uplift resistance of 71.0N



The clip and groove wind uplift resistance system is also featured on our Terrafina Composite Wood-polymer Decking and Farrino Porcelain Decking.

To view the full BRE Report, please visit [raaft.co/storage/uploads/documents/wind-uplift-test-bre-report\\_kwbgo.pdf](http://raaft.co/storage/uploads/documents/wind-uplift-test-bre-report_kwbgo.pdf)

### ATRIA TILE RANGE

STYLE	RANGE	COLOUR	600 X 600	450 X 900	900 X 900	300 X 1200	400 X 1200	600 X 1200	1200 X 1200	1200 X 2400	300 X 2400	600 X 900	225 X 454	225 X 225	300 X 600	800 X 800
Concrete	Venice	Mocha	✓		✓				✓							
		Grey	✓		✓				✓							
		Beige	✓		✓											
		Anthracite	✓		✓											
	Pavia	Cloud	✓						✓						✓	✓
		Ochre	✓												✓	
		Urban	✓						✓						✓	✓
		Shadow	✓												✓	✓
Terrazzo	Padula	Thunder	✓													
Wood	Como	Honey				✓										
		Brown				✓										
	Milano	Box				✓										
		Age				✓										
		Umber				✓										



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### ATRIA TILE RANGE

STYLE	RANGE	COLOUR	600 X 600	450 X 900	900 X 900	300 X 1200	400 X 1200	600 X 1200	1200 X 1200	1200 X 2400	300 X 2400	600 X 900	225 X 454	225 X 225	300 X 600	800 X 800
	Asti	Mushroom	✓					✓								
		Smoke	✓					✓								
		Talc	✓					✓								
		Taupe	✓					✓								
		Carbon						✓								
	Florence	Millstone	✓		✓				✓						✓	✓
		Graphite	✓		✓				✓						✓	
		Silver	✓		✓										✓	✓
	Modena	Ivory	✓						✓						✓	✓
		String	✓													
		Smoke	✓						✓							
Stone	Modica*	Fawn	✓													
		Ferro	✓													
		Pewter	✓													
		Silver	✓													
	Novara	Cameo				✓										
		Ember				✓										
		Ashen					✓									
		Slate					✓									
	Roma	Copper	✓	✓												
		Earth	✓	✓												
		Lead	✓	✓		✓		✓	✓	✓						
		Natural	✓	✓		✓		✓	✓							
	Siena	Slate														
		Grey														
	Taranto*	Steel	✓	✓												
		Hessian	✓	✓												
		Charcoal	✓													



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### PACKAGING AND WEIGHTS

SIZE	THICKNESS	BOX SPECIFICATIONS			PALLET SPECIFICATIONS		
		PIECES/BOX	SQM/BOX	KG/BOX	BOX/PALLET	SQM/PALLET	KG/PALLET
225 x 225	20 mm	12	0.720	≅ 67.54	45	51.84	≅ 1034.82
225 x 454	20 mm	6	0.810	≅ 37.99	42	14.58	≅ 810.43
300 x 600	20 mm	3	0.720	≅ 25.33	40	8.10	≅ 506.52
300 x 1200	20 mm	2	0.720	≅ 26.38	36	16.88	≅ 1519.56
600 x 600	20 mm	2	0.563	≅ 50.65	30	45.36	≅ 5673.02
450 x 900	20 mm	2	0.960	≅ 33.77	27	17.28	≅ 810.43
400 x 1200	20 mm	2	0.720	≅ 33.77	24	25.92	≅ 949.73
600 x 900	20 mm	2	2.880	≅ 28.49	18	5.47	≅ 303.91
750 x 750	20 mm	1	1.080	≅ 135.07	42	51.84	≅ 512.85
600 x 1200	20 mm	1	0.540	≅ 33.77	15	28.80	≅ 1013.04
300 x 2400	20 mm	1	1.440	≅ 28.75	36	12.26	≅ 759.78
900 x 900	20 mm	1	0.810	≅ 45.02	18	25.92	≅ 911.74
1200 x 1200	20 mm	1	0.613	≅ 37.99	20	34.02	≅ 1595.54
1200 x 2400	20 mm	1	0.608	≅ 33.77	9	32.40	≅ 3039.12

### STORAGE & HANDLING

The product is securely packed into cardboard boxes to ensure no movement of the product in transit. Depending on the size/weight of the consignment this may be palletised.

Whilst there are no specific weight restrictions on what is or is not safe to lift in manual handling, an assessment of the health and safety risks should be undertaken and measures taken to reduce the risk of injury so far as reasonably practicable.

The following guidelines may be useful:

- Each person should be fully trained in manual handling techniques.
- The use of handling aids such as a trolley, folk-lift, pallet truck or conveyor should be used if moving large volumes of cartons.
- Break up large consignments into more manageable loads.
- Ensure that the product is stored at a reasonable height, so avoiding the lifting of cartons from floor level or above shoulder height.
- Reduce carrying distances of cartons.



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### ATRIA COLOURS

Atria tiles are available in an extensive range of colours and finishes available. Please visit our website or our London Design Studio for more information or to see samples.

### CONCRETE EFFECT TILES



Venice – Mocha



Venice – Grey



Venice – Beige



Venice – Anthracite



Pavia – Cloud



Pavia – Ochre



Pavia – Shadow



Pavia – Urban

### TERRAZZO TILES

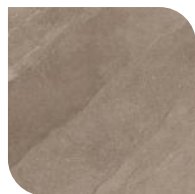


Padua – Thunder

### STONE EFFECT TILES



Asti – Carbon



Asti – Mushroom



Asti – Smoke



Asti – Talc



Asti – Taupe

### WOOD EFFECT TILES



Como – Honey



Como – Brown



Milano – Box



Milano – Walnut



Milano – Umber



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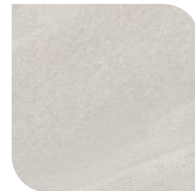
Florence – Millstone



Florence – Graphite



Florence – Silver



Modena – Ivory



Modena – Smoke



Modena – String



Modica – Fawn\*



Modica – Ferro\*



Modica – Pewter\*



Modica – Silver\*



Novara – Ashen



Novara – Cameo



Novara – Ember



Novara – Slate



Roma – Copper



Roma – Lead



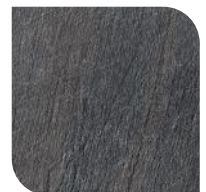
Roma – Earth



Roma – Natural



Siena – Grey



Siena – Slate



Taranto – Charcoal\*



Taranto – Hessian\*



Taranto – Steel\*



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