

Model: SMART MINNESOTA.ASH ANT(48C/P) 22X90(A)

Codes: 100353100

Water absorption: Bla - Porcelain tile ($w_a \leq 0.1\%$)

Finish: Glazed / Non-slip

Tone variations: V3

Rectified: Yes



DIMENSIONAL FEATURES

UNE-EN ISO 10545-2

Thickness	11.5 mm	+/-5%*
Width	220 mm	
Length	900 mm	
Length and width deviation	Below 0.15%	+/-0.3%*
Side straightness deviation	Below 0.15%	+/-0.3%*
Squareness deviation	Below 0.15%	+/-0.3%*
Surface flatness deviation	Below 0.15%	+/-0.4%*

*ISO-13006:2018 UNE-EN 14411:2016

FEATURES



Surface texture that minimizes the risk of slipping. Soft finishes for safe walking.



Natural-looking, non-glossy surface finish.



Name given to the finish of those tiles dimensionally improved after the firing process.



Installation on floor

MECHANICAL FEATURES

UNE-EN ISO 10545-4-6-7-9-11

Breaking strength	4152.9 N	>1300 N*
Modulus of rupture	56.5 N/mm ²	>=35 N/mm ² *
Abrasion resistance	4	
Crazing resistance	PASS	
Resistance to thermal shock	RESISTE	

*ISO-13006:2018 UNE-EN 14411:2016

HYGIENIC FEATURES

UNE-EN ISO 10545-13-14

Chemical resistance	Class "A" for swimming pools and cleaning products (resists attack). Minimum Class "B" for acids and bases	B Min.*
Stain resistance	Class 5. Easy cleaning with water	3 Min.*

*ISO-13006:2018 UNE-EN 14411:2016

ANTI-SLIP VALUE

Reference standards: EN 16165 (Annex A, B, C) - ANSI A326.3 - AS 4586

Dynamic coefficient of friction (dcof)	0.86 (T105EC2)	
Slip resistance (wet pendulum) irhd 55	CL3	
Pendulum test value (ptv) irhd 96	WET 65 / DRY 71 (T105EC2)	

*ISO-13006:2018 UNE 14411:2016 ANSI 137.1 AS 4662

System Certification



PACKING

Sales units per box	1.188001 M2/BOX	
Sales units per pallet	57.024057 M2/PAL	
Sales units per unit	0.198 M2/PIECE	

SCOPE OF USE

Technical code-1	5 - Use on medium traffic floors	
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System Certification



Do not use cleaning agents containing hydrofluoric acid.

It is recommended to fix tiles with a minimum joint of 1,5 mm. Do not fix without joint.

For big sizes, it is recommended to fix with mortars containing polymeric additives and to use the double glueing technique.

Mosaic tiles must be grouted.

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RECOMMENDED USE LOCATIONS

Single-family dwelling

Outdoor Premises: Porches, verandah, terrace, outdoor access or circulation area

External Premises: External staircases and ramps

Indoor Premises - Dry: Entrance and other enclosures with direct opening to the outside (garden, terrace, storage room).

Indoor Premises - Dry: Room, room, bedroom or other enclosure without direct access to the outdoors.

Indoor Premises - Dry: Individual staircase

Indoor Premises - Wet: Kitchen, mini kitchen in living area, laundry room

Indoor Premises - Humid: Bathroom or Toilet

Collective housing

Outdoor premises: Balconies, terraces, galleries (not accessible from the outside)

Outdoor Premises: Uncovered Terraces (Accessible from outside)

Indoor Premises - Common Elements: Entrance Hall (less than 15 dwellings)

Indoor Premises - Common Elements: Stairs and corridors with or without lifts

Indoor Premises - Common Elements: Meter centralisation room

Indoor Premises - Common Elements: Refuse Container Room

Indoor Premises - Common Elements: Storage rooms for children's cars, bicycles, etc.

Indoor Premises - Residential - Dry: Entrance, living room, dining room, professional office with reception of customers

Indoor Premises - Housing - Dry: Bedrooms, personal office, storage room, changing room

Indoor Premises - Dwelling - Damp: Kitchen, mini kitchen and living area, laundry room

Indoor Premises - Dwelling - Damp: Bathrooms or shower rooms

Public Residential

Single or double rooms

Group rooms

Intensive use dormitories in residences, schools, etc.

Bathrooms in single or double rooms

Toilets in collective rooms, plant bathroom, office, service rooms maintenance plant

Administrative

Office with workstation

Collective office, open plan office

Meeting/conference room, shops and retail (sales area)

Shops, warehouses with average public attendance (sales area)

Commercial

Shops and retail trade (Sales area)

Shops, warehouses with average public attendance (sales area)

Teacher

Pre-school and Primary: Classroom with direct opening to the exterior

Pre-school and Primary: Classroom without direct opening to the exterior

Pre-school and Primary: Playroom, exercise room, multi-purpose room with direct opening to the outside.

Infant and Primary: Playroom, exercise, multi-purpose room without direct opening to the outside.

Secondary, Baccalaureate and University: Classroom without direct opening to the outside.

Secondary, Baccalaureate and University: Multi-purpose classroom, meetings

Secondary, Baccalaureate and University: Laboratories with aggressive chemicals

Secondary, Baccalaureate and University: Other laboratories (physics, electricity, radiation, mechanics).

Sanitary

Single-user room, isolation room

Collective room

Major and minor operating theatres. Operating theatres

Radiological premises

Rehabilitation, massage, therapy and rehabilitation centres

Laboratories (no public access)

Public attendance

Catering: Dining room restaurant, bar, cafeteria (medium use)

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Catering: Dining room, company cafeteria

Catering: Drinks distribution outlet, automatic machines

Catering: Collective kitchen, large facilities

Catering: Cooking in small restaurant, bar, cafeteria, cafeteria, company canteen

Libraries and reading rooms: Libraries, reading rooms, houses of worship, museums (Internal use)

Sports Facilities: Indoor swimming pools and saunas

Sports Facilities: Private outdoor swimming pools

Sports Facilities: Public open-air swimming pools

Common transit areas

Outdoor premises: outdoor circulation area with average traffic

Outdoor premises: Stairways and outdoor ramps with medium traffic

Outdoor premises: Outdoor terrace for hotel and restaurant use

Indoor premises: Corridors and common areas with average traffic

Indoor premises: Main staircases and ramps for medium use

Service, facilities

Toilets for the public in public, commercial, educational or intensive-use buildings

Toilets for the public in medium-use buildings. Employee toilets

Toilets in office areas, restricted use

Collective sanitary facilities, changing rooms and showers

Sanitary premises special hygiene (hospitals, food)

Premises for telephone, computer and other dry installations

Heating, air-conditioning and other humid premises

Re-printing service, copies of plans, photography

Archive and storage premises

Laundry, rubbish and organic waste storage premises

Various

Cladding of bonded or mixed facades

Facade cladding with mechanical anchors

Kitchen worktops, bars, restaurants

Public bathroom countertops

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