

## Quality Standard for internal and external walls

The Japan Industrial Standard for Ceramic Tiles (JIS A 5209), along with its testing standards (JIS A 1509-1 to 13), serves as the unified standard for tiles in Japan. Additionally, we are dedicated to quality control through our own more rigorous internal standards, which are based on these JIS standards. For your reference, here is a notation of a part of the JIS product and testing standards.

characteristics				test method	
Water absorption (Boiling or Vacuum)	%	Dry-pressed	B I : ≤ 3.0	JIS A 1509-3	
		Extruded	A II : ≤ 10.0		
Breaking strength	N	Internal walls	External walls		JIS A 1509-4
			Surface area		
		≥ 108	< 60 cm <sup>2</sup>	≥ 60 cm <sup>2</sup>	
Thermal shock resistance		No damage		JIS A 1509-7	
Crazing resistance		No crazing		JIS A 1509-8	
Frost resistance		No damage		JIS A 1509-9	
Resistance to chemicals	ammonium chloride solution, 100g/l.	Declared value		JIS A 1509-10	
	hydrochloric acid solution, 3%	Declared value			
	citric acid solution, 100g/l	Declared value			
	potassium hydroxide solution, 30g/l	Declared value			
	sodium hypochlorite solution, 2.0g/l	Declared value			
Lead and cadmium release	μg/cm <sup>2</sup>	Declared value		JIS A 1509-11	

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### Non-flammable

The reaction to fire performance of ceramic tiles may also be classified also as Class A1 according to EN 13501-1.

## Technical Data Sheet

1. Collection	<b>SENTOUSAI</b>		
2. Category of tile	BI Unglazed tile		
3. Length, Width & Thickness	235.0 x 13.0 x 13.0 (Max) mm	235.0 x 13.0 x 17.0 (Max) mm	235.0 x 13.0 x 22.0 (Max) mm
4. Item number	HAL-RN/STS-11~STS-15		

characteristics		JIS A 5209	JIS A 5209	JIS A 5209
Length (mm)		235.0 ± 2.4	235.0 ± 2.4	235.0 ± 2.4
Width (mm)		13.0 ± 0.8	13.0 ± 0.8	13.0 ± 0.8
Crook (mm)	Length	≤ 2.0	≤ 2.0	≤ 2.0
	Width	≤ 1.0	≤ 1.0	≤ 1.0
Thickness (mm)		Specified by the manufacturer	Specified by the manufacturer	Specified by the manufacturer
Centre curvature (mm)		N/A	N/A	N/A
Torsion (mm)		N/A	N/A	N/A
Edge curvature (mm)		N/A	N/A	N/A
Straightness of sides (mm)		± 1.6	± 1.6	± 1.6
Rectangularity (mm)		N/A	N/A	N/A
Shape of back feet		N/A	N/A	N/A
Height of back feet (mm)		N/A	N/A	N/A
Water absorption (%) (Vacuum method)		≤ 3.0	≤ 3.0	≤ 3.0
Breaking strength (N)		≥ 540	≥ 540	≥ 540
Thermal shock resistance		N/A	N/A	N/A
Crazing resistance (-)		N/A	N/A	N/A
Frost resistance (-)		No damage	No damage	No damage
Resistance to chemicals (-)		Declared value	Declared value	Declared value

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Note :

1. Testing methods are in compliance with JIS A5209:2020 and JIS A 1509.
2. Manufacture a unit by combining tiles of 3 different shapes.
3. Thickness is not specified by JIS because the surface of this shape is rough.

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