

# TECHNICAL SPECIFICATION SHEET

## Ferrara Series 450x450



	Ash	Bone	Brown			
Nominal Size	450x450mm					
Number of tiles per covered square metre	4.94					
Surface Finish	Glazed Matt					
Eureka classification	Dry Pressed Porcelain Tile					
Manufacturing Standard	ISO 13006: 1998 Group Bla					
Deviation in Length and Width (ISO 10545-2)	± 1.0% (Maximum)					
Deviation in Thickness (ISO 10545-2)	± 5% (Maximum)					
Straightness of Sides (ISO 10545-2)	± 0.6% (Maximum)					
Rectangularity (ISO 10545-2)	± 0.6% (Maximum)					
Surface Flatness - Curvature (ISO 10545-2)	± 0.6% (Maximum)					
- Warpage (ISO 10545-2)	± 0.6% (Maximum)					
Surface Quality (ISO 10545-1)	Minimum 95% Conform					
Resistance to Crazeing	Resistant					
Crazeing Resistance (Glazed Tiles Only) ISO 10545-11	Resistant					
Chemical Resistance (ISO 10545-13)	Resistant GLA					
Frost Resistance (ISO 10545-12)	Resistant					
Determination of Moisture Expansion (ISO 10545-10)	≤ 0.06%					
Water Absorption (ISO 10545-3)	<0.5%					
Modulus of Rupture (ISO 10545-4)	35 MPa (Minimum Average)					
Breaking Strength (ISO 10545-4)	1.3 kN (Minimum Average)					
Scratch Hardness - MOH's (BS6431 Part 13)	6 (Minimum)					
Slip Resistance Classifications (AS/NZS 4586:1999)						
• Appendix A: WET Pendulum (Four S)	Class W		≥ 45-54		Examples only	
• Appendix B: DRY (FFT) - Tortus	Class F		≥ 0.4			
• Appendix C: WET/BAREFOOT Ramp	Class A		≥ 12 <18			
• Appendix D: OIL-WET Ramp	Class R10		≥ 10 < 19			

### SAMPLE RANGE RESULTS

Test / Method	Ash	Bone	Brown			
Water Absorption (ISO 10545-3)	0.6%	0.5%	0.5%			
Modulus of Rupture (ISO 10545-4)	29Mpa	35.5Mpa	30.2Mpa			
Breaking Strength (ISO 10545-4)	1.91kN	2.4kN	2.01kN			
Resistance to Surface Abrasion (ISO 10545-7)	4	5	4			
Determination of Thermal expansion (ISO 10545-8)	N/A	N/A	N/A			
Determination of resistance to thermal shock (ISO 10545-9)	Resistant	Resistant	Resistant			
Determination of moisture expansion (ISO 10545-10)	0.003mm/M	0.009mm/M	0.005mm/M			
Crazeing Resistance (Glazed Tiles Only) ISO 10545-11	Resistant	Resistant	Resistant			
Determination of chemical resistance (ISO 10545-13)	Resistant	Resistant	Resistant			
Determination of Stain resistance (ISO 10545-14)	Resistant	Resistant	Resistant			
Scratch Hardness - MOH's (BS6431 Part 13)	8	9	8			
Slip Resistance Classifications (AS/NZS 4586:1999)	<b>Mean Range Result</b>					
• Appendix A: WET Pendulum (Four S)	34 class Y	34 class Y	34 class Y			
• Appendix B: DRY (FFT) - Tortus	N/A	N/A	N/A			
• Appendix C: WET/BAREFOOT Ramp	N/A	N/A	N/A			
• Appendix D: OIL-WET Ramp	N/A	N/A	N/A			

**SAMPLING:** Sampling and the basis for acceptance complied with the requirements of ISO 10545-1.

**COMPLIANCE:** When tested according to the relevant method indicated in parenthesis, the above results all conform to the requirements of the Manufacturing Standard.

**REMARKS ON SLIP RESISTANCE CLASSIFICATIONS (AS/NZS4586:1999):** Tiles tested to AS/NZS 4586:1999 'Slip resistance classification of new pedestrian surface materials'. The slip resistance of a surface may change with use either becoming more slippery because of natural polishing, or less due to abrasion and roughening of the surface. The presence of dirt or contaminants may make surfaces more slippery, as can poor maintenance practices.

**CLASSIFICATIONS:** In order to interpret the classifications, please refer to Standards Australia Handbook 197 'An introductory guide to the slip resistance of pedestrian surface materials' which recommends minimum classifications for a wide variety of locations. It is important to realise that test results obtained on unused factory-fresh samples may not be directly applicable in service, where propriety surface coatings, contamination, wear and subsequent cleaning all influence the behaviour of the pedestrian surface.

**REMARKS ON THE MOISTURE EXPANSION OF CERAMIC TILES:** The majority of glazed and unglazed tiles have negligible natural moisture expansion that does not contribute to tiling problems when tile are correctly fixed. However, with unsatisfactory fixing practices and in certain climatic conditions, natural moisture expansion may aggravate problems, especially when tiles are directly fixed to inadequately aged concrete substances. Source: ISO 10545-10.

**NOTE:** Regular Quality Control Audits ensure continuing compliance to the Standard although minor variations can occur in some values from batch to batch, within the allowable tolerances. These specifications will be re-issued if major variations occur, for example with the installation of new manufacturing equipment.