

BROOF (T4) CERTIFICATION

BS EN 13501-1



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TEST REPORT

CEN/TS 1187:2012 Test 4 Eternal fire exposure to
roof tests (flat/sloping) on Atria Tiles System,
18mm Plywood deck

Prepared for: Raafit Ltd

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1. Objective

To test the sample described in Section 2 according to its capacity to resist penetration by fire, using the external fire exposure to roofs test (flat) specified in CEN/TS 1187: 2012 Test 4¹.

2. Sample

2.1 Traceability

The test samples were supplied by the client. BRE Global were not involved in the sample selection process and therefore cannot comment upon the relationship between samples supplied for test and the product supplied to market. The results apply to the sample as received.

2.2 Description of sample and test format

Unless otherwise stated all measurements are nominal

Test Sponsor	Raaft Ltd, Northpoint, Compass Park, Staplecross, East Sussex, TN32 5BS
Manufacturer of sample	As above
Sample name/reference	Atria Tiles System
Place of manufacture	UK
Sample description (as provided by test sponsor/manufacturer)	Aluminium joist & porcelain tiles A full definition of the product tested, as supplied by the test sponsor is included in Appendix A.
Description of sample (as received by BRE Global)	• Light grey ceramic tiles, 4 per specimen, each tile is 415mm x 415mm x 20mm in 2 x 2 array • Various metal railings/joists – see photo • Metal circular pedestals, 85mm high, lower diameter 150mm, upper diameter 90mm – 9 per specimen • Plywood base – 18mm thick Photographs of the sample are included in Appendix B.

Measured sample data, determined by BRE Global @ 23 °C ± 2 °C and 50 % ± 5 % RH

Mean sample density (kg/m ³)	Layer 1: Ceramic tiles – 966.6 – E15557 Layer 2: Metal rails – Not determined – E15527 Layer 3: Pedestals – Not determined – E15529 Layer 4: Plywood base – 613.60 – E15524
Mean sample thickness (mm)	Layer 1: Ceramic tiles – 20 – E15557 Layer 2: Metal rails – Not determined – E15527 Layer 3: Pedestals – Not determined – E15529 Layer 4: Plywood base – 18 – E15524
Mean sample mass per unit area (kg/m ²)	Layer 1: Ceramic tiles – 19.33 – E15557 Layer 2: Metal rails – Not determined – E15527 Layer 3: Pedestals – Not determined – E15529 Layer 4: Plywood base – 11.05 – E15524
Sample receipt date	24 June 2024 – E15524, E15527, E15529 02 July 2024 – E15557
Test face	Ceramic tiles
Test format	The test was carried out in the flat (0°) position
Date of test	29 July 2024
Purchase order	29687
Test operator	P Potter

3. Conditioning

The specimens were conditioned as required by the standard.

4. Results

4.1 Preliminary ignition test

Specimen reference	Joint	Ambient	Flame spread mm	Flame duration min:sec	Penetration min:sec
E15557-1	Ceramic tiles – central butt joint on both axis with a gap of approx. 5mm between	23.8°C	0	0	None

4.2 Penetration test

Specimen reference	Joint	Ambient	Penetration min:sec	Observations
E15557-2	Ceramic tiles – central butt joint on both axis with a gap of approx. 5mm between	24.0°C	None	Did not ignite
E15557-3	Ceramic tiles – central butt joint on both axis with a gap of approx. 5mm between	24.4°C	None	Did not ignite
E15557-4	Ceramic tiles – central butt joint on both axis with a gap of approx. 5mm between	26.8°C	None	Did not ignite

4.3 Observations

No dripping of material occurred from the underside of any specimen tested, nor was any mechanical failure, or development of holes, observed.

Deviations from test standard: None

5. Conclusion

CEN/TS 1187: 2012 does not contain acceptance criteria and therefore this test report does not indicate a pass or fail of the product

6. Validity

This test report does not represent type approval or certification of the product.

The information in section 2.2 and Appendix A of this report, other than that indicated otherwise, has been supplied by the test sponsor and has not been independently verified by BRE Global. The validity of the results is conditional on the accuracy of that data.

Because of the nature of reaction to fire testing and the consequent difficulty in quantifying the uncertainty of measurement of reaction to fire, it is not possible to provide a stated degree of accuracy of the results.

7. Reference

- 1 CEN/TS 1187: 2012. Test methods for external fire exposure to roofs. Test 4 – Method with two stages incorporating burning brands, wind and supplementary radiant heat. CEN, Avenue Marnix 17, B-1000, Brussels, Belgium.

Appendix A Product description provided by the test sponsor

Product Definition

Test sponsor (Company name and address): Raaft LTD		
Product name of roof covering tested		Atria tiles system
Product reference/number		Atria tiles system
General description of roofing product tested and build up		Aluminium joist & porcelain tiles
Manufacturer of the roofing product (Company name and address)		Raaft LTD
Place of manufacture		UK
Test specimens assembled by (if not by roof product manufacturer)		Raaft LTD
Thickness (overall depth of roof structure tested)		200mm
Mass per unit area (overall value for the roof structure tested)		60kg
Fire retardant treatment added, or organic content limited during production (yes/no), if yes give details		Plastic connectors have fire retardant (V0)
Harmonised EN product standard, and AVCP System No. if applicable		N/A
Please describe the roof build up, layer by layer, starting with the upper roof surface. Please add or remove rows as required.		
Test face (Layer 1)	- Name/reference - Manufacturer - Type - Batch no. - Thickness - Mass per unit area - Colour - Application method - Joint details (fixing method, overlap, etc) - Trade name flame retardant - Generic type flame retardant - Amount flame retardant	Atria porcelain tiles Note 2 N/A N/A 20mm 13kg Naural Loose laid into joists & clipped to joists None None None None None

Test sponsor (Company name and address): Raaft LTD		
Product name of roof covering tested		Atria tiles system
Layer 2	- Name/reference - Manufacturer - Type - Batch No. - Thickness - Mass per unit area - Colour - Application method - Joint details (fixing method, overlap, etc) - Trade name flame retardant - Generic type flame retardant - Amount flame retardant	Raaft joist system inc. plastic connectors & tile pacers Note 2 N/A N/A 30mm 4kg Black Connected into pedestals None Note 2 Flame Retardant Additive WPL53-001 ±70%
Layer 3	- Name/reference - Manufacturer - Type - Batch No. - Thickness - Mass per unit area - Colour - Application method - Joint details (fixing method, overlap, etc) - Trade name flame retardant - Generic type flame retardant - Amount flame retardant	Raaft metal pedestals Note 2 N/A N/A Varies Varies Matt silver Loose laid None None None None None
Layer 4	- Name/reference - Manufacturer - Type - Batch No. - Thickness - Mass per unit area - Colour - Application method - Joint details (fixing method, overlap, etc) - Trade name flame retardant - Generic type flame retardant - Amount flame retardant	18mm ply base Jewsons N/A N/A Varies Varies Matt silver Loose laid None None None None None

Note 2: At the request of the test sponsor this commercially sensitive information which forms part of the definition of the product tested/classified has been withheld from the report and is held on a confidential client file by BRE Global.

Appendix B Photographs of the test specimens

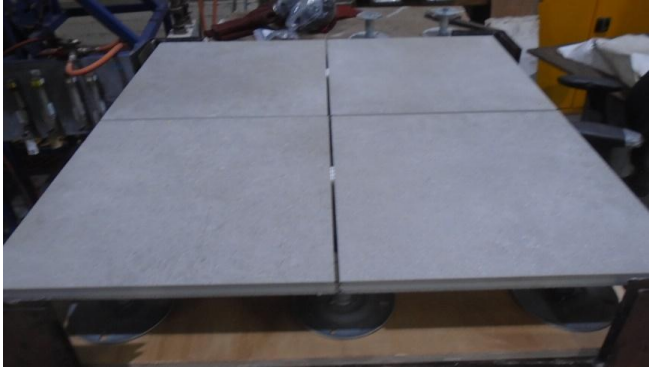


Figure 1: Test face (before side boards installed)

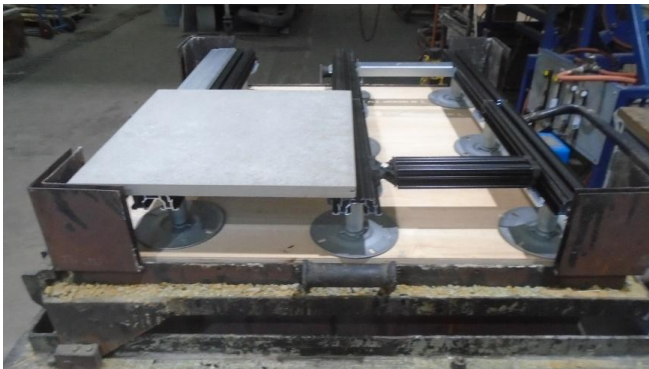


Figure 2: Build up showing pedestals and metal rails/joists

Report Ends