



TEST REPORT

Report Reference No.....: AU09014018-1

Prepared by (name and signature)...: Fred Bao

Approved by (name and signature)...: Stanley Zhou

Date of issue.....: March 20, 2009

Contents: Total test report 7 pages including:
Report text: 4 pages
Appendix A for product photos: 2 page
Appendix B for drawing of product: 1 page

Testing Laboratory name: Intertek Testing Services Building Products

Address.....: Building T52-8, No.1201 Gui Qiao Road, Jinqiao Development Area, Pudong District, Shanghai , China

Testing location: Same as above

Applicant's name.....: Shandong Fangxing Building Materials Co., Ltd.

Address.....: 668 Beiyuan Road, Laizhou, Shandong, China

Test specification:

Standard: EN 490: 2004 Clause 5.2.3, 5.6, EN 14963: 2006 Clause 5.5, 6.2.

Non-standard test method.....: N/A

Test item description: Fangxing Roofing Tile

Trade Mark: FANGXING

Model and/or type reference.....: 3mm

Manufacturer: Shandong Fangxing Building Materials Co., Ltd

Rating(s): —

Summary of testing:

The submitted samples were tested in accordance with specified standards, and listed the result accordingly, refer to text for detail.

Intertek Testing Services Ltd., Shanghai JinQiao Branch

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Report Template Revision Date:3 Feb. 2009

Test item particulars	
Classification of installation and use	: —
Supply Connection	: —
Possible test case verdicts	
- Test case does not apply to the test object.....	: N/A
- Test object does meet the requirement	: P (Pass)
- Test object does not meet the requirement	: F (Fail)
Testing	
Date of receipt of test item	: December 29, 2008
Date (s) of performance of tests	: December 31, 2008 – March 13, 2009
General remarks:	
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General product information:
The Sample Number of the specimen is S0902004.
The nominal dimensions of Roof Tile Products refer to the drawing in Appendix B is provided by the applicant.

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Performance test			
Clause	Requirement - Test	Result - Remark	Verdict
Dimensions	The dimensions of the Roof Tiles shall be measured in accordance with the drawings.	Length of one layer tile: 219mm; Width of whole roof tile: 717mm; Thickness of roof tile: 3.04mm	—
Tensile Test	EN 14963:2006 Clause 6.2. The Initial Tensile Strength and Modulus of Elasticity of samples shall be tested in accordance with ISO 527-2:1993. The samples for Xenon Arc aging test shall be tested in accordance with ISO 4892-2:2006 for 1000 hours. And then the Tensile Strength and Modulus of Elasticity of samples shall be tested in accordance with ISO 527-2:1993.	The initial Tensile Strength of sample is: 16.6 MPa; The initial Modulus of Elasticity of sample is: 2636 MPa. After Xenon Arc aging test, Tensile Strength of sample is: 16.9 MPa; Modulus of Elasticity of sample is: 2990 MPa.	—
Bending Test	EN 14963:2006 Clause 6.2. The Initial Flexural Strength and Flexural Modulus of Elasticity of samples shall be tested in accordance with ISO 14125:1998. The samples for Xenon Arc aging test shall be tested in accordance with ISO 4892-2:2006 for 1000 hours. And then the Flexural Strength and Flexural Modulus of Elasticity of samples shall be tested in accordance with ISO 14125:1998.	The initial Flexural Strength of sample is: 38.9 MPa; The initial Flexural Modulus of Elasticity of sample is: 3090 MPa. After Xenon Arc aging test, Flexural Strength of sample is: 40.5 MPa; Flexural Modulus of Elasticity of sample is: 3436 MPa.	—
Durability	EN 14963:2006 Clause 6.2. The samples for Xenon Arc aging test shall be tested in accordance with ISO 4892-2:2006 for 1000 hours. And then the Color Change and Yellowness Index shall be determined.	Color Change $\Delta E^* = 0.64$ Yellowness Index: $\Delta YI(D65/2^\circ) = 2.63$	—
Reaction to Fire	EN 14963:2006 Clause 5.5. The samples shall be tested using the test method as referred to and classified in accordance with EN 13501-1. $FIGRA_{0.4MJ} \leq 750W/s$ Exposure =30s	$FIGRA = 620W/s$ $F_s \leq 150mm$ within 60s	Class D s3, d2

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Performance test			
Clause	Requirement - Test	Result - Remark	Verdict
Flatness	EN 490: 2004 Clause 5.2.3. The samples shall be tested in accordance with EN 491: 2004 Clause 5.4, and the gap between any contacted point and flat surface shall not exceed 3mm.	The gap between any contacted point and flat surface does not exceed 3mm.	Pass
Water Impermeability	EN 490: 2004 Clause 5.6. The samples shall be tested in accordance with EN 491: 2004 Clause 5.7. No drops of water shall fall before the completion of the 20 hours test.	No drops of water falls after 20 hours test.	Pass

*****End of Page*****

Appendix A

Product Photos



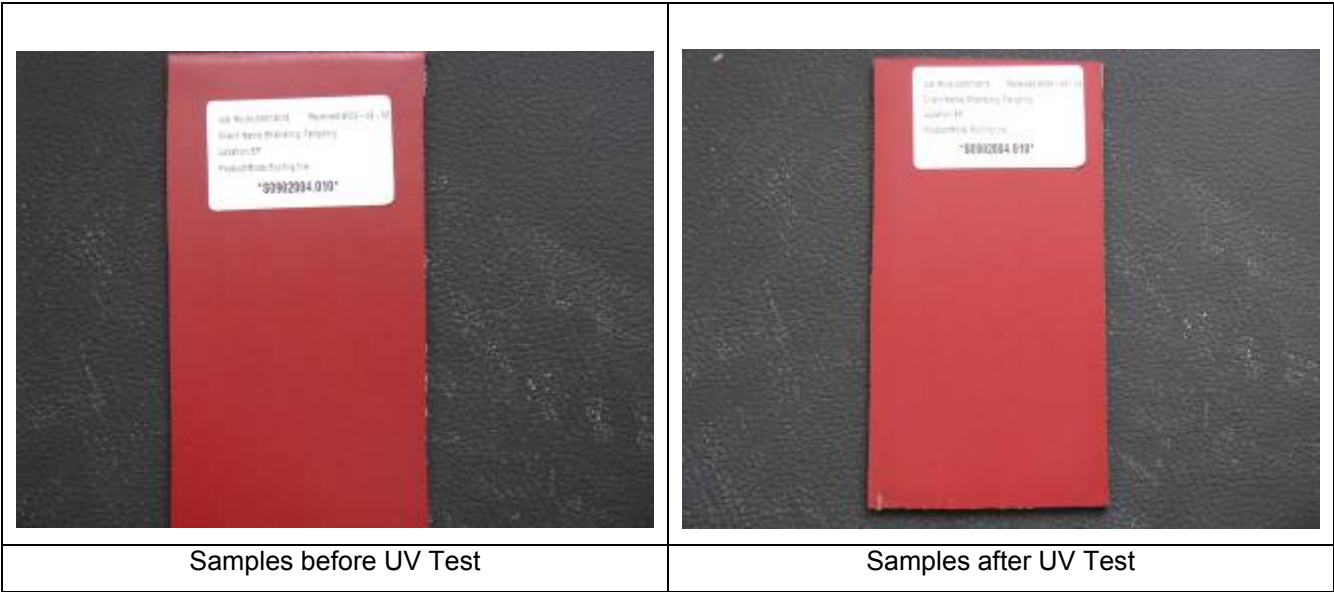
Photo of Sample

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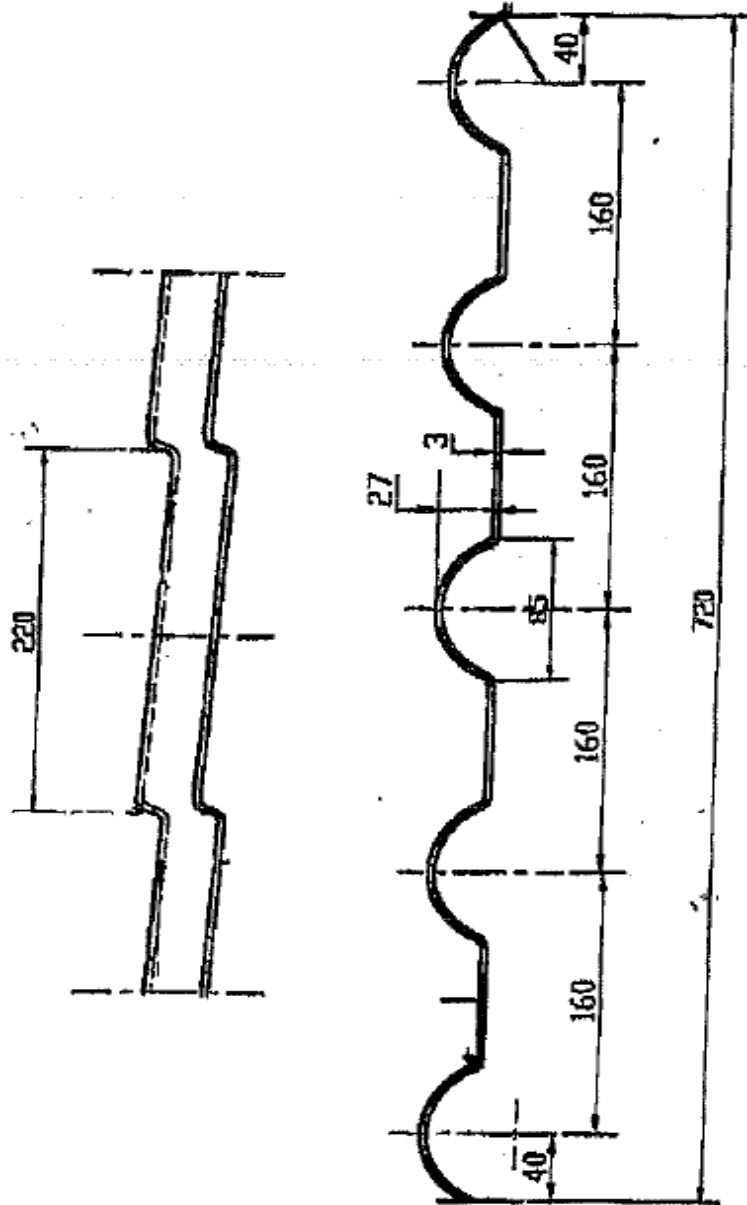
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*****End of Report*****

Appendix B

Drawing of the Product



*****End of Report*****