Test Report No. 20576B

Sponsor

TILCOR ROOF SYSTEMS UK
Foresters Hall 25-27 Weslow Street
SEL 9 3RV London
UNITED KINGDOM

Trade name of the roof covering

Tilcor Bond

Manufacturer of the roof covering

TILCOR ROOF SYSTEMS UK
Foresters Hall 25-27 Weslow Street
SEL 9 3RV London
UNITED KINGDOM

Supplier of the roof covering

TILCOR ROOF SYSTEMS UK
Foresters Hall 25-27 Weslow Street
SEL 9 3RV London
UNITED KINGDOM

Nature of the tests

Test methods for external fire exposure to roofs: Test 4: Method with two stages incorporating burning brands, wind and supplementary radiant heat, according to CEN/TS 1187:2012: Test 4.

PREPARED BY	APPROVED BY
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This report consists of 7 pages including 1 annex

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1. DATA CONCERNING THE TEST SPECIMENS

Type of specimen: Covering and sealing systems including any insulating layers or vapour barriers.

The firm Tilcor Roof Systems UK has provided the laboratory, on 31/08/2020, with 4 mounted roof specimens. These roof specimens were prepared conform to the prescriptions of the above-mentioned standard. The laboratory performed the specimen fabrication.

Sampling by	:	Justin Ransted
Sampling date	:	24/08/2020
Sample ID	:	Not communicated
Production place	:	Ross Roof Group Factory, Takanini
Production line	:	Textured production line
Production date	:	Not communicated
Identification within the quality system	:	Not communicated

2. DESCRIPTION OF THE TEST ROOF DECK

This description is based on information given by the sponsor.

	Nominal value (1)	Measured value (2)
SUPPORTING DECK		
Material	Wooden battens	
Dimensions (mm)	20x50	
Density	Known by laboratory	
ROOF TILES		
1.1 Steel		
Material	0,39 mm Zincalume Steel	
Trade name	**Steel**	
Manufacturer / Supplier	Manufacturer of the steel itself: New Zealand Steel Shaping of the tiles: Ross Roof Group	
Thickness (mm)	0,39	(3)
Surface weight (g/m²)	4279	(3)
Flame retardants	No	(3)
Fixing method	Mechanically fixed through nails	
1.2 Basecoat		
Generic type	Acrylic base coat	
Product reference	Base coat	
Manufacturer / Supplier	Ross Roof Group	
Colour	Terracotta	
Thickness (µm)	300	(3)
Surface weight (g/m²)	560	(3)
Flame retardants	No	(3)
Fixing method	Sprayed	
1.3 Granule		
Material	Stone Granule	
Trade name	Granule	
Manufacturer / Supplier	CL Rock	
Thickness (mm)	1,4	(3)
Surface weight (g/m²)	1760	(3)
Flame retardants	No	(3)
Fixing method	Pored	
1.4 Top Coat		
Generic type	Acrylic overglaze	
Product reference	Glaze	
Manufacturer / Supplier	BASF	
Colour	Clear	
Thickness (µm)	60	(3)
Surface weight (g/m²)	121	(3)
Flame retardants	No	(3)
Fixing method	Sprayed	

(1) Based on the information given by the sponsor
(2) Values verified by the laboratory
(3) Unverifiable by the laboratory

Position of the specimen:

The specimens were tested in the pitched position. Jointing was unnecessary since the mock-up with roof tiles is already already a representation of end-use.

Conditioning, according to EN 13238, § 4.2 to constant mass.

Start of conditioning : 31/08/2020

End of conditioning : 04/09/2020

3. TEST RESULTS AND OBSERVATIONS

a) Calibration

Calibration date: 04/09/2020

Burner No:	**1**	**2**	**3**	**4**
Heatflux (kW/m²)	10,9	11,8	11,7	11,4
Criterium (kW/m²)	12±1,5	12±1,5	12±1,5	12±1,5

b) Test results

Test date: 04/09/2020

Room temperature at start of test (°C): 19

Roof pitch: 45°.

PRELIMINARY IGNITION TEST WITH BURNING BRANDS (STAGE 1)

Specimen No:	**1**
Duration of flaming after withdrawal of the test flame (min:sec)	00:00
Maximum flame spread distance (mm)	0
Time to fire penetration (min:sec)	Did not penetrate
Nature of the penetration	N.a.

PENETRATION TEST WITH BURNING BRANDS, WIND AND SUPPLEMENTARY RADIANT HEAT (STAGE 2)

Specimen No:	**2**	**3**	**4**	**Average**
Time to fire penetration (min:sec)	Did not penetrate	Did not penetrate	Did not penetrate	Did not penetrate
Nature of the penetration	N.a.	N.a.	N.a.	N.a.
Additional observations: Panels did not ignite, carbonization Marked variability between the specimen: None				

Photo of the test specimen before and after the test: annex 1.

4. DIRECT FIELD OF APPLICATION OF TEST RESULTS

a) Summary of the test results

	Specimen number	Time to fire penetration (min:sec)	Duration of flaming after withdrawal of test flame (min:sec)	Maximum flame spread distance (mm)
Stage 1	1	Did not penetrate	00:00	0
Stage 2	2	Did not penetrate	(-)	(-)
	3	Did not penetrate	(-)	(-)
	4	Did not penetrate	(-)	(-)
	Average	Did not penetrate	(-)	(-)

(-) not applicable

b) Roof pitch

The roof as described has been tested with a roof pitch of 45°.

The test results apply to roofs with a pitch of > 10°, as defined in § 4.10.1 of the standard.

Photo of the test specimen before and after the test

Preliminary: Before

After

Penetration 1: Before

After

Penetration 2: Before

After

Photo of the test specimen before and after the test

Penetration 3: Before

After