Classification report for roofs/roof coverings exposed to external fire No. 20576D

Owner of the classification report

TILCOR ROOF SYSTEMS UK
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Introduction

This classification report defines the classification assigned to the roof/roof covering **«Tilcor Bond»** in accordance with the procedures given in the standard EN 13501-5:2016 : Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 4: Method with two stages incorporating burning brands, wind and supplementary radiant heat

This classification report consists of 6 pages

1. DESCRIPTION OF THE ROOF/ROOF COVERING

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 & Charcoal	
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 (Terracotta) & Excelsior Grit (Charcoal)	
Thickness (mm)	1,4	(3)
Surface weight (g/m²)	1760	(3)
Flame retardants	No	(3)
Fixing method	Pored	
1.4Top 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

Summary of tested systems and parameters

	A-1	A-2
Top coat	Clear acrylic overglaze	
Mineral finish	Stone granules	
Base coat + colour	**Acrylic (Terracotta)**	**Acrylic (Charcoal)**
Steel	0,39 mm Zincalume	
Support	Wooden battens	

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

a) Test reports

Name of the laboratory	Name of the sponsor	Test report ref. no.	Test method
WFRGENT nv Ghent - Belgium	Tilcor Roof Systems UK	20576A&B	CEN/TS 1187:2012: Test 4
WFRGENT nv Ghent - Belgium	Tilcor Roof Systems UK	20576C	CEN/TS 16459:2019

b) Test results

Test conditions: 20576A
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:	**A-1'(*)**	**A-2'**
Duration of flaming after withdrawal of the test flame (min:sec)	00:00	00:00
Maximum flame spread distance (mm)	0	0
Time to fire penetration (min:sec)	Did not penetrate	Did not penetrate
Nature of the penetration	N.a.	N.a.

(') Preliminary test corresponding with the penetration test in stage 2

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

Specimen No:	A-1(*)	A-2	Average
Time to fire penetration (min:sec)	Did not penetrate	Did not penetrate	Did not penetrate
Nature of the penetration	N.a.	N.a.	N.a.
Additional observations: Panels did not ignite, carbonization Marked variability between the specimen: None			

(*) reused in the official test 20576B

Test conditions: 20576B
Test date: 04/09/2020
Room temperature at start of test (°C): 19
Roof pitch: 45°
Support structure: wooden battens as tested
Build-up: Tilcor bond system with the terracotta coloured roof tiles

PRELIMINARY TEST (STAGE 1)

Parameter	Criteria				Test [(a)] results	Compliance			
	Class B_{ROOF}(t4)	Class C_{ROOF}(t4)	Class D_{ROOF}(t4)	Class E_{ROOF}(t4)	Spec. 1	Class B_{ROOF}(t4)	Class C_{ROOF}(t4)	Class D_{ROOF}(t4)	Class E_{ROOF}(t4)
Burn time	< 5 min	< 5 min	< 5 min	≥ 5 min	00:00	Yes	Yes	Yes	Yes
Flame spread distance	< 0,38 m	< 0,38 m	< 0,38 m	No limit	0	Yes	Yes	Yes	Yes
Penetration	None	None	None	None	None	Yes	Yes	Yes	Yes

(a) Not for extended application.

PENETRATION TEST (STAGE 2)

Parameter	Criteria			
	Class B_{ROOF}(t4)	Class C_{ROOF}(t4)	Class D_{ROOF}(t4)	Class E_{ROOF}(t4)
Penetration	≥ 60 min	< 60 min ≥ 30 min	< 30 min	< 30 min
Parameter	**Test [(a)] results**			
	Spec. 1	Spec. 2	Spec. 3	Mean [a]
Penetration	None	None	None	None
Parameter	**Compliance**			
	Class B_{ROOF}(t4)	Class C_{ROOF}(t4)	Class D_{ROOF}(t4)	Class E_{ROOF}(t4)
Penetration	Yes	Yes	Yes	Yes

(a) If one or two of the specimens have not failed at one hour, a time of 60 min shall be used in calculating the mean time of penetration.

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 test 4 of EN 13501-5:2016 and EN 508:2014.

b) Classification

The roof / roof covering **«Tilcor Bond»** in relation to its external fire performance is classified:

B_{ROOF} (t4)

c) Direct field of application

The classification is valid for the system as described in §1 for the following conditions:

- Range of pitches: > 10°

d) Extended field of application

- Layer 0: Acrylic overglaze

Product:	Acrylic base coat
Thickness:	300 µm
Surface weight:	560 g/m²
Colour:	All colours
Fixation	Sprayed

- Layer 1: Granule: all colours allowed
- Layer 2: Zinc alloy base coat: as tested
- Layer 3: Aluzinc metal tile: as tested
- Layer 4: Supporting deck: Timber; as tested

4. LIMITATIONS

At the time the standard EN 13501-5:2016 was published, no decision was made concerning the duration of validity of a classification document.

Provisions of Regulation (EU) 305/2011, commonly known as the Construction Products Regulation (CPR), prevail over any conflicting provisions in the harmonized standards and technical specifications.

5. WARNING

This classification report does not represent type approval nor certification of the product.

6. CONCERNING DECLARATION OF PERFORMANCE (DoP) ACCORDING TO THE CONSTRUCTION PRODUCT REGULATION (CPR)

Annex ZA of the harmonized standard

- EN508:2014: Self-supporting roofing, covering, wall cladding, and tiles products for discontinuous laying made from metallic coated steel sheet with or without additional organic coatings.

declares that a System 3 Attestation of Conformity (AoC) under the Construction Products Directive (CPD: 89/106/EEC) is required for all external fire performance declarations better than class F_{roof} (t1, t2, t3, t4). Under the Construction Products Regulation (CPR: EU 305/2011) this corresponds with a System 3 of Assessment and Verification of Constancy of Performance (AVCP) as basis for a Declaration of Performance (DoP).

The classification assigned to the product in this report is appropriate to such a Declaration of Performance of the essential characteristics of the construction product by the manufacturer within the context of a System 3 Assessment and Verification of Constancy of Performance. Under the Construction Products Regulation a Declaration of Performance (DoP) is a requirement for affixing the CE marking.

PREPARED BY	APPROVED BY
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