

Additional classification report for roofs/roof coverings exposed to external fire No. 20783A

Owner of the additional classification report

BAILEY TOTAL BUILDING ENVELOPE
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Introduction

This classification report defines the classification assigned to the roof/roof covering « **Bailey Atlantic TPO 1.5mm Un-Backed** » 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 additional classification report consists of 8 pages

This report is additional to that issued as No. 19245C, dated 16/05/2019. This report is drafted in accordance with the regulations of EGOLF Agreement EGA 08rev2:2013 “Application note: clause 5.10 / 4-2 – Amendment of reports: client changing product/company names (ii) for commercial reasons – Issue of additional reports”. The original report remains valid and is not replaced by this report. The product has not been retested and this report does not involve technical changes or technical reviews of the original report. The original and the new name of the product and of the company commercially responsible for the product, as well as the declarations concerning this additional report, are documented by the laboratory and maintained in the laboratory records. / The original and the new name of the sponsor, as well as the declarations concerning this additional report, are documented by the laboratory and maintained in the laboratory records.

1. DESCRIPTION OF THE ROOF/ROOF COVERING

This description is based on information given by the sponsor.

	Nominal value	Measured value	
SUPPORTING DECK			
A) WOOD PARTICLE BOARD			
Thickness (mm)	16		
Density (kg/m ³)	680		
Flame retardants	No		
B) FIBER CEMENT BOARD			
Thickness (mm)	8		
Density (kg/m ³)	1800		
Flame retardants	No		
VAPOUR BARRIER			
Material	Self-adhesive fabric reinforced aluminium vapour barrier		
Trade name	KÖSTER Vapor Barrier FR		
Manufacturer / Supplier	Köster Bauchemie AG		
Colour	Silver/ White		
Reinforcement (material + g/m ²)	Aluminium+fabric 32,10 g/m ²		
Thickness (mm)	0,14	0,2	
Surface weight (g/m ²)	150	222	
Flame retardants	Yes	(1)	
Fixing method	Self-adhesive		
Reaction to fire according to EN 13501-1	E		
INSULATING LAYER			
Material	PIR insulation panel with a fiber-free core, covered on both sides with mineral glass fleece		
Trade name	Kingspan TR27FM		
Backing/facing material (g/m ²)	Mineral glass fleece, 330-410 g/m ²		
Manufacturer	Kingspan		
Supplier	Köster Bauchemie AG		
Thickness (mm)	Sample 19245-4	60	58
	Sample 19245-2	160	164
	Sample 19245-5	60	58
	Sample 19245-13	60	58
Density (kg/m ³)	Sample 19245-4	>30	47
	Sample 19245-2	30	36
	Sample 19245-5	>30	47
	Sample 19245-13	>30	47
Flame retardants	(2)	(1)	
Fixing method	Mechanically: samples 4,2,13 Glued: sample 5		
Reaction to fire according to EN 13501-1	E		
Compressive strength according to EN826	(2)		

(1) Not verifiable (2) unknown to customer

Parameter/ Test	Top layer	Fixation	Insulation	Fixation	Vapour barrier	Fixation	Substrate
A-4 (10/07/2018)	Bailey Atlantic TPO 1.5mm Un- Backed	self-adhesive fleece backside	Kingspan TR27FM 60mm	Mechanically	Köster Vapor Barrier FR	Mechanicall y	Wood Particle Board
A-2 (10/07/2018)	Bailey Atlantic TPO 1.5mm Un- Backed	self-adhesive fleece backside	Kingspan TR27FM 160mm	Mechanically	Köster Vapor Barrier FR	Mechanicall y	Wood Particle Board
A-5 (12/07/2018)	Bailey Atlantic TPO 1.5mm Un- Backed	self-adhesive fleece backside	Kingspan TR27FM 60mm	Glued in stripes (Köster 2K PUR Dachbahnenkleber)	Köster Vapor Barrier FR	Mechanicall y	Wood Particle Board
A-13 (01/08/2018)	Bailey Atlantic TPO 1.5mm Un- Backed	self-adhesive fleece backside	Kingspan TR27FM 60mm	Mechanically	Köster Vapor Barrier FR	Mechanicall y	Fiber Cement Board

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 Belgium	BAILEY TOTAL BUILDING ENVELOPE United Kingdom	19245A 19245B	CEN/TS 1187:2012: Test 4
WFRGENT nv Belgium	BAILEY TOTAL BUILDING ENVELOPE United Kingdom	19245D	CEN/TS 16459::2013 EXAP

b) Test results

Test conditions: 19245A:

	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	A-4'	Did not penetrate	00:00	140
	A-2'	Did not penetrate	00:00	110
	A-5'	Did not penetrate	00:00	110
	A-13'	Did not penetrate	00:00	80
Stage 2	A-4	Did not penetrate	(-)	(-)
	A-2	Did not penetrate	(-)	(-)
	A-5	Did not penetrate	(-)	(-)
	A-13	Did not penetrate	(-)	(-)
	Average	Did not penetrate	(-)	(-)

Test conditions: 19245B

- Test pitch: 0°

- Deck: Wood particle board+Köster vapour barrier FR + TR27FM+ Bailey Atlantic TPO 1.5mm Un-Backed

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	0,14	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.

(b)

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 13956:2006.

b) Classification

The roof / roof covering « **Bailey Atlantic TPO 1.5mm Un-Backed** » in relation to its external fire performance is classified:

c) **B_{ROOF} (t4)**

d) Direct field of application

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

- Range of pitches: ≤ 10°

e) Extended field of application

- Layer 0: Top layer: Polyolefin based waterproofing membrane with centrally embedded glass fiber mesh, self-adhered fleece laminated on the bottom.

Product(s):	Bailey Atlantic TPO 1.5mm Un-Backed
Thickness:	1,5 mm
Surface weight:	1780 g/m ²
Reinforcement:	Glass fleece 48 g/m ²
Fixation:	Self-adhesive
Flame retardant	Yes

- Layer 1: PIR Insulation

Thickness:	60-160 mm
Fixation:	Mechanically or Glued (stripes)
Facing/backing:	facing: mineral glass fleece 330-410 g/m ² or more
Reaction to fire according to EN13501-1:	E or better

- Layer 2 (optional): Glue

Type of product	PUR glue
Surface weight	200 g/m ² or lower
Flame retardant	No
Application	Partially glued

- Layer 3: Vapour barrier:

Range of vapour barrier	Valid for fabric reinforced aluminium vapour barrier (according to EN 13956:2006)
Reaction to fire according to EN13501-1:	E or better

- Layer 4: Support:

Range of supporting deck:	Wood particle board with joints < 0,5mm Wood particle board with joints < 5,0+0,5mm Fibre cement board Calcium silicate board
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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 harmonised standard EN 13956: 2006 – “Flexible sheets for waterproofing — Plastic and rubber sheets for roof waterproofing” 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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