

# ***Classification report for roofs/roof coverings exposed to external fire***

## ***No. 19249F***

### **Owner of the classification report**

Renolit Belgium nv  
De Bruwaan 43  
9700 Oudenaarde

### **Introduction**

This classification report defines the classification assigned to the roof/roof covering “**Alkorplan F**” 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 roof tests: Test 1: Method with burning brands.

**This classification report consists of 6 pages.**

## 1. DESCRIPTION OF THE ROOF/ROOF COVERING

	Nominal value	Measured value
<b>SUPPORTING DECK</b>		
Material	Wood particle board with gaps $5,0 \pm 0,5$ mm according to § 4.4.2. of the standard CEN/TS 1187	
<b>VAPOUR BARRIER</b>		
Material	Low-density polyethylene (LDPE) thermoplastic vapour control layer	
Trade name	<b>LDPE Alkorplus 81012</b>	
Manufacturer / Supplier	Renolit Belgium nv	
Colour	Opaque blue	
Thickness (mm)	0,25	0,25
Density (g/cm <sup>3</sup> )	0,92	0,899
Flame retardants	No	(1)
Fixing method	Mechanically fixed in the corners	
Reaction to fire according to EN 13501-1	F	
<b>INSULATING LAYER</b>		
Material	Mineral wool board, dual density (hard top layer)	
Trade name	<b>Taurox Duo NP</b>	
Manufacturer	Rockwool	
Supplier	Renolit Belgium nv	
Thickness (mm)	100	98
Total density (kg/m <sup>3</sup> )	170	153
<i>Density (top layer) (kg/m<sup>3</sup>)</i>	200	(1)
<i>Density (bottom layer) (kg/m<sup>3</sup>)</i>	150	(1)
Flame retardants	No	(1)
Fixing method	Mechanically fixed in the corners	
Reaction to fire according to EN 13501-1	A1	
Compressive strength (according to EN 826)	CS (10/Y) 50	
<b>ROOF COVERING</b>		
Material	Waterproofing PVC laminated membrane, with woven polyester reinforcement	
Trade name	<b>Renolit Alkorplan F</b>	
Manufacturer / Supplier	Renolit Belgium nv	
Colour	Light grey	
Reinforcement (material + g/m <sup>2</sup> )	Polyester, 93 g/m <sup>2</sup>	
Thickness (mm)	1,2	1,2
Surface weight (g/m <sup>2</sup> )	1500	1585
Flame retardants	Yes	(1)
Fixing method	Mechanically fixed in the corners	
Reaction to fire according to EN 13501-1	E	

(1) Not verifiable

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

### a) Test reports

Name of the laboratory	Name of the sponsor	Test report No.	Test method
WFRGENT nv Belgium	Renolit Belgium nv Belgium	19249E (18/07/2018)	CEN/TS 1187:2012: Test 1
WFRGENT nv Belgium	Renolit Belgium nv Belgium	19249G	CEN/TS 16459:2013 EXAP

### b) Test results

Test conditions: 19249E

- Test pitch: 15°
- Supporting deck: Wood particle board with gaps  $5,0 \pm 0,5$  mm

Parameters	Criteria	Test Results				Compliance yes/no
		1	2	3	4	
Internal fire spread upwards (mm)	< 700 mm	0	0	0	0	yes
External fire spread upwards (mm)	< 700 mm	80	100	80	90	yes
Internal fire spread downwards (mm)	< 600 mm	0	0	0	0	yes
External fire spread downwards (mm)	< 600 mm	30	0	20	40	yes
Maximum burned length internal (mm)	< 800 mm	0	0	0	0	yes
Maximum burned length external (mm)	< 800 mm	110	100	100	130	yes
Burning, droplets/debris falling from exposed side	None	None	None	None	None	yes
Burning, glowing particles penetrating the roof	None	None	None	None	None	yes
Single through opening (mm <sup>2</sup> )	< 25 mm <sup>2</sup>	0	0	0	0	yes
Sum of all through openings (mm <sup>2</sup> )	< 4500 mm <sup>2</sup>	0	0	0	0	yes
Lateral fire spread	< edges*	< edge	< edge	< edge	< edge	yes
Internal glowing combustion	None	None	None	None	None	yes
Radius of fire spread (horizontal roof only) (mm)	< 200 mm	(-)	(-)	(-)	(-)	yes

\* edges measuring zone                      (-) not applicable

### 3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION

#### a) Reference

This classification has been carried out in accordance with clause 9 Test 1 of EN 13501-5:2016 and EN 13956:2012.

#### b) Classification

The roof / roof covering “**Alkorplan F**” in relation to its external fire performance is classified:

### **BROOF (t1)**

#### c) Direct field of application

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

- Range of pitches: < 20°
- Nature of the deck:
  - Any non-combustible continuous deck with a minimum thickness of 10 mm
  - Any wooden continuous deck

#### d) Extended field of application

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

Layer 0: Top layer: PVC laminated membrane, with woven polyester reinforcement

Thickness:	1,2 mm to 2,4 mm
Surface weight:	1500 g/m <sup>2</sup> to 3000 g/m <sup>2</sup>
Reinforcement:	Polyester, 93 g/m <sup>2</sup> or lower Additional glass reinforcement is allowed
Fixation:	Mechanically fixed OR Loosely laid
Colour	All colours

Layer 1: Insulation: Mineral wool board, dual density (hard top layer)

Thickness:	50 mm or greater
Total density:	170 kg/m <sup>3</sup>
Density (top layer):	200 kg/m <sup>3</sup>
Density (bottom layer):	150 kg/m <sup>3</sup>
Fixation:	Mechanically
Compressive strength (according to EN 826)	50 kPa or more
Reaction to fire according to EN13501-1:	A1

Layer 2: The membrane: Vapour barrier : Self-adhesive bituminous or PE or no vapour barrier

Range of products:	Valid for self-adhesive bituminous vapour barriers ( according to EN 13970:2004/A1:2006) and for PE vapour barriers ( according to EN 13984:2013).  OR no vapour barrier
Range of reaction to fire (only applicable to the bituminous vapour layer):	The vapour barrier can be replaced by any other material which have a reaction to fire classification of E or higher.

Layer 3: Support

Range of supporting deck:	Following CEN/TS 1187:2012
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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 harmonised 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: 2012 - 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<sub>roof</sub> (t1, t2, t3, t4). Under the Construction Products Regulation (CPR: EU 305/2011) this corresponds with a System 1 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 1 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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