warringtonfiregent
global safety

Classification report for roofs/roof coverings exposed to external fire No. 17813D

Owner of the classification report

Imper Italia srl
Via Alessandro Volta, 8
10071 Frazione Mappano TO, Borgaro
Italy

Introduction

This classification report defines the classification assigned to the roof/roof covering **«Sintofoil RT/FR3»** in accordance with the procedures given in the standard EN 13501–5:2005+A1:2009: Fire classification of construction products and building elements – Part 5: Classification using data from external fire exposure to roofs tests: Test 3: Method with burning brands, wind and supplementary radiant heat.

This classification report consists of 6 pages

warringtonfiregent
global safety

1. DESCRIPTION OF THE ROOF/ROOF COVERING

	Nominal value
SUPPORTING DECK	
Material	Trapezoidal profiled steeldeck 106/750according to § 6.5.4.4.2. of the standard
INSULATING LAYER	
Material	Insulation board made with rigid polyurethane foam covered on both sides with **multilayer aluminium gas tigh (17813 A-1, 17813 A-3, 17813B)** or covered on both sides with embossed **aluminium, 60 µm thick (17813 A-2).**
Trade name	**STIFERITE GTE (17813 A-1, 17813 A-3, 17813 B, PIR with multilayer aluminium)** **STIFERITE AI6 (17813 A-2, PIR with aluminium)**
17813 A-1 /17813 A-3 / 17813 B: STIFERITE GTE	
Manufacturer	Stiferite
Supplier	Imper italia srl
Backing/facing material (g/m²)	Multilayer aluminium, 126 g/m² (17813A-1, 17813A-3,17813B)
Thickness (mm)	**30 (17813 A-3)** **120 (17813 A-1, 17813 B)**
Density (kg/m³) of the foam (without facing/backing)	31 (17813 A-3) 31 (17813 A-1, 17813 B)
Surface weight (g/m²) of foam with facing and backing included	1160 (17813 A-3) 3700 (17813 A-1, 17813 B)
Flame retardants	Yes
Fixing method	Mechanically
Reaction to fire according to EN 13501-1	E
17813 A-2 : STIFERITE AI6	
Manufacturer	Stiferite
Supplier	Imper italia srl
Backing/facing material (g/m²)	Aluminium, 60 µm, 170 g/m² (17813A-2)
Thickness (mm)	**120**
Density (kg/m³) of the foam (without facing/backing)	31
Surface weight (g/m²) of foam with facing and backing included	4000
Flame retardants	Yes
Fixing method	Mechanically
Reaction to fire according to EN 13501-1	D s2 d0

warringtonfiregent
global safety

	Nominal value
ROOF COVERING	
1.1 Top layer	
Material	TPO/ FPO waterproofing membrane with a polyester reinforcement.
Trade name	Sintofoil RT/FR3
Manufacturer	Imper Italia srl
Colour	Grey
Reinforcement (material + g/m²)	Polyester net, 90 g/m²
Thickness (mm)	**1,2 (17813 A-2, 17813 A-3, 17813 B)** **2,0 (17813 A-1)**
Surface weight (g/m²)	**1500 (17813 A-2, 17813 A-3, 17813 B)** **2500 (17813 A-1)**
Flame retardants	Yes
Fixing method	Mechanically (fixed every 25 cm)

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	Imper Italia srl	17813A 17813B	CEN/TS 1187:2012: Test 3
WFRGENT nv Ghent - Belgium	Imper Italia srl	17813C	CEN/TS 16459:2013

b) Test results

Test conditions: 17813 A-1 : 120 mm STIFERITE GTE + 2,0 Sintofoil RT/FR3
- Test pitch: 5°
- Supporting deck: Trapezoidal profiled steeldeck 106/750

Parameter	Criteria			Test results	Compliance		
	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$	Spec. 2	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$
External fire spread time (T_E)	≥ 30 min	≥ 10 min	N.a.	≥ 30 min	Yes	Yes	N.a.
Time to fire penetration (T_P)	≥ 30 min	≥ 15 min	≥ 5 min	≥ 30 min	Yes	Yes	Yes

N.a. = Not applicable

warringtonfiregent global safety

Test conditions: 17813 A-2 : 120 mm STIFERITE Ai6 + 1,2 mm Sintofoil RT/FR3
- Test pitch: 5°
- Supporting deck: Trapezoidal profiled steeldeck 106/750

Parameter	Criteria			Test results	Compliance		
	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$	Spec. 2	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$
External fire spread time (T_E)	≥ 30 min	≥ 10 min	N.a.	≥ 30 min	Yes	Yes	N.a.
Time to fire penetration (T_P)	≥ 30 min	≥ 15 min	≥ 5 min	≥ 30 min	Yes	Yes	Yes

N.a. = Not applicable

Test conditions: 17813 A-3: 30 mm STIFERITE GTE + 1,2 mm Sintofoil RT/FR3
- Test pitch: 5°
- Supporting deck: Trapezoidal profiled steeldeck 106/750

Parameter	Criteria			Test results	Compliance		
	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$	Spec. 2	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$
External fire spread time (T_E)	≥ 30 min	≥ 10 min	N.a.	≥ 30 min	Yes	Yes	N.a.
Time to fire penetration (T_P)	≥ 30 min	≥ 15 min	≥ 5 min	≥ 30 min	Yes	Yes	Yes

N.a. = Not applicable

Test conditions: 17813 B : 120 mm STIFERITE GTE + 1,2 mm Sintofoil RT/FR3
- Test pitch: 5°
- Supporting deck: Trapezoidal profiled steeldeck 106/750

Parameter	Criteria			Test results		Compliance		
	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$	Spec. 1	Spec. 2	Class $B_{ROOF}(t3)$	Class $C_{ROOF}(t3)$	Class $D_{ROOF}(t3)$
External fire spread time (T_E)	≥ 30 min	≥ 10 min	N.a.	≥ 30 min	≥ 30 min	Yes	Yes	N.a.
Time to fire penetration (T_P)	≥ 30 min	≥ 15 min	≥ 5 min	≥ 30 min	≥ 30 min	Yes	Yes	Yes

N.a. = Not applicable

c) Observations during tests

During the tests, the fire didn't totally penetrate the PIR insulation and the damage was primarily situated in the upper part of the PIR insulation (both STIFERITE AI6 and STIFERITE GTE).

warringtonfiregent
global safety

3. CLASSIFICATION AND FIELD OF APPLICATION

a) Reference

This classification has been carried out in accordance with clause 9 test 3 of EN 13501–5:2005+A1:2009 and EN 13956:2012.

b) Classification

The roof / roof covering « **Sintofoil RT/FR3** » in relation to its external fire performance is classified:

B_{ROOF} (t3)

c) Direct field of application

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

- Range of pitches: <10°
- Range of decks:
  - Any profiled and non-perforated steel deck
  - Any non-combustible continuous deck with a minimum thickness of 10 mm

d) Extended field of application

This extended application for the product as described in §1, is valid for the following end-use applications:

➢ Range of layer 0: The membrane: Sintofoil RT/FR3 membrane: top layer

Colours:	Grey, white
Thickness:	From 1,2 to 2,0 mm
Surface weight:	From 1500 to 2500 g/m²
Reinforcement:	Polyester net of 90 g/m² or less Non-combustible reinforcement
Spacing of mechanical fixing:	Every 25 cm or narrower

➢ Range of layer 1: Isolation : PIR insulation

Thickness:	From 30 to 120 mm
Density of the foam:	31 kg/m³
Facing/backing:	Aluminium kraft multilayer 126 g/m² Aluminium, 60 µm, 170 g/m²
Fixing method:	Mechanically

warringtonfiregent
global safety

4. LIMITATIONS

At the time the standard EN 13501–5:2005+A1:2009 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_{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
Simon Botte (Signature) Project Assistant Ghent 2016.09.05 09:56:31 +02'00'	Bart Sette (Signature) General Manager 2016.09.06 13:49:35 +02'00'

This document is the original version of this classification report and is written in English.
This report may be used only literally and completely for publications. - For publications of certain texts, in which this report is mentioned, our permission must be obtained in advance.
The authenticity of the electronic signatures is assured by Belgium Root CA.