

FRAGMAT TIM, d.d.
Spodnja Rečica 77
SI-3270 Laško
Slovenia

External Fire Exposure to roof according to CEN/TS 1187, test method 2 with burning brands and wind

(2 appendices)

Product

According to the client:

Roof covering called "IZOELAST REFLEX P4-S" consisting of the following:

Single-layer membrane made from polyester reinforcement, coated on both sides with elastomere modified bitumen. Nominal area weight of the reinforcement 180 g/m². The membrane is on the upper side protected by mineral granules and on the bottom side by polymeric sheeting.

The product has a nominal area weight of 5.2 kg/m² and a nominal thickness of 4.2 mm.

Manufacturer

FRAGMAT TIM, d.d., Laško, Slovenia.

Purpose of test

Basis for technical fire classification.

Sampling

The sample was delivered by the client. It is not known to SP Fire Technology if the product received is representative of the mean production characteristics.

The sample was received April 22, 2014 at SP Fire Technology.

Test results

The test results of "IZOELAST REFLEX P4-S", when applied onto a non-combustible backing (board of mineral wool, 150 kg/m³), are given in appendix 1.

The test results of "IZOELAST REFLEX P4-S", when applied onto a combustible backing (wooden particle board, 680 kg/m³), are given in appendix 2.

The test results relate only to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Criteria

According to EN 13501-5:2005 “Fire classification of construction products and building elements – Part 5: Classifications using data from external fire exposure test 2, a roof covering can be deemed to meet the criteria for class B_{ROOF} (t2) if it fulfils the following criteria when tested according to CEN/TS 1187, test 2 at 2 and 4 m/s:

- The damage length, in the roof covering as well as in the backing, does not exceed 550 mm in average of three tests.
- The damage length, in the roof covering as well as in the backing, does not exceed 800 mm in any test.

Note

The test has been carried out according to CEN/TS 1187:2012 and is assessed to fully comply with ENV 1187.

SP Technical Research Institute of Sweden Fire Research - Fire Dynamics

Performed by



Susanne Andersson

Examined by



Per Thureson

Appendices

1. Test results – CEN/TS 1187:2012, test 2
2. Test results – CEN/TS 1187:2012, test 2

Appendix 1

Test results – CEN/TS 1187:2012, test 2

Product

According to the client:

Roof covering called “IZOELAST REFLEX P4-S” consisting of the following:

Single-layer membrane made from polyester reinforcement, coated on both sides with elastomere modified bitumen. Nominal area weight of the reinforcement 180 g/m². The membrane is on the upper side protected by mineral granules and on the bottom side by polymeric sheeting.

The product has a nominal area weight of 5.2 kg/m² and a nominal thickness of 4.2 mm.

Application

The specimen was laid loosely onto a non-combustible board (board of mineral wool) having a density of 150 kg/m³ approximately.

Test results

Test no	1	2	3	Average value	4	5	6	Average value
Air velocity, m/s	2	2	2		4	4	4	
The roof covering was ignited, min:s	00:49	00:52	00:54		00:50	01:00	01:05	
The flames died out, min:s	14:08	-	11:55		06:00	06:45	06:55	
The glow died out, min:s	14:08	-	-		07:00	08:32	08:31	
Fire and glow were extinguished, min:s	-	15:00	15:00		-	-	-	
Damage on the surface, mm	510	525	465	<u>500</u>	351	437	370	<u>386</u>
Damage in the underlay, mm	_*	_*	_*	<u>_*</u>	_*	_*	_*	<u>_*</u>

* Only discoloured

Measured data

Thickness 4.1 – 4.6 mm.

Area weight 5.1 – 5.2 kg/m².

Date of test

May 20, 2014.

Conditioning

Temperature 23 ± 2 °C.

Relative humidity (50 ± 5) %.

Appendix 2

Test results – CEN/TS 1187:2012, test 2

Product

According to the client:

Roof covering called “IZOELAST REFLEX P4-S” consisting of the following:

Single-layer membrane made from polyester reinforcement, coated on both sides with elastomere modified bitumen. Nominal area weight of the reinforcement 180 g/m². The membrane is on the upper side protected by mineral granules and on the bottom side by polymeric sheeting.

The product has a nominal area weight of 5.2 kg/m² and a nominal thickness of 4.2 mm.

Application

The specimen was laid loosely onto a combustible board (wooden particle board) having a density of 680 kg/m³ approximately.

Test results

Test no	1	2	3	Average value	4	5	6	Average value
Air velocity, m/s	2	2	2		4	4	4	
The roof covering was ignited, min:s	00:55	-	-		00:52	-	-	
The flames died out, min:s	08:22	-	-		03:54	-	-	
The glow died out, min:s	10:41	-	-		05:51	-	-	
Fire and glow were extinguished, min:s	-	-	-		-	-	-	
Damage on the surface, mm	274	-	-	±	327	-	-	±
Damage in the underlay, mm	105	-	-	±	125	-	-	±

Measured data

Thickness 4.1 – 4.6 mm.

Area weight 5.1 – 5.2 kg/m².

Date of test

May 20, 2014.

Conditioning

Temperature 23 ± 2 °C.

Relative humidity (50 ± 5) %.