

## Test Report No. 18134B

### Sponsor

Tecnopol Sistemas S.L.  
Finlàndia, 33  
08520 Les Franqueses  
Spain

### Trade name of the roof covering

Primer EP-w-1070 + Tecnocoat P-2049 + Tecnotop 2C

### Manufacturer of the roof covering

Tecnopol Sistemas S.L.  
Finlàndia, 33  
08520 Les Franqueses  
Spain


### Supplier of the roof covering

Tecnopol Sistemas S.L.  
Finlàndia, 33  
08520 Les Franqueses  
Spain


### Nature of the tests

Test methods for external fire exposure to roofs: Test method 2: Method with burning brands and wind. The test has been carried out according to CEN/TS 1187:2012.

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### This report consists of 6 pages including 1 annex

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## 1. DATA CONCERNING THE TEST SPECIMENS

Type of specimen: Covering and sealing systems including any insulating layers or vapour barriers.

The firm Tecnopol Sistemas S.L., Finlàndia, 33, 08520 Les Franqueses, Spain has provided the laboratory, on 09/02/2017, with 6 mounted roof specimens. These roof specimens were prepared conform to the prescriptions of the above-mentioned standard. The laboratory did not supervise the specimen fabrication.

Sampling by	: The sponsor (Mr. Pont)
Sampling date	: September 2016
Sample ID	: Tecnocoat P-2049 waterproofing system
Production place	: Tecnopol
Production line	: Waterproofing systems based on pure polyurea liquid membrane
Production date	: September 2016
Identification within the quality system	: Not communicated by the sponsor

## 2. CONDITIONING

Before testing, the samples have been conditioned according to the specifications of the standards mentioned above.

Start conditioning	: 09/02/2017
End conditioning	: 15/02/2017

### 3. DESCRIPTION OF THE TEST ROOF DECK

*This description is based on information given by the sponsor.*

	Nominal value	Measured value
<b>SUBSTRATE</b>		
Standard substrate	Yes	
Material	Wood particle board according to § 5.4.2 of the standard	
Thickness (mm)	19 ± 2	19
Density (kg/m <sup>3</sup> )	680 ± 50	658
Flame retardants	No	(1)
<b>ROOF COVERING</b>		
1.1 <u>Primer</u>		
Material	Epoxy water based resin without solvents.	
Trade name	PRIMER EPW-1070	
Manufacturer / Supplier	TECNOPOL	
Thickness (mm) (dry)	0,2	(1)
Density (kg/m <sup>3</sup> ) (wet)	1000	(1)
Surface weight (g/m <sup>2</sup> ) (dry)	800	(1)
Solid content	3 %	(1)
Flame retardants	No	(1)
Fixing method	Liquid applied by a roller	
1.1 <u>First layer</u>		
Material	100 % pure polyurea membrane is made up of two high reactive liquid components, isocyanates and amines, which are mixed together using spray equipment.	
Trade name	TECNOCOAT P-2049	
Manufacturer / Supplier	TECNOPOL	
Thickness (mm) (dry)	2	(1)
Density (kg/m <sup>3</sup> ) (wet)	1100	(1)
Surface weight (g/m <sup>2</sup> ) (dry)	2200	(1)
Solid content	100 %	(1)
Flame retardants	No	(1)
Fixing method	Liquid applied by a spray equipment	
1.2 <u>Top layer</u>		
Material	Two component aliphatic polyurethane Resin	
Trade name	TECNOTOP 2C	
Manufacturer / Supplier	TECNOPOL	
Colour	Green	
Thickness (µm) (dry)	150	(1)
Density (kg/m <sup>3</sup> ) (wet)	1220	(1)
Surface weight (g/m <sup>2</sup> ) (dry)	150-200	(1)
Solid content	71 %	(1)
Flame retardants	No	(1)
Fixing method	Liquid applied by roller	

(1) Not verifiable

#### 4. TEST RESULTS AND OBSERVATIONS

Test date: 15/02/2017

Roof pitch: 30°

Ambient temperature: 19 °C

Test roof		1	2	3	4	5	6
Air velocity below (m/s)		1,99	1,99	1,99	4,02	4,02	4,02
Air velocity above (m/s)		5,72	5,72	5,72	5,72	5,72	5,72
Observations during the test							
Time of ignition	(min:s)	0:34	0:36	0:35	0:33	0:32	0:33
Time when flames die out	(min:s)	5:00	4:52	4:53	2:34	2:31	2:32
Time when glow dies out	(min:s)	9:56	9:32	9:13	6:20	6:02	5:34
Observations during and after the test							
Melting	(yes/no)	Yes	Yes	Yes	Yes	Yes	Yes
Foaming	(yes/no)	No	No	No	No	No	No
Charring	(yes/no)	Yes	Yes	Yes	Yes	Yes	Yes
Expansion	(yes/no)	No	No	No	No	No	No
Shrinkage	(yes/no)	No	No	No	No	No	No
Delamination	(yes/no)	Yes	Yes	Yes	Yes	Yes	Yes
Observations after the test							
Damaged length roof covering (mm)		450	430	410	380	370	390
Damaged length substrate (mm)		380	340	310	300	290	310
Damaged area roof covering (mm <sup>2</sup> )		34000	32000	32000	31000	26000	31900
Damaged area substrate (mm <sup>2</sup> )		(*)	(*)	(*)	(*)	(*)	(*)
Maximum depth of damage (mm)		2	3	2	2	2	3

(\*) Due to the composition of the system (liquid applied onto a wooden substrate) a damaged area of the substrate could not be measured.

Results			
		Mean value	Max. value
2 m/s	Damaged length roof covering (mm)	430	450
	Damaged length substrate (mm)	343	380
4 m/s	Damaged length roof covering (mm)	380	390
	Damaged length substrate (mm)	300	310

## 5. DIRECT FIELD OF APPLICATION OF TEST RESULTS

### 5.1. Roof pitch

The roof as described has been tested with a roof pitch of 30°.

The test results apply for all pitches, as defined in § 5.10.5 of the standard.

### 5.2. Nature of the deck

The roof as described has been tested with the following supporting deck: Wood particle board according to § 5.4.2. The test results apply, as defined in § 5.10. of the standard, for combustible and non-combustible substrates having a density greater than or equal to 510 kg/m<sup>3</sup>.

Photo of the test specimens before and after the test: Annex 1.

**Photo of the test specimen before and after the test**

After test at 2 m/s

No picture due to technical reasons

After test at 4 m/s

