

Indicative test Report No. 21538A

Sponsor

AXTER LIMITED
West Road, Ransomes Europark
IP3 9SX Ipswich
UNITED KINGDOM

Trade name of the roof covering

Hyranger Multi Layer Warm Roof System

Manufacturer of the roof covering

AXTER LIMITED
West Road, Ransomes Europark
IP3 9SX Ipswich
UNITED KINGDOM

Supplier of the roof covering

AXTER LIMITED
West Road, Ransomes Europark
IP3 9SX Ipswich
UNITED KINGDOM

Nature of the tests

Test methods for external fire exposure to roofs: Test 4: Method with two stages incorporating burning brands, wind and supplementary radiant heat, according to CEN/TS 1187:2012: Test 4.

Deviations of the test standard

On the following points the test procedure deviated from the prescriptions of the standard: the number of specimens.
Therefore, these results are of an indicative nature only and no classification can be given on only their basis.

PREPARED BY

APPROVED BY

This report consists of 7 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 Axter Ltd. has provided the laboratory, on 06/09/2021, with 2 mounted roof specimens. These roof specimens were prepared conforming to the prescriptions of the above-mentioned standard. The laboratory did not supervise the specimen fabrication.

Sampling by	:	Not communicated by the sponsor
Sampling date	:	Not communicated by the sponsor
Sample ID	:	Not communicated by the sponsor
Production place	:	Not communicated by the sponsor
Production line	:	Not communicated by the sponsor
Production date	:	Not communicated by the sponsor
Identification within the quality system	:	Not communicated by the sponsor

2. DESCRIPTION OF THE TEST ROOF DECK

This description is based on information given by the sponsor.

	Nominal values (1)	Measured values (2)
SUPPORTING DECK		
Material	OSB	
Thickness (mm)	18	
Density (kg/m³)	600	
PRIMER		
Material	Modified, solvent-based, bituminous primer.	
Trade name	Vernis Antac	
Manufacturer / Supplier	Axter Limited	
Weight percentage (w%)	54	
Applied surface weight (g/m²)	150-300	
Fixing Method	Roller applied	
VAPOUR BARRIER		
Material	SBS Elastomeric bitumen with composite reinforcement	
Trade name	Vap Alu ADH	
Manufacturer / Supplier	Axter Limited	
Reinforcement (material + g/m²)	Composite aluminium and glass fibre 120 g/m²	
Thickness (mm)	2,2	(3)
Surface weight (g/m²)	3175	(3)
Flame retardants	No	(3)
Fixing method	Self-adhesive	
Reaction to fire according to EN 13501-1	NPD	
ADHESIVE		
Material	PU Adhesive	
Trade name	Hyrastik EVO	
Manufacturer / Supplier	Axter Limited	
Flame retardants	N/A	
Weight percentage (w%)	100	
Surface weight (l/m²)	0,1 – 0,2	
Application	In Beads 20 to 30 mm wide	
INSULATING LAYER (ADHESIVE)		
Material	Polyisocyanurate (PIR) board covered with coated glass tissue and bituminised glass tissue with polypropylene fleece	
Trade name	Hytherm (ADH/BF)	
Backing/facing material (g/m²)	Coated glass tissue and bituminised glass tissue with polypropylene fleece (weight not provided)	
Manufacturer / Supplier	Axter Limited	
Thickness (mm)	120	(3)
Density (kg/m³) of the foam	30	(3)
Flame retardants	No	(3)
Fixing method	PU Adhered	
Reaction to fire according to EN 13501-1	E	

(1) Based on the information given by the sponsor

(2) Values verified by the laboratory

(3) Unverifiable by the laboratory

	Nominal value (1)	Measured value (2)
ROOF COVERING		
First layer		
Material	Elastomeric bitumen membrane with polyester reinforcement and a microperforated film and sand finishing on top.	
Trade name	Hyranger Spot ADH	
Manufacturer / Supplier	Axter Limited	
Mineral finish (material + g/m²)	Macroperforated film + sand 100 g/m²	
Reinforcement (material + g/m²)	Stabilised polyester 120 g/m²	
Thickness (mm)	2,69	(3)
Surface weight (g/m²)	3160	(3)
Flame retardants	No	(3)
Fixing method	Self-adhesive	
Top layer		
Material	SBS Elastomeric bitumen with a polyester reinforcement and a mineral slate finishing on top.	
Trade name	Hyranger 40 PY FP / Hyranger 40 Flame Free / Hyranger 40 FR	
Manufacturer / Supplier	Axter Limited	
Mineral finish (material + g/m²)	Mineral slate 1000	
Reinforcement (material + g/m²)	Stabilised polyester 180 g/m²	
Thickness (mm)	3,5	(3)
Surface weight (g/m²)	5075	(3)
Flame retardants	No	(3)
Fixing method	Torchd + heat activated	

(1) Based on the information given by the sponsor

(2) Values verified by the laboratory

(3) Unverifiable by the laboratory

Summary of parameters and tested systems:

	A-1
Top layer	Hyranger 40 PY FP
Fixation	Torchd +heat activated
Under layer	Hyranger Spot ADH
Fixation	Self-adhesive
Insulation	PIR (120 mm)
Fixation	PU adhered
Vapour barrier	Vap Alu ADH
Fixation	Self-adhesive
Primer	Vernis Antac
Substrate	OSB (18 mm ; 600 kg/m ³)

Position of the specimen:

The specimens were tested in the flat position. A T-joint was applied to the top layer of all specimens.

Conditioning, according to EN 13238:2010, § 4.2 to constant mass.

Start of conditioning : 06/09/2021

End of conditioning : 15/09/2021

3. TEST RESULTS AND OBSERVATIONS

a) Calibration

Calibration date: 15/09/2021

Burner No:	1	2	3	4
Heatflux (kW/m ²)	11,4	11,6	11,2	11,9
Criterium (kW/m ²)	12 ± 1,5	12 ± 1,5	12 ± 1,5	12 ± 1,5

b) Test results

Test date: 15/09/2021

Room temperature at start of test (°C): 19

Roof pitch: 0°

Substrate: OSB (18 mm ; 600 kg/m³)

PRELIMINARY IGNITION TEST WITH BURNING BRANDS (STAGE 1)

Specimen No:	A-1'
Duration of flaming after withdrawal of the test flame (min:sec)	00:00
Maximum flame spread distance (mm)	90
Time to fire penetration (min:sec)	Did not penetrate
Nature of the penetration	N.a.

(') The results of preliminary test correspond with the obtained results of the penetration test.

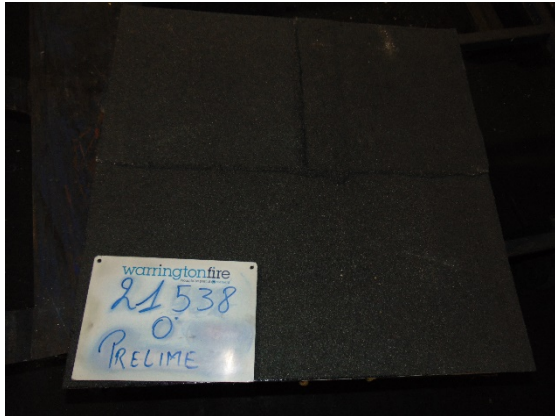
PENETRATION TEST WITH BURNING BRANDS, WIND AND SUPPLEMENTARY RADIANT HEAT (STAGE 2)

Specimen No:	A-1	Average
Time to fire penetration (min:sec)	Did not penetrate	Did not penetrate
Nature of the penetration	N.a.	-
Additional observations: The specimen ignited. Carbonization and melting of the top layer were visible. Additionally, burning particles persisting both longer and shorter than 5 seconds were visible. The specimen extinguished after 27:28.		

Photos of the test specimens before and after the test: annex 1.

Photos of the test specimen before and after the test

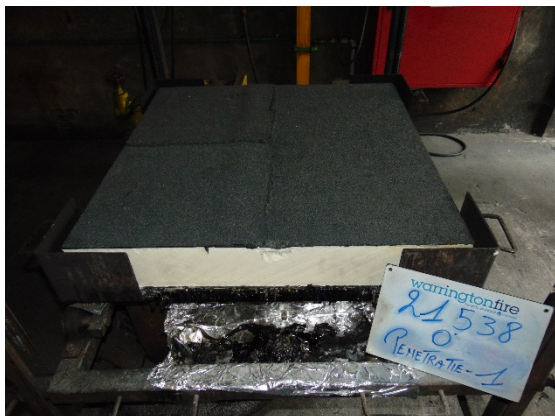
A-1': Before



After



A-1: Before



After

