

FIRE TEST REPORT EUI-25-V-000553- Revision 1

“This report cancels and replaces the Test Report Nr. EUI-25-V-000553”

Test report date: 2nd of March 2026

Performed on: 25th September 2025

Test Standard: **BS EN 1363-1:2020** – Fire resistance tests
Part 1: General requirements

BS EN 1364-1:2015 – Fire resistance tests for non-loadbearing elements
Part 1: Walls

Product: Two layers of 12.5mm Gyproc Fireline board on the fireside and a layer of VISQUEEN Class B FR Vapour. A steel frame system with Kingspan K-Roc FS between the frame. One layer of 12.5mm Proctor cement particle board and a breather membrane of Proctor Wraptight. A layer of Kingspan 50mm AlphaCore Pad and an outer layer of 120mm RAINSCREEN SLAB on the non-fire side.

Sponsor: **KINGSPAN INSULATION LTD**
Torvale Industrial Estate
HR6 9LA Pembridge
UNITED KINGDOM



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1. DOCUMENT TRACKING

Revision Index.	Modification	Comments	Date		
0	Original document	/	4 th of December 2025	Writer	AAB(AHMADS)
				Approver	MKE
1	Correction made on screw length for "19mm self-drilling screw for SFS" in section 6.3.1	/	7 th of April 2026	Writer	AAB(AHMADS)
				Approver	

2. SCOPE OF THIS TEST REPORT

Fire resistance test regarding a Non-loaded wall, according to the general requirements of the standard BS EN 1363-1:2020 and to the specific requirements of the standard BS EN 1364-1:2015

3. TEST LABORATORY

EFFECTIS UK & IRELAND
Wentloog Corporate Park,
Wentloog Ave,
CARDIFF
CF3 2ER, County Cardiff
UNITED KINGDOM

4. REFERENCE AND MANUFACTURER OF THE TESTED SPECIMEN

Reference: Two layers of 12.5mm Gyproc Fireline board and a layer of VISQUEEN Class B FR Vapour Check on the fireside. A steel frame system with 100mm Kingspan K-Roc RS between the frame. One layer of 12.5mm Proctor cement particle board, a breather membrane of Proctor Wraptight.. A layer of Kingspan 50mm AlphaCore Pad and an outer layer of 120mm RAINSCREEN SLAB on the non-fire side.

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5. FURTHER INFORMATIONS FOR UKCA/UKNI MARKING

(Chapter not covered under the UKAS's accreditation)

The tested sample has not been subject of a sampling, thus the results apply to the sample as received.

6. DESCRIPTION OF THE TESTED SPECIMEN

Technical data in this chapter and drawings from APPENDIX A (page 14 – 18) concerning the sample and its composition have been supplied by the sponsor who attests their accuracy.

6.1. GENERAL

The element was an asymmetrical non-loadbearing wall, with an overall nominal dimension of 3000 x 3000 x 308 mm (w x h x th). From exposed to unexposed side, the specimen included:

1. Two layers of 12.5mm plasterboard, reference 12.5mm Gyproc FireLine plasterboard (British Gypsum).
2. A layer of vapour barrier reference Visqueen Vapour Check (Visqueen)
3. A layer of 100mm insulation, reference 100mm K-Roc FS (Kingspan), was friction fitted into the steel frame.
4. The sample frame was steel frame, consisting of six studs, and head and base tracks
5. A layer of cement board, reference 12.5mm cement particle board (Proctor)
6. A layer of breather membrane reference Wraptight (Proctor)
7. A layer of insulation reference 50mm AlphaCore Pad (KINGSPAN)
8. An outer layer of insulation, reference 120mm Kingspan K-Roc RS (KINGSPAN)

Overall dimensions:

- Element: 3000mm x 3000mm x 308mm (w x h x th)
- Clear opening: 3040mm x 3040mm (w x h)

6.2. LIST OF THE COMPONENTS

According to the information supplied by the sponsor.

Name	Reference	Characteristics	Material	Supplier
Inner and outer layers of Plasterboards fireside	12.5mm Gyproc FireLine board TE	Size: 1200mm x 2400mm x 12.5mm (w x h x th) Reaction to fire A2-s1, d0 (B1) Thermal conductivity: 0.24 W/mK Density: 11.4 kg/m ³	A gypsum core between paper liners. It uses glass fibre reinforcement and other additives for extra fire resistance	British Gypsum
Screws to the secure inner layer of plasterboard	32mm drywall screw	Length: 32mm Reaction to fire A1 self-drilling zinc plated steel screws with Phillips bugle head	Zinc coated steel	TimberMate
Screws to secure outer layer of plasterboard and the fixing strap	42mm drywall screw	Length: 42mm Reaction to fire A1 self-drilling zinc plated steel screws with Phillips bugle head	Zinc coated steel	TIMCO
Fixing Strap	Gypframe GFS1 Fixing Strap	Size: 70mm x 2400mm (w x L) Gauge: 0.5mm	Cold-roll steel	British Gypsum
Steel Formed Sections - studs	C100050120	100 mm x 50 mm x 1.2 mm thick (Depth x Flange x Gauge) Height: 2980mm	Light gauge steel	KINGSPAN
Steel Formed Sections – Base Track	U1040505120	104 mm x 50 mm x 1.2 mm thick (Depth x Flange x Gauge) Height: 3000mm	Light gauge steel	KINGSPAN

Steel Formed Sections – Head Track	U104067180	104 mm × 67 mm × 1.8 mm thick (Depth x Flange x Gauge) Height: 3000mm	Light gauge steel	KINGSPAN
Plasterboard securing angle	Gypframe Steel Angle	Size: 70mm x 30mm x 2400 mm (W x D x L) Gauge : 1.5mm	Light Gauge steel	British Gypsum
Breather Membrane	Wraptight	Size: 1.5m x 50m x 0.65 (W x L x th)	Triple layer polypropylene micro-porous film laminate, with a proprietary acrylic moisture vapour permeable adhesive and silicone-coated PET release liner	Proctor
Joint filler	Gyproc Promix Light 20kg	Reaction to fire A2-s1, d0	This is a limestone filler with a lightweight aggregate and additives to control rheology and water retention	British Gypsum
Insulation slab	100mm K-Roc Framing Slab	Size : 610 x 1220 x 100 mm (w x L x th) thermal conductivity of 0.036 W/mK (Euroclass) A1 Density: 28-32 kg/m ³	Rock mineral fibre insulation	Kingspan
Insulation Pad	50mm AlphaCore Pad	Size: 1000mm x 600mm x 50mm (L x W x th.) (Euroclass) A2-s1,d0 Density: 155 kg/m ³ to 195 kg/m ³	microporous silica-based insulation panel with a water-repellent core.	Kingspan
Tape	COMPEGO Tape	Size :100mm x 25m	a flexible elastic tape with high adhesion strength	COMPEGO
Mineral wool fixed over the wall sheathing	120mm Kingspan K-Roc RS	Size : 600 x 1200 x 120 mm (w x L x th) thermal conductivity of 0.034 W/mK (Euroclass) A1	Rock mineral fibre insulation	Kingspan
Insulation Fixings	SXC 5-6 3x220	Size: 6.3 x220 mm (Ø x L)	Steel	SFS
Insulation Fixings	SXC 5-6 3x100	Size: 6.3 x100 mm (Ø x L)	Steel	SFS
Vapour Barrier	VISQUEEN Class B FR Vapour Check	Roll Size: 50m x 4m (L x W)	polyethylene	VISQUEEN
Vapour tape	Visqueen FR Single Sided Vapour Tape	Size : 50mm x 50m	Visqueen FR Single Sided Vapour Tape is a white single sided tape coated with a flame retardant acrylic adhesive and a removable release film protecting the adhesive coating	VISQUEEN

Cement Particle board	A1 Cement board	Size: 1200mm x 2400mm x 12.5mm (w x L x th) Reaction to Fire : Class A1 Thermal Conductivity: 0.223 W/mK Nominal Mean Density: 900 kg/m ³	Portland Cement, with a reinforced matrix	Proctor
Fixing to go into frame	Tapcon Anchor 4H57	Size : 6 x 57 mm (Ø x L)	Cold formed steel, with zinc coating	Tapcon
Plastic washers to secure outer insulation	ISP-18X28	Diameter: 70 X 30 mm (Ø x L)	Polypropylene disc	SFS
Metal washers to fix AlphaCore pad	IDR – 70Xx70 – 6.8	Size : 70mm x 70mm (W x H)	Stainless Steel A2	SFS
Tape between plasterboard joints	Paper jointing tape	Size: 50mm x 150m (width x length)	Cross fibre paper tape	GTEC
Self drilling for SFS	19mm self-drilling screw	Size: 5.5 x 19 mm (Ø x L)	Carbon Steel	EASYDRIVE
Self drilling for Sheathing board	19mm self-drilling screw	Size: 5.5 x 19 mm (Ø x L)	Carbon Steel	EASYDRIVE

Th = Thickness --- d = Density Ø = Diameter L = Length h = height

6.3. DETAILED DESCRIPTION OF THE SPECIMEN

The drawings in the APPENDIX A have been supplied by the Sponsor, checked by the test laboratory Efectis, and are in conformity with the tested specimen.

6.3.1. Framing System

The sample frame was made of a steel framing system. The sample frame was made from six studs, with a head and base track.

The head track reference U104067180 (KINGSPAN), had a size of 104mm x 67mm x 1.8mm (Depth x Flange x Gauge), and a length of 3000mm. The head track was secured to the rig by a masonry screws reference Anchor 4H57 (Tapcon), with a size of 6mm x 57mm (Ø x L), at 600mm centres with two screws per fixing.

The base track reference U1040505120 (KINGSPAN), had a size 104mm x 50mm x 1.2mm (Depth x Flange x Gauge), and a length of 3000mm. The base track was secured to the rig by a masonry screws reference Anchor 4H57 (Tapcon), with a size of 6mm x 57mm (Ø x L), at 600mm centres with two screws per fixing.

The studs reference C100050120 (KINGSPAN), had a size of 100mm x 50mm x 1.2mm (Depth x Flange x Gauge) and a height of 2980mm leaving 20mm to the web of the head track as a deflection head. The stud on the fixed edge was secured to the rig by masonry screws reference Anchor 4H57 (Tapcon), with a size of 6mm x 57mm (Ø x L), at 600mm centres with two screws per fixing.

The studs were secured to the head and base tracks by self-drilling screws reference 19mm self-drilling screw (EASYDRIVE), with a size of 5.5mm x 19mm (Ø x L), at 600mm centres.

A layer of 100mm stone wool K-Roc Framing Slab (KINGSPAN), with density of 28-32 kg/m³, was friction fitted within the steel frame between the studs.

The overall dimension of the frame was 3000mm x 3040mm x 104mm (w x h x th).
See Appendix A, Drawing 1, for the steel frame layout

6.3.2. Fireside

A layer of vapour barrier reference VISQUEEN Class B FR Vapour Check (VISQUEEN) of size 4m (w), cut down to 3m was fitted on top of the steel frame. Two sheets were required for this and there was a 75mm overlap between the sheets.

Next, there were two layers of 12.5mm plasterboard, reference 12.5mm Gyproc FireLine Board TE (British Gypsum). The inner layer had two full boards of size 1200mm x 2400mm x 12.5mm (w x h x th), and one cut board of size 600mm x 2400mm x 12.5mm (w x h x th). The outer layer had two full board of size 1200mm x 2400mm x 12.5mm (w x h x th), and one cut boards one of size 600mm x 2400mm x 12.5mm (w x h x th).

The two layers of plasterboard were staggered by 600mm vertically and 2400mm horizontally. The inner plasterboard layer horizontal joint was formed at 625mm height from the bottom of the wall. The outer plasterboard layer horizontal joint was formed 2400mm height from the bottom of the wall.

The inner layer of plasterboard was secured to the steel frame by reference 32mm drywall screw (TimberMate), at 300mm centres vertically, and 600mm horizontally.

Two fixing straps reference Gypframe GFS1 (British Gypsum), with a size of 70mm x 2400mm (w x L) and a gauge of 0.5mm, was fitted on the horizontal joint between the inner and outer layers of plasterboard, fixed with screws reference 19mm self-drilling screw (19mm self-drilling screw). They were overlapped. It was fitted 2400mm from the bottom.

The outer layer of plasterboard was secured through the inner layer of plasterboard and the fixing strap at the horizontal joint to the steel frame by reference 42mm drywall screw (TIMCO), at 300mm centres vertically, and 600mm horizontally.

See Drawing 1 for the fireside boarding layout.

6.3.3. Non-fireside

On the non-fireside, a layer of 12.5mm sheathing board, reference A1 Cement board (Proctor). The sheathing board layer had had 2 full boards of size 1200mm x 2400mm x 12.5mm (w x h x th), and a cut board of size 600mm x 2400mm x 12.5mm (w x h x th). A horizontal joint was formed with a height of 2400mm from the bottom of the wall, with 2 cut boards of size 1200mm x 600mm x 12.5mm and one of size 600mm x 600mm x 12.5mm (w x h x th).

The sheathing board layer was secured to the steel frame by screws reference 19mm self-drilling screw (EasyDrive), with a size of 5.5 x 19 mm (Ø x L) at 250mm centres vertically and 600mm centres horizontally.

The boards had a gap between 3-5mm between them.

The entire face of the sheathing board wall was covered with breather membrane reference Wraptight (Proctor), with a width of 1.5m. This was self-adhesive and was applied with a minimum of 75mm overlap between each layer.

A layer of 50mm AlphaCore Pad (Kingspan) of size 1000mm x 600mm x 50mm (L x W x th.) was secured to the sample with a metal washer reference IDR – 70Xx70 – 6.8 (SFS) that was secured with screw reference SXC 5-6 3x100 (SFS) of size 6.3 mm x 100mm (Ø x L). In places where the AlphaCore Pad had to be cut to fit flush, it was sealed with tape reference COMPEGO Tape (COMPEGO).

A layer of insulation, reference 120mm Kingspan K-Roc RS (Kingspan) with a thickness of 120mm, was secured through the sheathing board to the steel frame. The external insulation was secured by screws reference SXC 5-6.3x220 (SFS), with a size of 6.3 mm x 220mm (Ø x L). The screws were inserted into a metal washer, reference IDR-70X70-6,8 (SFS) to firmly support the insulation. The screws were also inserted into a plastic washer reference ISP-18X28 (SFS) to support the insulation. The fixings were applied to the centre and at the horizontal joint between the insulation.

See Appendix A, Drawing 4, for the non-fireside boarding layout.

6.4. FINISHING

Paper Joint Tape (GTEC) and joint filler Gyproc Promix lite (British Gypsum) were applied to the surface of the boards, joints, and screw heads, on the outer plasterboard layer fireside of the sample.

6.5. VERIFICATION

The tested element has been collected as described in Chapter 5 of this report.

7. TEST ASSEMBLY

7.1. DEFINITION OF THE TESTED SPECIMEN

The choice and the definition of this test specimen have been carried out by the sponsor.

7.2. ASSEMBLY OF THE TESTED SPECIMEN

7.2.1. Supporting construction

The tested specimen has been assembled within a reinforced concrete frame supplied by EFECTIS.

- Drying duration: more than 28 days.
- Thickness of the frame: 390 mm.
- Opening in the frame: 3040 x 3040 mm (w x h).

7.2.2. Vertical free edge

One of the vertical edges of the specimen was left unrestrained by packing the gaps between the testing frame and the sample with high-density stone mineral wool, to provide a seal without restricting freedom of movement. The remaining vertical edge and both horizontal edges of the sample were fixed to the testing frame as detailed in section 6.3

7.2.3. Staff

The supporting construction has been supplied and installed on the furnace by the staff of the test laboratory.

The mounting of the non-loaded wall has been done by the staff of the sponsor.

Information about installation if done as per the drawing or else, specific information on the assembly.

8. TEST METHOD

8.1. PRELIMINARY CONDITIONING

The test specimen was stored in the laboratory from its reception until the day of the test.

The ambient conditions during the storage of the specimen in the laboratory had the following characteristics:

Ambient temperature	23 °C
Relative humidity	50 % RH

In conformity with the requirements stated in chapter 2, the weight stability of the test specimen was estimated to be reached on the day of the test.

8.2. THERMAL PROGRAM

The temperature rise inside the furnace above the ambient temperature has been controlled according to the **standard thermal program** represented by the following function:

$$T = 345 \log_{10}(8t + 1) + 20$$

Where :

t = Time (min)

T = Furnace temperature at time t (°C)

8.3. PRESSURE

In conformity with the requirements of the standard BS EN 1363-1:2020, the pressure inside the furnace was continuously controlled throughout the whole test. The neutral pressure place (pressure of zero) was established 500 mm above the notional floor level.

Taking into account the dimensions of the specimen and the location of the pressure sensor, the prescribed value was established at 3 Pa, equating to a pressure of 20 Pa at the head of the sample

8.4. FIRE SIDE

The fire test was performed with the following fire side:

Inner and outer layers of Plasterboards fireside, 12.5mm Fireline board (British Gypsum).

9. MEASUREMENTS DURING THE FIRE TEST AND TEST RESULTS

The locations of the sensors are shown in Appendix B.

The graphic measurements are shown in Appendix C.

9.1. TEMPERATURE MEASUREMENTS

9.1.1. Ambient temperature in the laboratory

The ambient temperature was measured according to the requirements of the standard BS EN 1363-1:2020.

See chart 1 in APPENDIX C.

9.1.2. Ambient temperature in the furnace

It was measured in conformity with the standard BS EN 1363-1:2020 by 6 plate pyrometers with their metal face towards the back of the furnace:

See Chart 2, Appendix C for the measurements recorded during the test.

9.1.3. Temperatures of the specimen

The temperatures were measured by twenty-two external thermocouples according to the requirements of the standard BS EN 1363-1:2020 and located according to the standard BS EN 1364-1:2015. Figures can be found in Appendix A, drawing 1 and Appendix B, Chart 1.

Location	Markings	Appendix
On the centre of each quarter section	1,2,4,5	B
On the geometric centre of the specimen	3	
At the top of the specimen in line with a stud	6, 7, 9, 10	
At the top of the specimen, at mid-width	8	
At mid width, where possible, adjacent to a horizontal joint	12	
At the junction of horizontal and vertical joints	11, 13, 14	
At mid-height, 150 mm in from the free vertical edge	16	
At mid-height, in line with stud	17, 18, 19, 20	
At mid-height, 20mm away from the fixed edge,	21	

Location	Markings	Appendix
Extra thermocouples	15, 22	

Nineteen internal thermocouples were included at the request of the sponsor, the data is included in Appendix C, Charts 8.

Location	Markings	Appendix
On Flange (Inner face) exposed side	1, 4, 7, 10, 13, 16, 18.	A
On web	2, 5, 8, 11, 14	
On Flange (Inner face)	3, 6, 9, 12, 15, 17, 19	

9.2. PRESSURE MEASUREMENTS

In conformity with the requirements of the standard BS EN 1363-1:2020, the pressure inside the furnace was continuously controlled throughout the whole test.

Taking into account the dimensions of the furnace and the location of the pressure sensor, the prescribed value was established at 3 Pa.

See Chart 4, Appendix C for the measurements recorded during the test.

9.3. DEFLECTION MEASUREMENTS

In conformity with the requirements of the standard BS EN 1363-1:2020, the deflections located in the horizontal direction were recorded:

Location	Markings	Appendix
Mid-width, at $\frac{3}{4}$ height	1	B
Mid-height, at 750mm from the edges	3 (left), 5 (right)	
Near the Free edge	2	
Centre of the sample	4	
Mid-width, at $\frac{1}{4}$ height	6	

10. OBSERVATIONS

10.1. BEFORE THE TEST

- Ambient temperature inside the laboratory : 23°C.
- Specimen temperature before the test : 22°C.

10.2. DURING THE TEST

Time (min)	Specimen	Observations
00	NES	Test started.
15	NES/ES	NSC
19	NES	Joint filler between boards fell away
30	NES/ES	NSC
36	ES	Majority of joint filler and tape has fallen off the top half of the board.
40	NES	Smoke Leaked from top right of the sample
45	NES	NSC
54	NES	Slight smoke leaked on right side of sample
60	NES	NSC
66	NES	Slight inward deflection toward furnace.
80	ES	Outer layer of plasterboard fell off
90	ES	Cracks formed on inner layer of plasterboard
90	ES	Large gaps formed between the inner plasterboard.
99	NES/ES	End of the test at the request of the sponsor.

EL/ES = Exposed length/exposed side --- NEL/NES = Non-exposed length/non-exposed side. NSC = No Significant Change

See APPENDIX D.

10.3. AFTER THE TEST AND COOL DOWN

After the test, at the fire side, the joints between the insulation were slightly wider, and there were some discoloration areas.

See APPENDIX D.

11. FIRE RESISTANCE CRITERIA

In conformity with the standards mentioned in chapter 2, the times during which the specimen meets the fire resistance criteria may be regarded as follows:

11.1. FIRE INTEGRITY

11.1.1. Cotton wool pad

Duration: **NINETY-NINE MINUTES (99 min)**
Cause of limitation: End of the test on request of the sponsor- No failure

11.1.2. Gap gauges

Duration: **NINETY-NINE MINUTES (99 min)**
Cause of limitation: End of the test on request of the sponsor- No failure

11.1.3. Sustained flaming

Duration: **NINETY-NINE MINUTES (99 min)**
Cause of limitation: End of the test on request of the sponsor- No failure

11.2. THERMAL INSULATION

11.2.1. Thermal insulation (by element)

Duration: **NINETY-NINE MINUTES (99 min)**
Cause of limitation: End of the test on request of the sponsor- No failure

12. FIELD OF DIRECT APPLICATION OF THE TEST RESULTS

The direct application field of the test results is limited to the determination of the permissible modifications of the test specimen following a successful fire resistance test. These modifications may be automatically introduced without the sponsor having to apply for any additional assessment, calculation or agreement.

Note: When extended prescriptions concerning the dimensions of the element are considered, lower dimensions than the actual dimensions may be used for some elements of the test specimen in order to maximize the extrapolation of the test results by modelling the interaction between the elements at the same scale.

As the laboratory was not responsible for the sampling stage, thus the test results only apply to the tested specimen.

12.1. GENERAL

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability, except with respect to the construction types covered in Annex A and Annex B where specific direct field of application rules are given.

- a) decrease in height;
- b) increase in the thickness of the wall;
- c) increase in the thickness of component materials;
- d) decrease in linear dimensions of boards or panels but not thickness;
- e) decrease in stud spacing;
- f) decrease in distance of fixing centres;
- g) increase in the number of horizontal joints, of the type tested, when tested with one joint not more than (500±150) mm from the top edge;
- h) increase in the number of vertical joints, of the type tested;
- i) ~~the use of installations such as electrical sockets, switches, etc. when tested as illustrated in Figures~~

9, 10 and 11 with the installations not more than 500 mm from the top edge;

j) horizontal and/or vertical joints, of the type tested.

12.2. EXTENSION OF WIDTH

For test specimens tested without a supporting construction, the width of an identical construction may be increased if the specimen was tested at a minimum of nominally 3 m wide with one vertical edge without restraint.

~~For test specimens tested with a supporting construction, the width of an identical construction may be increased if the specimen was tested at a minimum of nominally 2,8 m wide with one vertical edge without restraint.~~

~~In case of EW classification, an increase in width of an identical construction is only allowed when the average unexposed surface temperature of any discrete area of the test specimen remains below 300 °C or the measured radiation remains below 6 kW/m². In any other case, no increase in width is allowed.~~

12.3. EXTENSION OF HEIGHT

The height of the construction may be increased by 1,0 m under the following conditions:

- a) minimum tested height is 3 m when tested without a supporting construction or 2,8 m when tested with a supporting construction
- b) the maximum deflection of the test specimen was not in excess of 100 mm.
- c) the expansion allowances are increased pro-rata

~~In case of EW classification, an increase in height of an identical construction is only allowed when the average unexposed surface temperature of any discrete area of the test specimen remains below 300 °C or the measured radiation remains below 6 kW/m². In any other case, no increase in height is allowed – not applicable.~~

12.4. STANDARD SUPPORTING CONSTRUCTIONS

~~Test results obtained with flexible standard supporting constructions may be applied to high density rigid supporting constructions (in accordance with EN 1363-1) with at least the same fire resistance classification and an overall thickness equal to or greater than that of the element used in the tests.~~

~~Test results obtained with low density rigid standard supporting constructions may be applied to high density supporting constructions (in accordance with EN 1363-1) with at least the same fire resistance classification and an overall thickness equal to or greater than that of the element used in the tests.~~

~~Test results obtained with flexible standard supporting constructions do not cover sandwich panel constructions and flexible supporting constructions where the lining does not cover the studs on both sides.~~

~~Test results obtained with flexible standard supporting constructions cover alternative flexible constructions of the same fire resistance classification provided:~~

- ~~1) the construction is of a stud and board type construction, classified in accordance with EN 13501-2;~~
- ~~2) the construction has an overall thickness not less than the minimum thickness~~
- ~~3) the number of board layers and the overall board layer thickness is equal or greater than that tested;~~
- ~~4) flexible wall constructions with timber studs are constructed with at least the same number of layers given in EN 1363-1 on the faces and at the interface between the glazed element and the supporting construction.~~

~~If the specimen was tested with a flexible standard supporting construction fixed along the vertical and/or horizontal edge (see Figure 17), the permitted flexible supporting constructions can only be interfaced~~

along its tested edge types (vertical and/or horizontal). The permitted rigid supporting constructions can be interfaced with all edge types of the glazed element.

12.5. ~~NON-STANDARD SUPPORTING CONSTRUCTION~~

~~The result of a test of fire-resistant glazing tested in non-standard supporting constructions is only applicable to that construction.~~

13. STATEMENT

"This report details the method of construction, the test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in EN 1363-1, and where appropriate EN 1363-2. Any significant deviation with respect to size, constructional details, loads, stresses, edge or end conditions other than those allowed under the field of direct application in the relevant test method is not covered by this report."

"Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result".

Cardiff, 7th of April 2026

SIGNED

APPROVED

X


Abdulrahman ABDULGHANI

Project Leader
Signed by: Abdulrahman ABDULGHANI



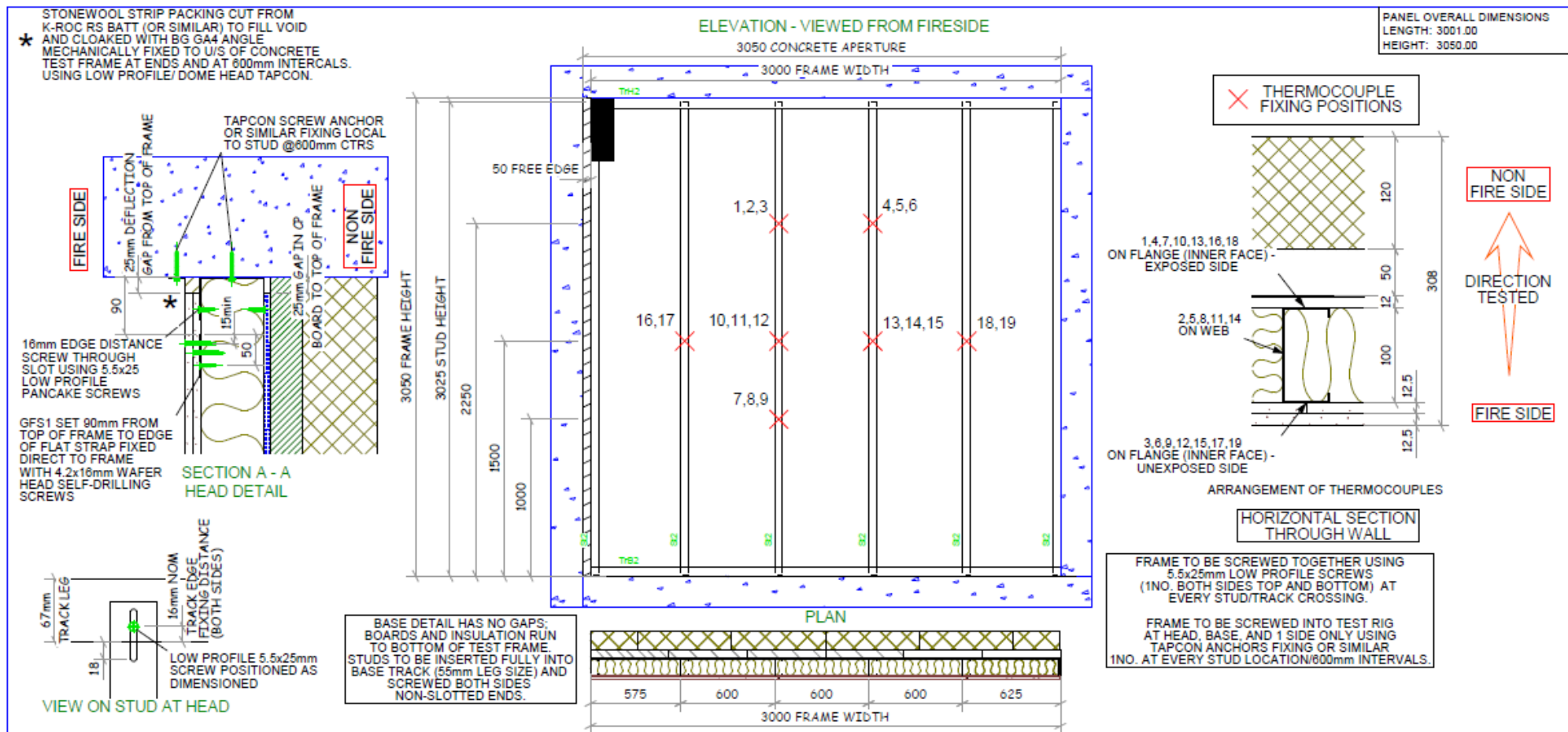
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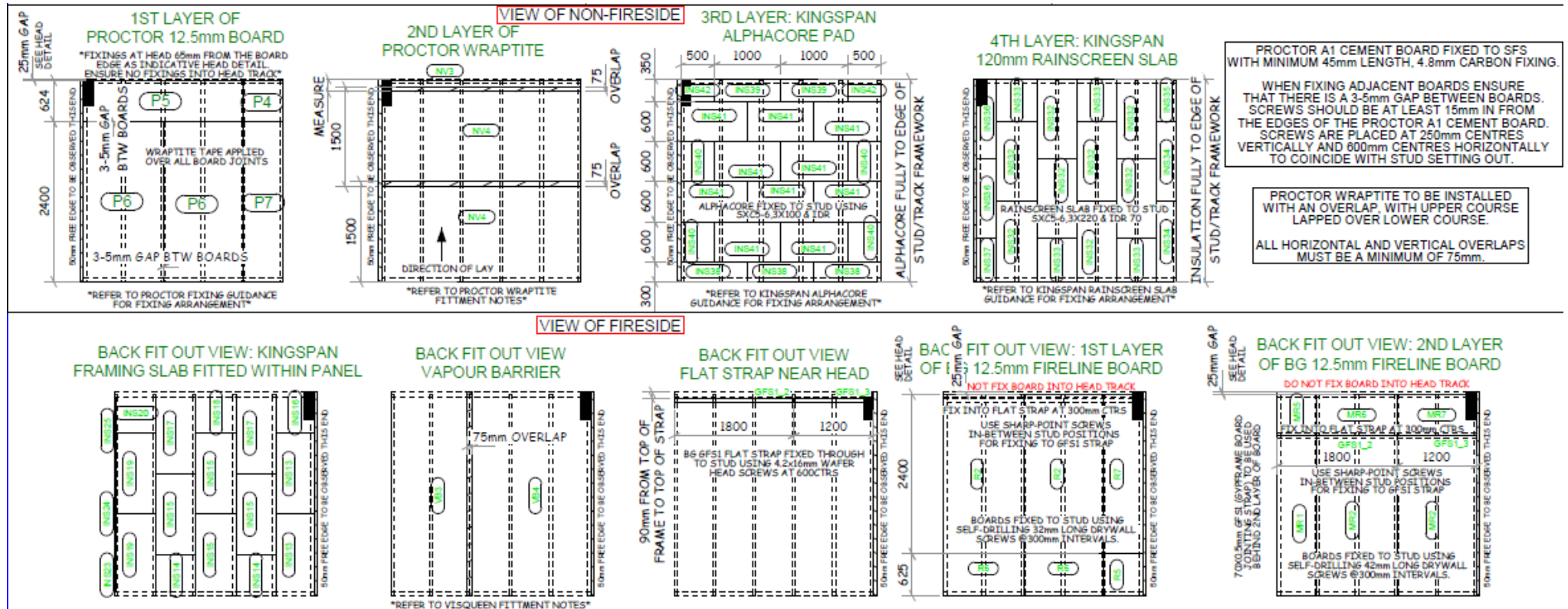

Maurice McKEE

Testing Technical Supervisor
Signed by: Maurice McKee

APPENDIX A. DRAWINGS

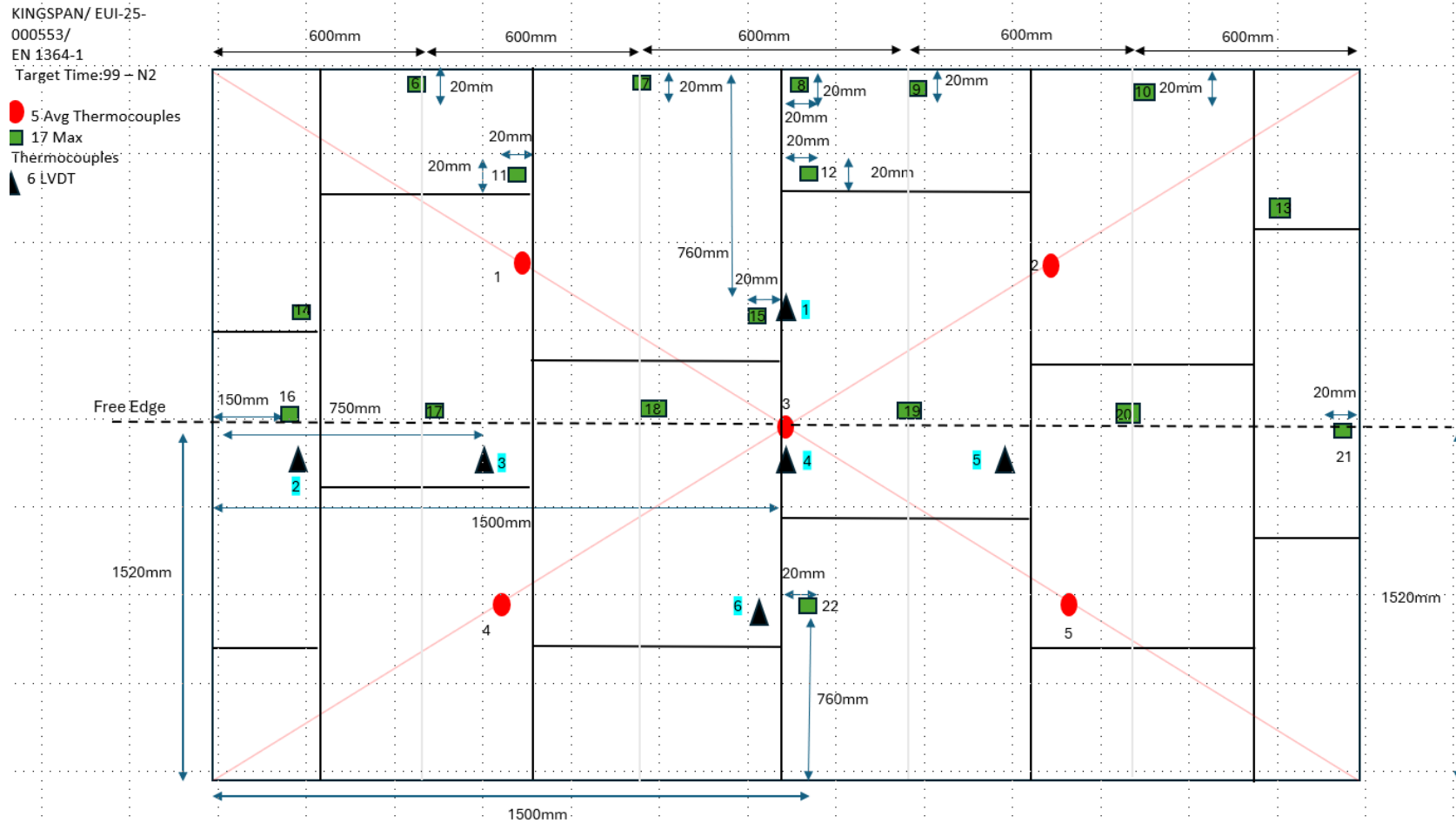


Drawing 1 – SFS frame build details on fire and non-fire side



Drawing 2 – Fire and non-fire side layers build details

APPENDIX B. INSTRUMENTATION



APPENDIX C.

CHARTS

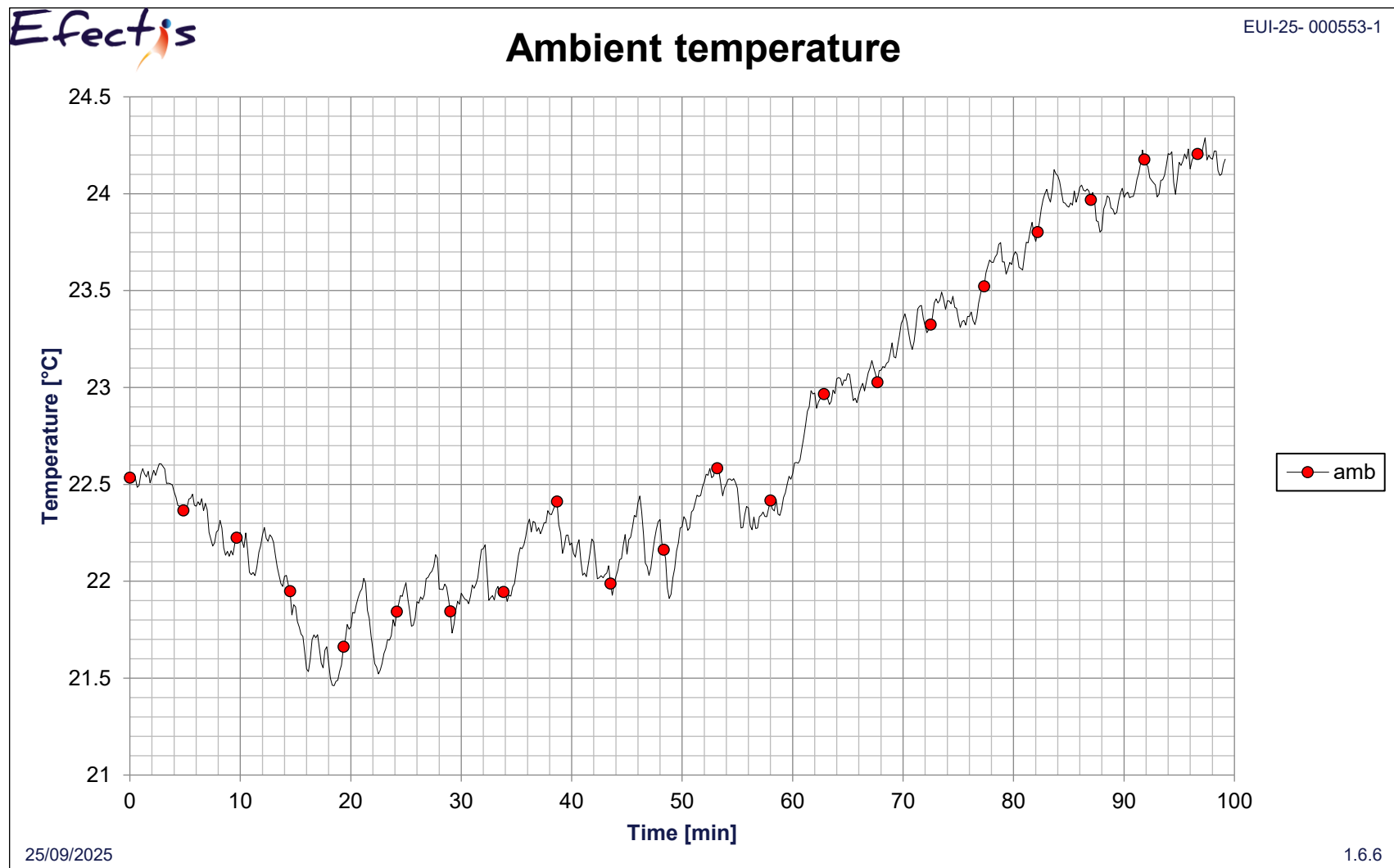
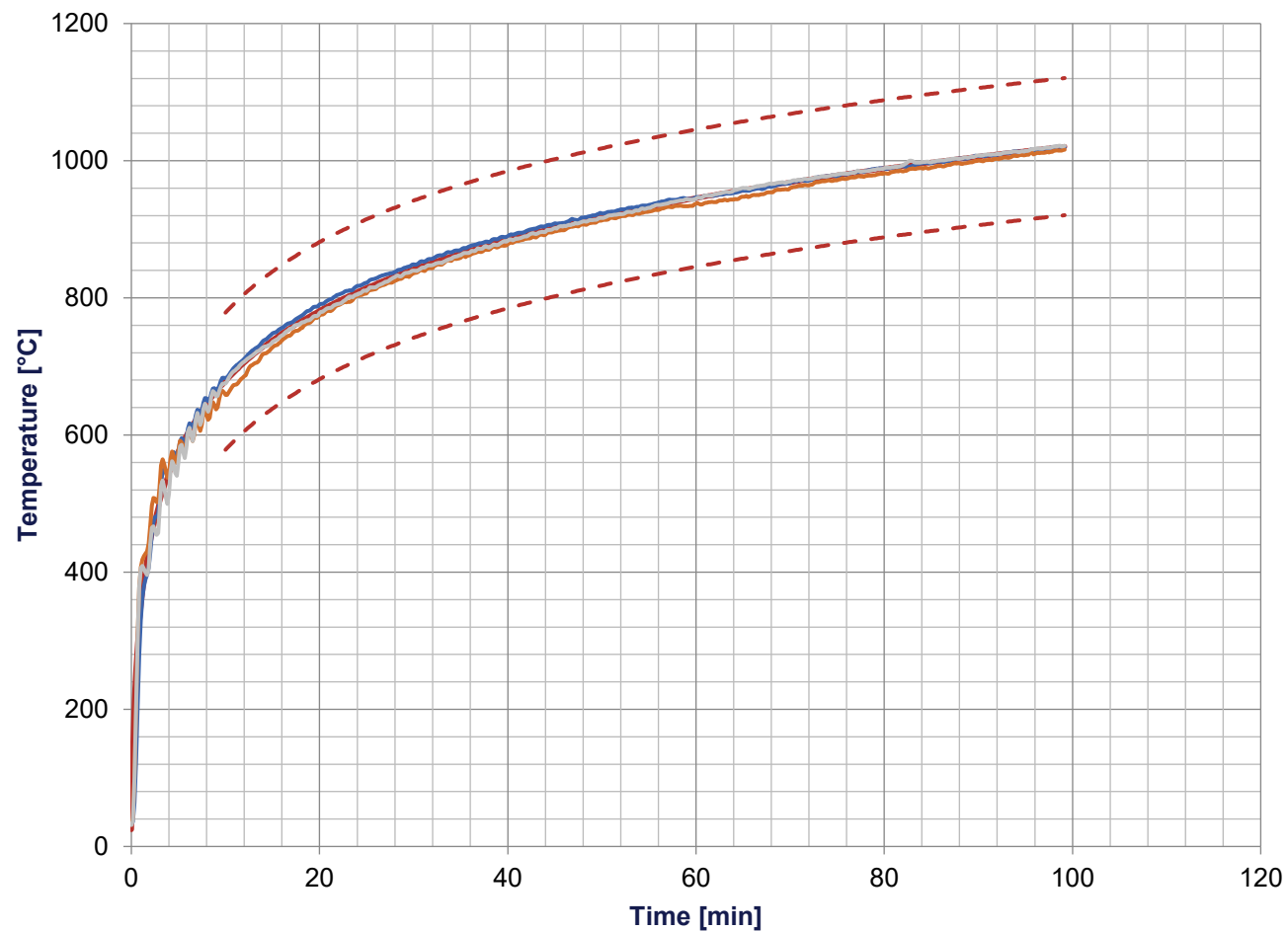


Chart 1 - Ambient temperature

Fire curve

EUI-25- 000553-1



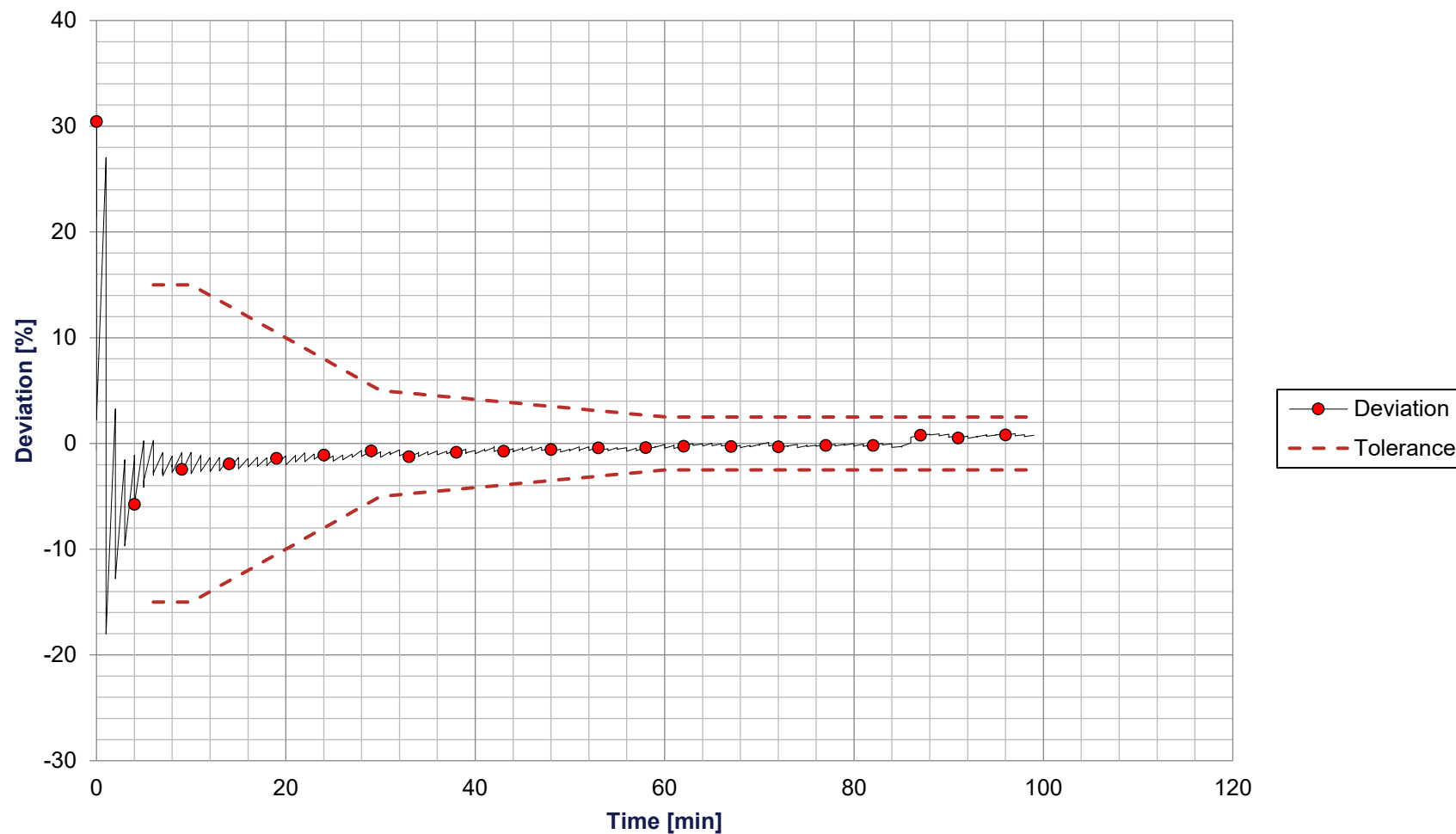
25/09/2025

1.6.6

Chart 2 - Furnace Temperature

Fire curve deviation

EUI-25-000553-1



25/09/2025

1.6.7

Chart 3 – Deviation

Pressure in the furnace

EUI-25- 000553-1

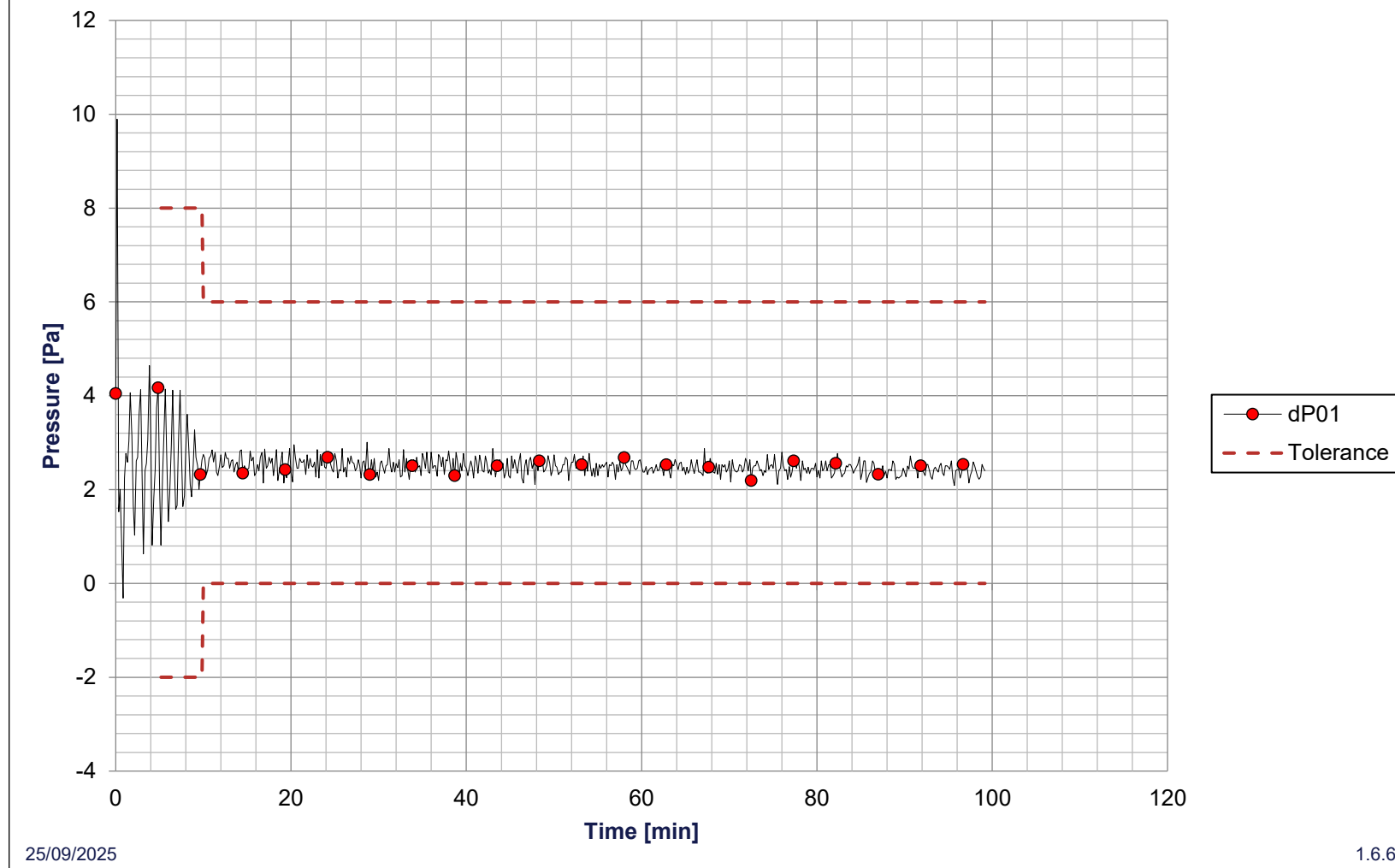
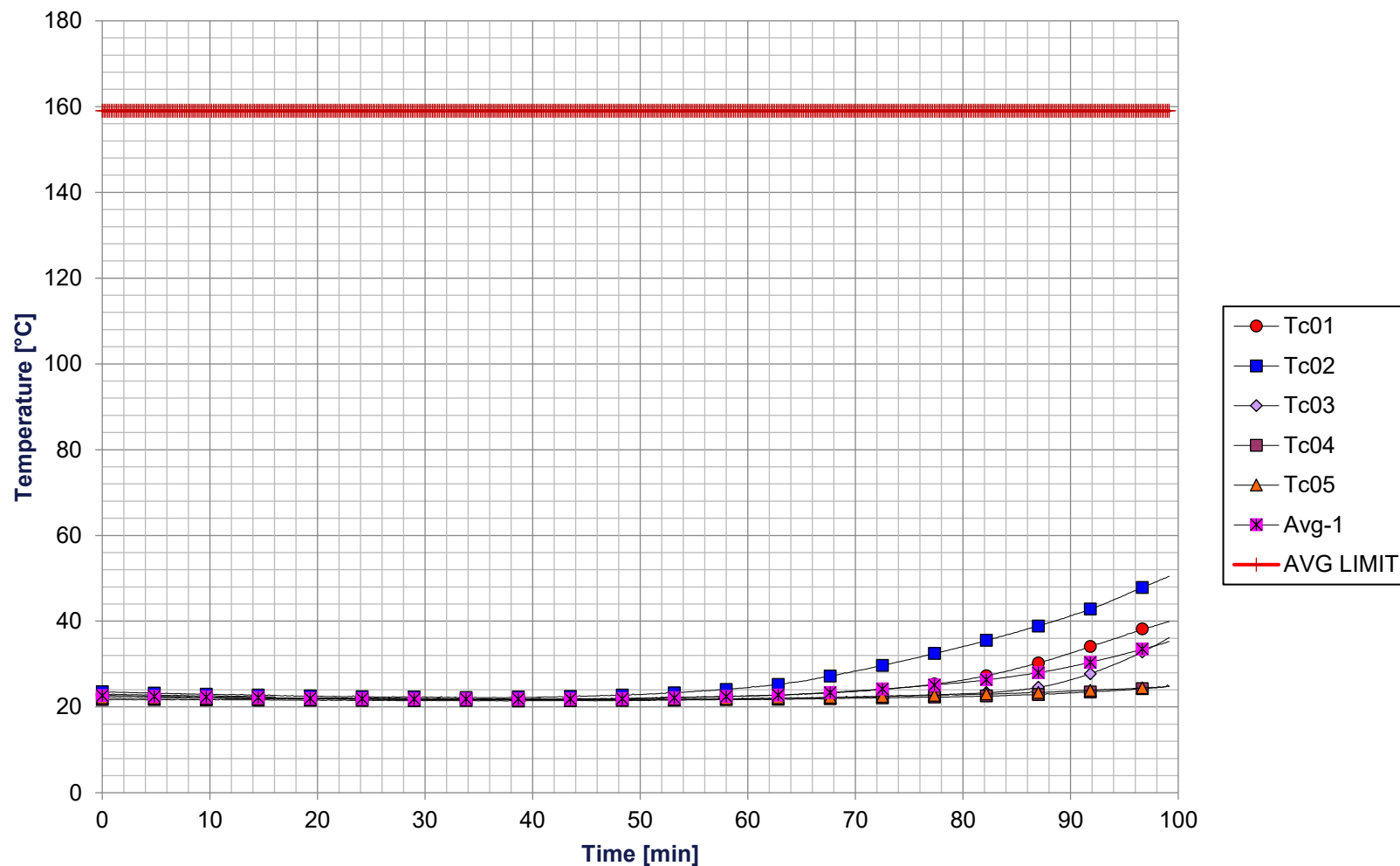


Chart 4 - Furnace Pressure

Average Thermocouples

EUI-25- 000553-1



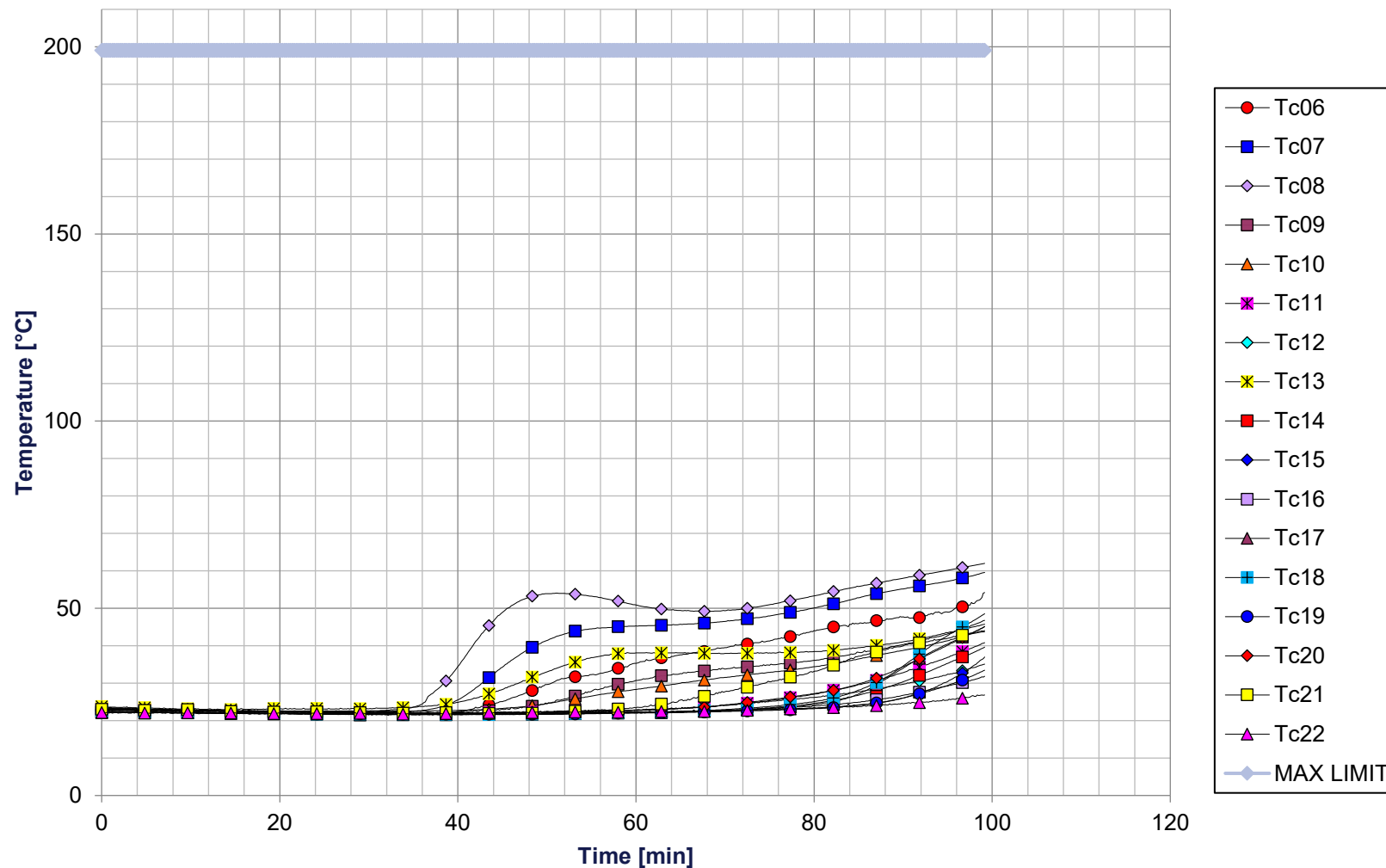
25/09/2025

1.6.6

Chart 5 - Average Thermocouple TC01-05

Max Thermomouples

EUI-25- 000553-1



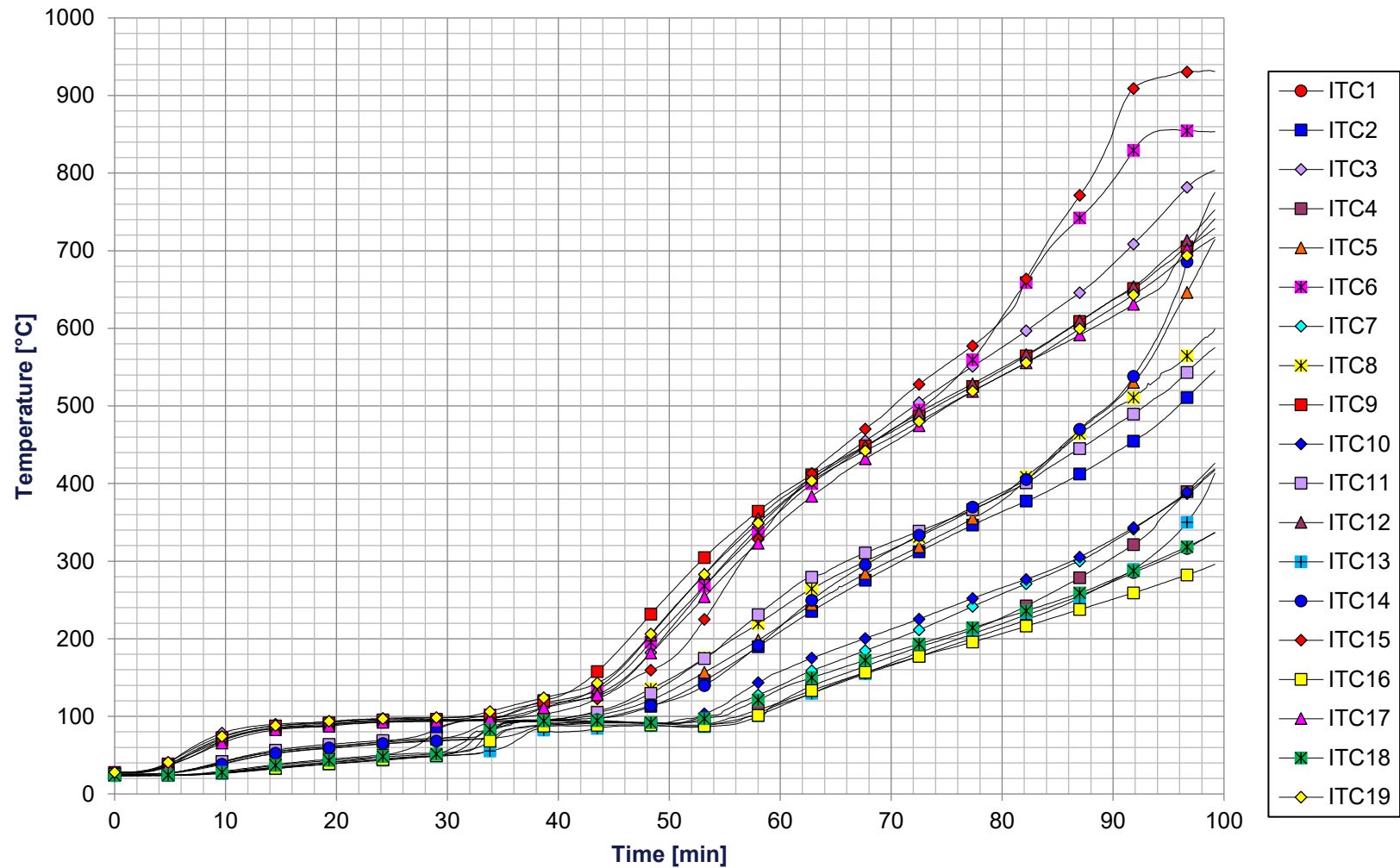
25/09/2025

1.6.6

Chart 5 - Max Thermocouple TC06-22

Internal Thermocouples

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25/09/2025

1.6.6

Chart 8 – Internal thermocouples

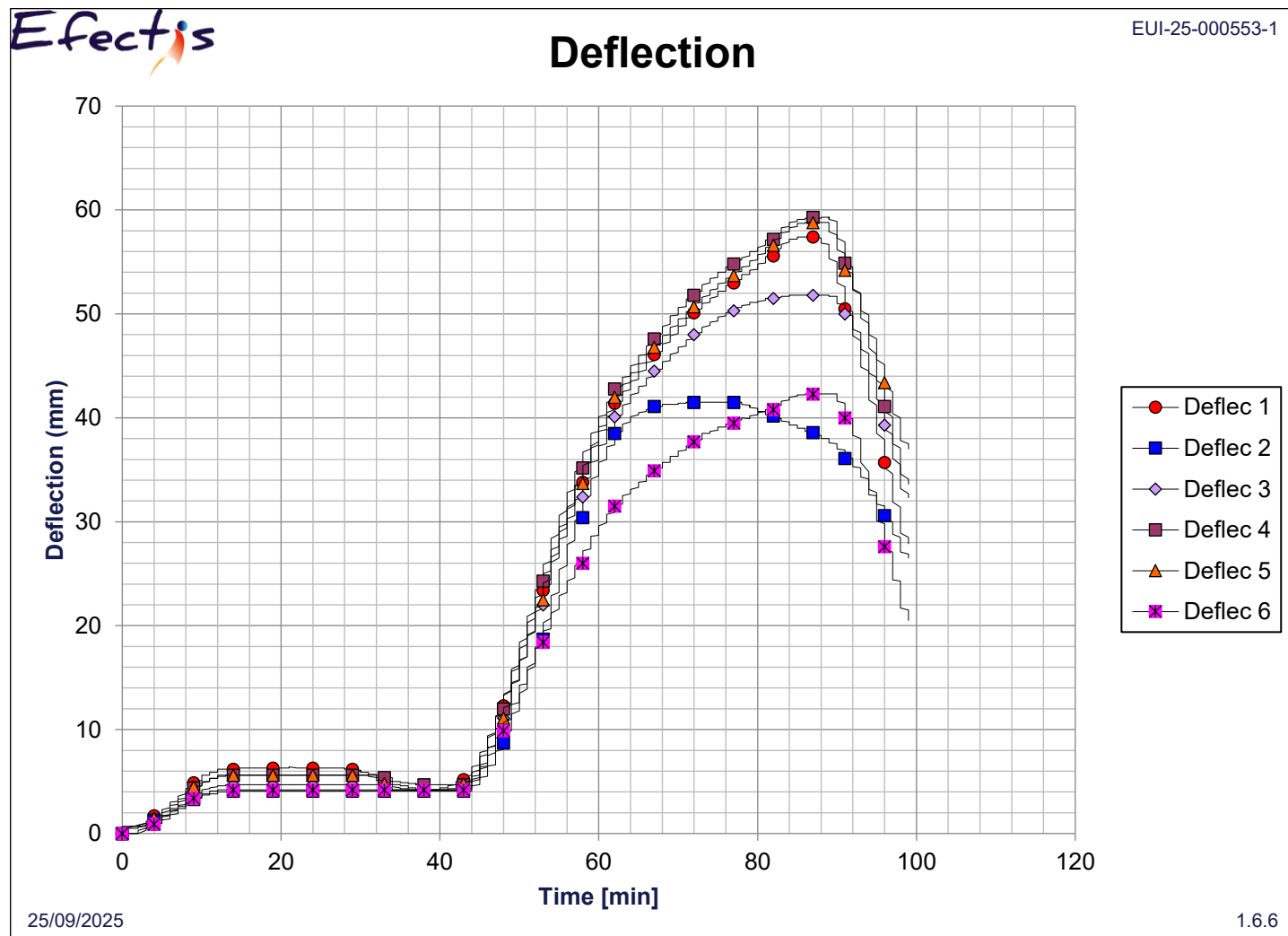


Chart 9 - Deflection (Positive value indicates movement towards furnace)

APPENDIX D. PHOTOGRAPHS



Photograph 1 – Steel frame construction fixed to frame



Photograph 2 – Base track fixed into the frame



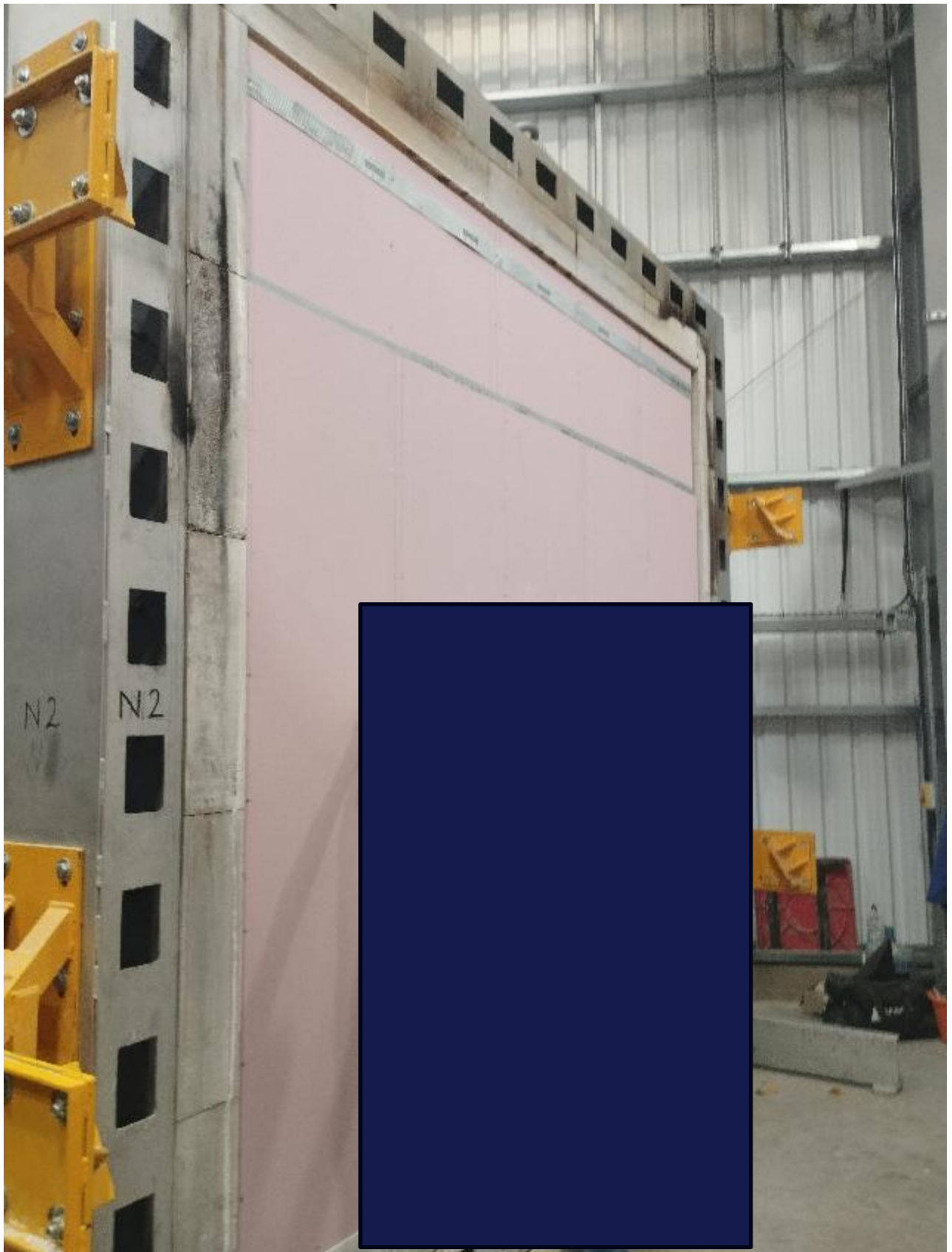
Photograph 3 – Insulation fitted into SFS



Photograph 4 – Layer of Visqueen applied to fireside



Photograph 5 – First layer of plasterboard on fire side



Photograph 6 – Fixing strap being applied between plasterboard layers



Photograph 7 – Sheathing board layer fitted.



Photograph 8 – Wraptight fitted over sheathing layer.



Photograph 9 – Alpha pad being secured



Photograph 10 – Insulation fitted on non-fire side.



Photograph 11 – Sample on the furnace before the start of the test.



Photograph 11 – Sample of the furnace at minute 18



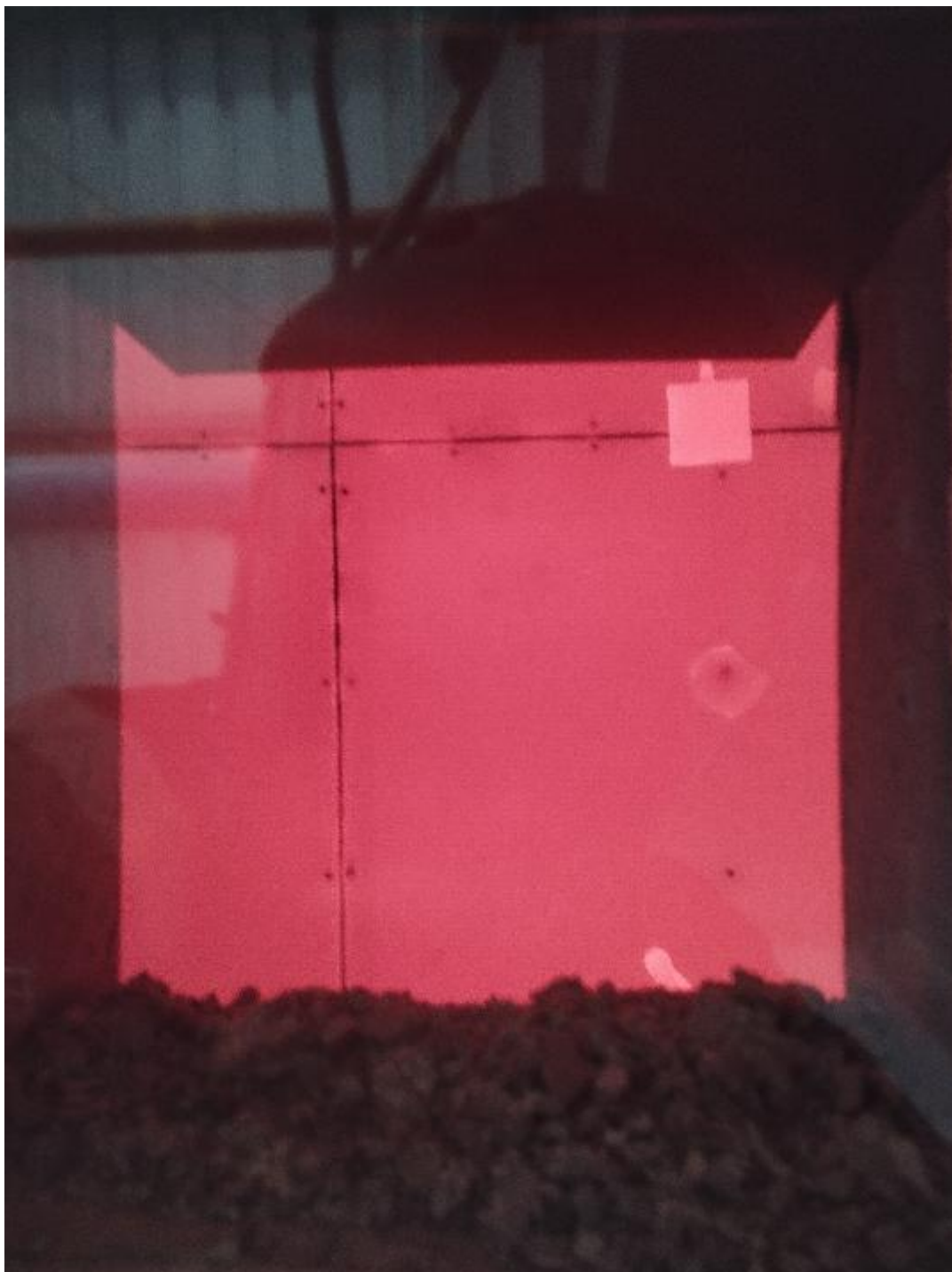
Photograph 12 – Sample at minute 22



Photograph 13 – Fireside at minute 22



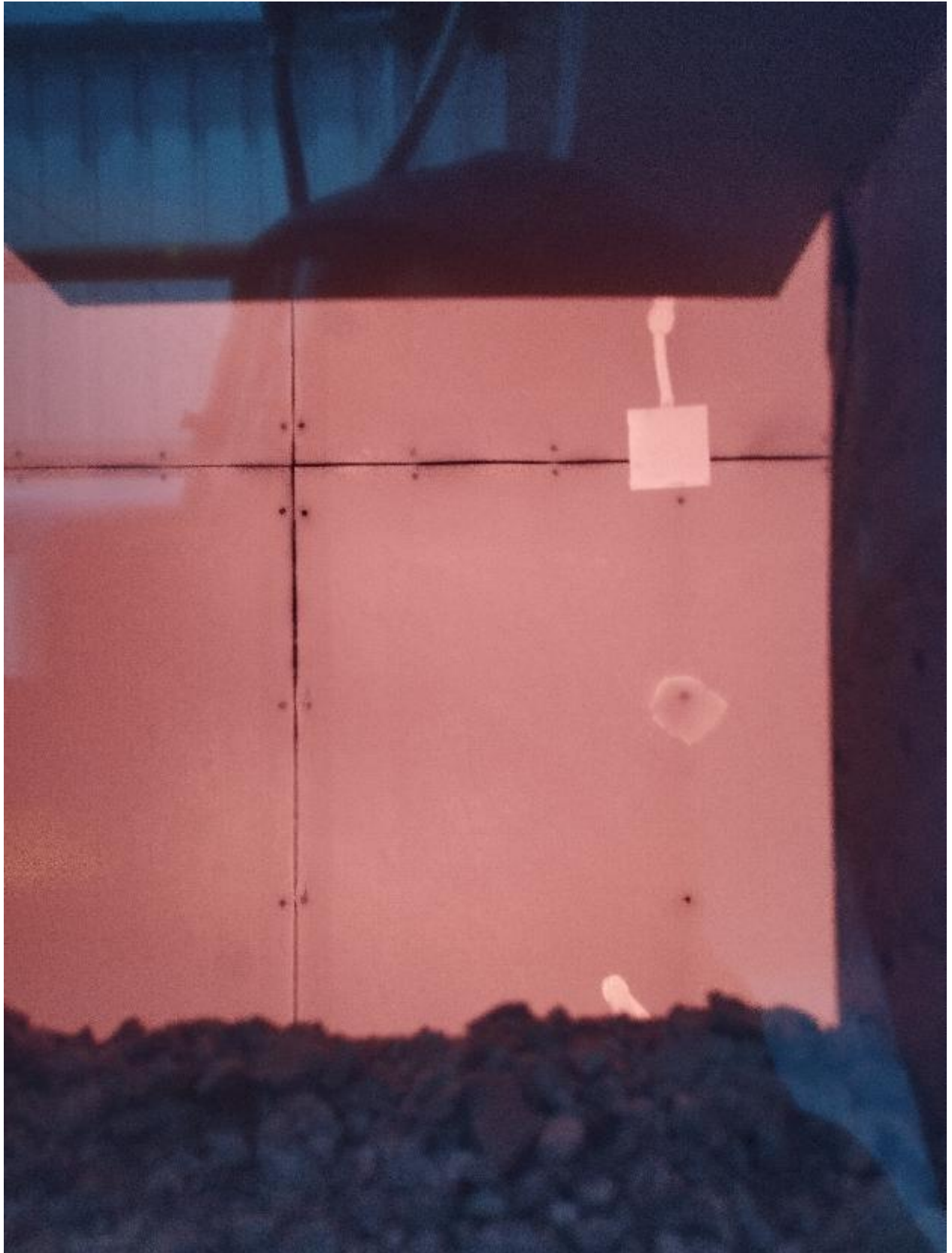
Photograph 14 – Sample at minute 35



Photograph 15 - Exposed side at minute 35, gaps forming between plasterboards



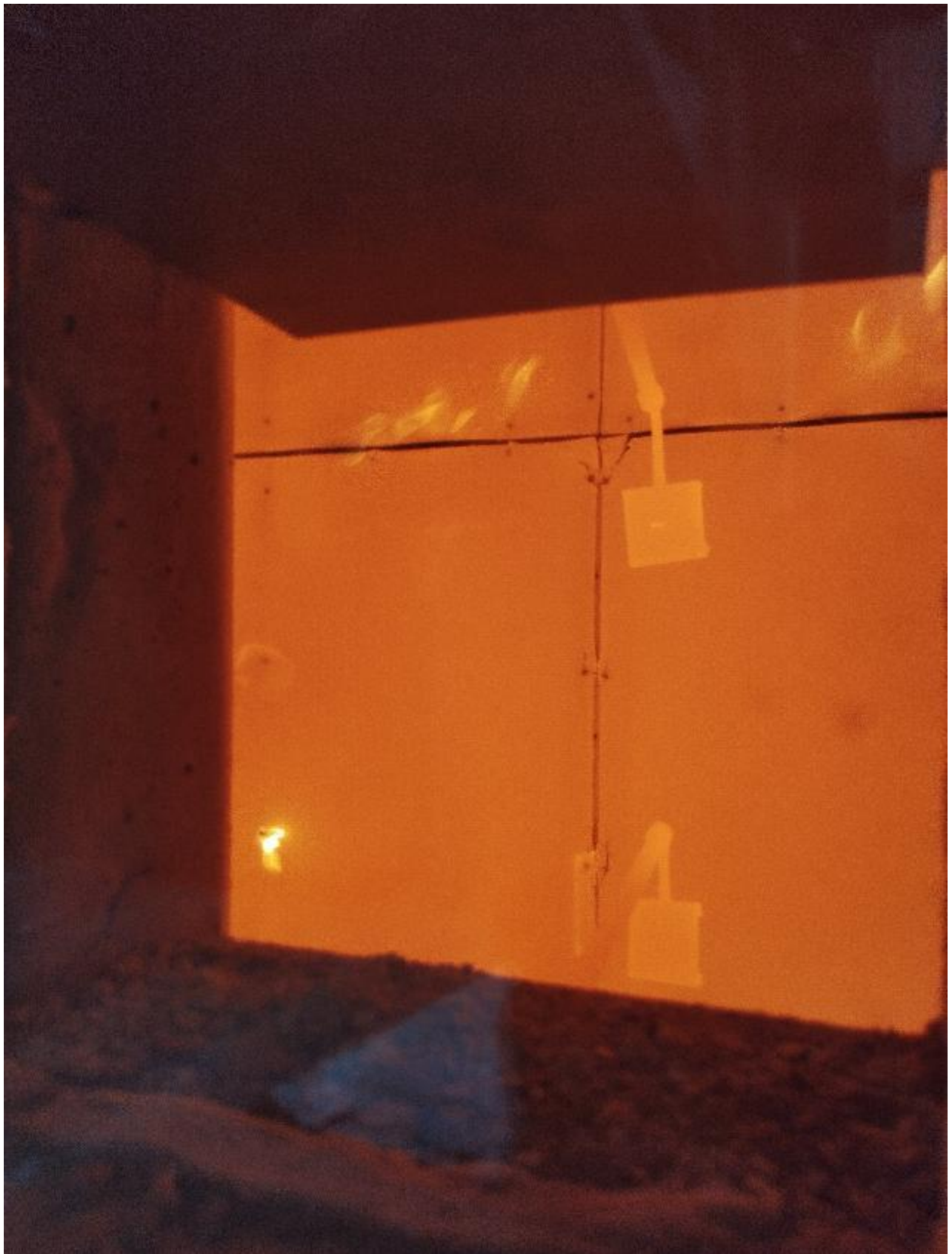
Photograph 16 – Sample at minute 45



Photograph 17 – Exposed side at minute 45, larger gaps between joints.



Photograph 20 - Sample at minute 60



Photograph 20 - Exposed side at minute 60



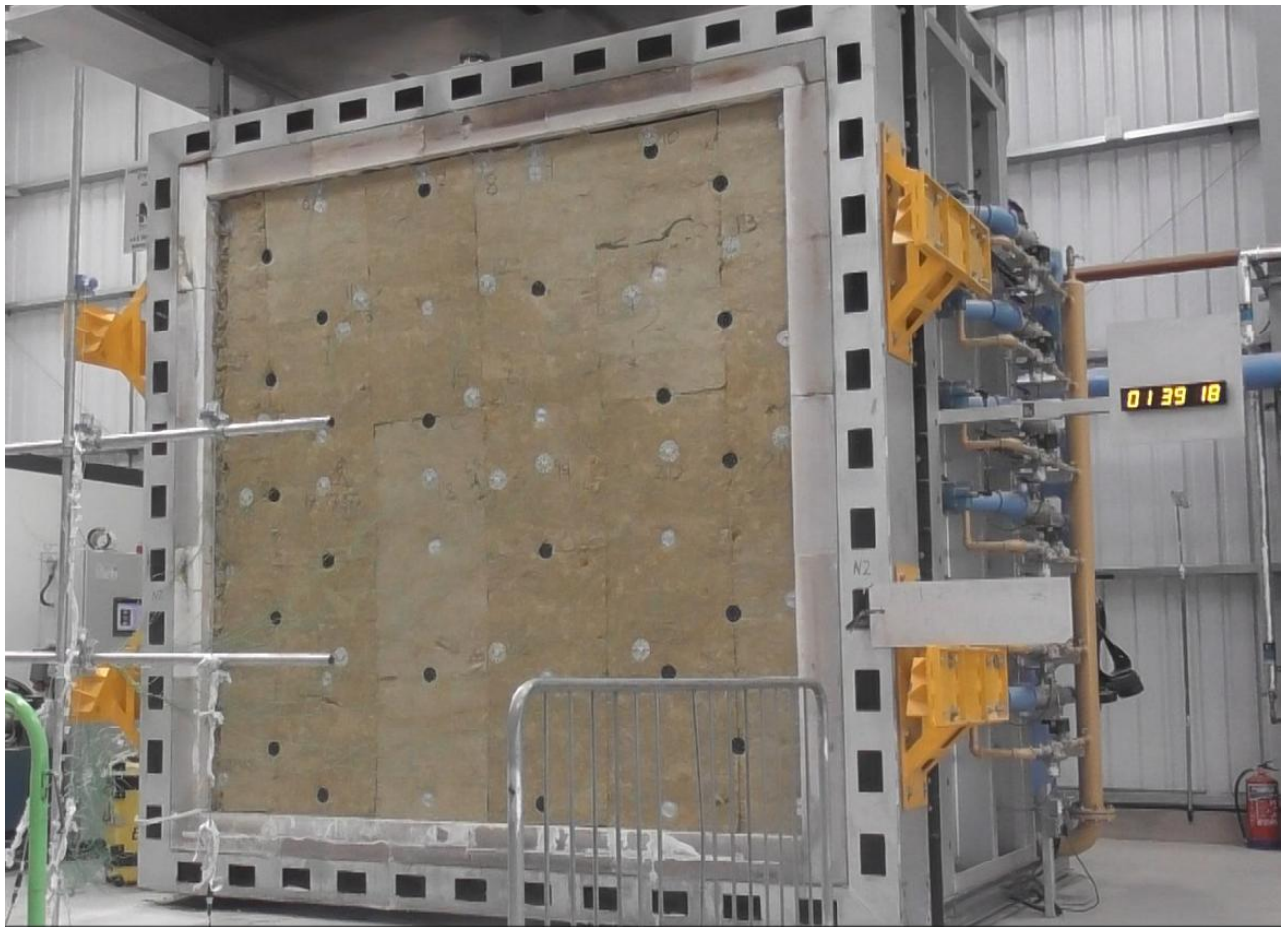
Photograph 21 – Sample at minute 90



Photograph 22 – Exposed side at minute 90, large gaps between joints



Photograph 23 – Sample at minute 93



Photograph 24 – Sample at minute 99



Photograph 25 – Fireside of the sample after the test

APPENDIX E. CLIENT LIST OF MATERIALS

Name of layer	Brand name	Batch no	Density or weight of product	D.O.M	Thickness	Product standard
Head track high density mineral wool	K Roc RS	8573343	45kg/M3	NOT ON THE PACK	original product 120mm cut to fit deflection head detail	BS EN 13162
Breather membrane	Proctor wraptite and breather tape	Not known	N/A	UNKNOWN	Less than 1mm	EN 13859-1
Mineral wool between the metal frame	Kingspan K-Roc FS	8584708	28-32 kg / m3	NOT ON PACK	100mm	BS EN 13162
Mineral wool fixed over the y wall sheathing	Kingspan K-Roc RS	8573343	45 kg/m3	NOT ON PACK	120mm	BS EN 13162
cement Particle board	Proctor	417700	900kg/m3	3/12/2025	12.5mm	BS EN 12467
Tapcon Anchor for concrete	Spit - 4H32	R65686	N/A	Unknown	6x57mm	EAD 330747-00-0601
Self Drilling Fixing - SFS	Easy drive	5052931501953	N/A	Unknown	5.5x19mm 4.5x22mm	BS EN 14566:2008
Self Drilling Fixing - Plasterboard	TIM	00042psdd	N/A	Unknown	3.5x42mm	BS EN 14566:2008
Self Drilling fixing - wall Plasterboard	Timbermate dry wall screw	955881	N/A	Unknown	3.5x32mm	BS EN 14566:2008
self Drilling fixing - Sheathing Board	Easy drive	5052931501953	N/A	Unknown	5.5x19mm	BS EN 14566:2008
Gypsum Plasterboard with glass fibre	Gyproc Fireline board 12.5mm	5015341018862	11.4kg/m2	Not known	12.5mm	EN 520
Ready Mixed Jointing cement	Gyproc Promix lite	UNKNOWN	N/A	TBC	N/A	EN 13963
Paper jointing tape	GTEC PAPER TAPE Joint Tape	XEHOHONA Q00 4 S4AV	N/A	21/11/2024	N/A	EN 13963
Plasterboard fixing strap	Gyproc Fixing Strap	No markings	N/A	No markings	N/A	EN 14195
Plasterboard securing angle	Gypsum Gypframe Steel Angle	No markings	N/A	N/A	N/A	EN 14195
Visqueen AVCL	Visqueen	RS010237	N/A	N/A		EN 13984

AVCL tape	Visqueen vapour lap tape And pro double sides tape	RS 020737 Double sided RS 060717-50m -20mm wide	N/A	N/A	75mm wide -15 metre roll	EN 13984
SFS	Kingspan metal frame	U104055120 Floor track-C100050120 and up rights.	N/A	N/A	1.2mm	EN 1090-1
SFS	Kingspan metal frame-head track	U104067180	N/A	N/A	1.8mm	EN 1090-1
SFS	Fixing washers metal IDR 70X70	4748156	N/A	23.09.2025	70mm diameter	N/A
SFS	Fixings washers plastic ISP	1342125	N/A	15.08.2025	70mm diameter	N/A
SFS SXC5	INULATION FIXINGS	1599844 1599859	NA	10.09.25 18.12.2024	100, 200 AND 220	
ALPHACORE 50mm AND COMPEGO TAPE	INSULATION	8100528450	155-195kg/m3	19/06/2023	50MM	0800 CPR 23 1570 4-CCP NUMBER

END OF TEST REPORT