EFECTIS France
Espace Technologique Bâtiment Explorer
Route de l'Orme des Merisiers
91190 SAINT-AUBIN | FRANCE

FIRE TEST REPORT EFR-23-004678

According to EN 1363-1: 2020 and EN 1364-1: 2015

Test	EFR 23-V-004678-1
Performed on	November 21th 2024
Regarding	A butt-to-butt glazed partition wall from the Janisol C4 series (JANSEN) glazed by Pyrobel 25 Vision Line (AGC). Frame: Janisol C4 (JANSEN). Glazing: Pyrobel 25 VL (AGC). Fire side: Beads into fire.
Sponsor	AGC GLASS EUROPE sa 4, Avenue Jean Monnet 1348 Louvain-La-Neuve BELGIUM

Accreditation n°1-7358
List of the sites and scope available on
www.cofrac.fr

REVISIONS

Version	Modification	Comment	Date		
0	Document creation	/	10/02/2025	*Editor*	M.STEPHAN
				Verifier	A.VIARD
				Approver	A.VIARD

1. SCOPE OF THIS TEST REPORT

Fire resistance test regarding a butt-to-butt glazed partition wall, according to the general requirements of the standard EN 1363-1: 2020 and to the specific requirements of the standard EN 1364-1: 2015 « Fire resistance tests for non-loadbearing elements – Parts 1: walls».

2. TEST LABORATORY

Laboratory of Maizières
Voie Romaine
F–57280 MAIZIERES-LES-METZ

3. REFERENCE AND MANUFACTURER OF THE TESTED SPECIMEN

Glazing :
Reference: Pyrobel 25 Vision Line (AGC)

Manufacturer: AGC GLASS EUROPE
Rue J. Bordet
7180 SENEFFE
Belgique

Frame :
Reference : Janisol C4 (JANSEN)

Manufacturer : Lootens Line Belgium

4. FURTHER INFORMATIONS FOR CE MARKING

(Chapter not covered under the COFRAC's accreditation).

The tested element has not been collected

5. DESCRIPTION OF THE TESTED SPECIMEN

The information below was provided by the applicant who attests its accuracy.

5.1. GENERAL

See plates 1 to 9.

The tested element was a butt-to-butt glazed partition wall constituted of a framework issued from the serie Janisol C4 (JANSEN), glazed by Pyrobel 25 Vision Line (AGC).

Overall dimensions:
- Element: 2745 x 2970 mm (W x H).
- Clear opening: 2800 x 3000 mm (W x H).

5.2. DETAILED DESCRIPTION OF THE SPECIMEN

The drawings in the appendix “DRAWINGS” have been supplied by the Sponsor.

5.2.1. Framework

The framework of the butt-to-butt wall was made of thermal insulated steel profiles from the Janisol C4 series of reference 601.685.CAZ (JANSEN). The profiles consisted of steel L-profiles of reference 601.685.C4Z (JANSEN) with an overall section of 72.5 x 70 mm. The profiles were made of two steel shells joined by an “I”-shaped polyamide stiffener with a cable channel inside and filled by ceramic mass and an additional profile filled by ceramic mass welded together. The profiles were mitre cut and assembled by welding.

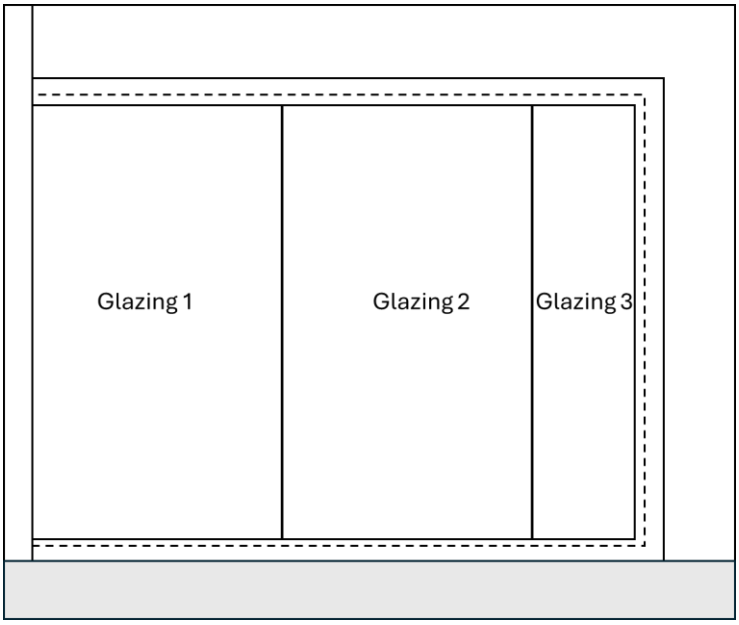
An intumescent tape of reference 451.083 (JANSEN) with a section of 40 x 1.8 mm was placed on the polyamide stiffener on the profile.

5.2.2. Glazing

The butt-to-butt glazed partition wall consisted of three 26.6 mm thick Pyrobel 25 Vision Line (AGC) glazing. Each glazing was composed of:
- a 3 mm thick float glass;
- a 1.65 mm thick intumescent gel layer;
- a 3 mm thick float glass;
- a 1.65 mm thick intumescent gel layer;
- a 8 mm thick float glass;
- a 1.65 mm thick intumescent gel layer;
- a 3 mm thick float glass;
- a 1.65 mm thick intumescent gel layer;
- a 3 mm thick float glass.

The dimensions of the different glasses were :

Glass	Height (mm)	Width (mm).	Thickness (mm)	Fire Side
G1	2856	1200	26.6	Symmetrical
G2	2856	1200	26.6	Symmetrical
G3	2856	280	26.6	Symmetrical



5.2.3. Glazing Holding System

The glass panes were held in place by steel glazing beads of reference 402.130 Z (JANSEN) with overall dimensions of 30 x 20 mm.
The beads were fastened to the framework with fastening studs of reference 450.007 (JANSEN) located at:

- 50 mm from the corners and then placed at ctc ≤ 350 mm intervals, only for the transoms
- 50 mm from the corners and then placed at ctc ≤ 350 mm intervals, only for the mullion.

The glazing rebate upstands and glazing beads were associated with ceramic paper of reference X607 (SUPERWOOL) of section 20 x 5 mm. A black structural glazing sealant of reference Dowsil 895 (DOW) is placed on the ceramic paper to complete the insulation.

Two self-adhesive sealants of reference Kerafix FXL200 (SVT) with a section of 7 x 2 mm were set between the junction of the glass. Then, it is covered by a black structural glazing sealant of reference Dowsil 895 (DOW) placed on either side of the glazing.

The glasses were supported by setting blocks of reference Bohle hardwood setting blocks and with overall dimensions 80 x 26 x 5 mm placed in the bottom part and located at 80 mm from the corners.

Clearance at vertical butt joint:	4 mm.
Clearance between the glass and the frame at base of rebate:	7 mm.
Edge cover on glazing rebate upstands:	22.5 mm.
Edge cover on glazing beads:	20 mm.

5.2.4. Fixation

The framework was supported by setting blocks of reference Promat Promatect-H of dimensions 70 x 20 x 100 mm. The setting blocks were placed at the emplacement of the screws.

The transoms of the framework were fastened to the supporting construction by anchor of reference HRD-C (HILTI) with dimensions of Ø 8 x 60 mm, the first was located at 150 mm from the corner and then staggered at every 815 mm. The mullion was fastened to the supporting construction with the same anchor, the first located at 150 mm from the corners and then staggered at every 890 mm.

The maximum clearance of 15 mm between the framework and the test frame was sealed by a polyurethane foam of reference Soudafoam FR HY (SOUDAL).

5.2.5. Supporting construction

The butt-to-butt glazed partition wall was installed inside an associated Placoflam BA 13 plasterboard partition of 125 mm thick.

The peripheral framework around the supporting construction were made with MSV 75 studs and MSH 75 rails (GYPROC) and were fixed to the reinforced concrete frame by fixations of reference FFS (FISCHER) of dimension of Ø 7.5 x 132 mm.

The internal framework consisted in MSV 75 studs (GYPROC) spaced from 400 mm, fixed to the studs and rails using fixations of reference FFS (FISCHER) of dimension of Ø 7.5 x 132 mm.

Then the framework was covered by two 12.5 mm thick plasterboard plates Placoplatre BA13 (PLACOPLATRE). The first plasterboard was fastened to the rails and studs by using screws of dimensions Ø 3,5 x 25 mm. The second plasterboard was fastened to the rails and studs by using screws of dimensions Ø 3,5 x 45 mm.

A self-adhesive tape (PLACOPLATRE) was glued between the reinforced concrete frame and the plasterboard to ensure the fire sealing. The same tape was used at the junction between two plasterboards to ensure the fire sealing.

No intern insulation was made for this supporting construction.

5.3. VERIFICATION

The laboratory performed a detailed examination of the test item prior to testing and verified the accuracy of the information provided.

6. TEST ASSEMBLY

6.1. DEFINITION OF THE TESTED SPECIMEN

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

6.2. ASSEMBLY OF THE TESTED SPECIMEN

6.2.1. Supporting construction

The tested specimen has been assembled within a reinforced concrete frame supplied by the test Laboratory EFECTIS France.

- Drying duration: more than 28 days.
- Thickness of the frame: 200 mm.
- Opening in the frame: 3000 x 3400 mm (W x H).
- Opening of the partition wall: 2800 x 3000 mm (W x H).

At the bottom part of the concrete frame, a 200 mm thick of aerated concrete was installed to obtain the dimensions of the opening.

6.2.2. Boundary conditions

One free edge was set at the side of the glazing G1. The maximum clearance of 40 mm between the glazing and the concrete reinforced frame was filled with mineral wool of reference Rockwool Rockfit with a bulk density of 120 kg/m^3.

6.2.3. Staff

The supporting construction has been supplied and installed on the furnace by the staff of the test laboratory. The mounting of the butt-to-butt glazing wall has been done by the staff of the sponsor.

7. TEST METHOD

7.1. PRELIMINARY CONDITIONING

The test items were stored in the test hall from their implementation / reception until the day of the test.
In conformity with the requirements stated in § 1, the weight stability of the test specimen was estimated to be reached on the day of the test.

7.2. TESTS/MEASUREMENTS PRIOR TO THE FIRE TEST

Gaps measurements were taken before the fire test to ensure the measurements given by the drawings.

7.3. 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).

7.4. FIRE SIDE

The fire test was performed with fire on glazing beads side.

7.5. PRESSURE IN THE FURNACE

In conformity with the requirements stated in § 1, the pressure in the furnace was set at 0 Pa, at 500 mm from the bottom of the partition wall.
Due to position of the sensor, the setting was defined at 16 Pa during the test.

8. MEASUREMENTS DURING THE FIRE TEST AND TEST RESULTS

The locations of the sensors are shown on appendix 'INSTRUMENTATION".
The readings, in appendix "CHARTS" are recorded on the plates mentioned hereafter.

Location		*Markings*	*Plates*
Laboratory	Ambient temperature	Tc 07	14
Furnace	Ambient temperature	Tfurnace 01 to 06 and Tfurnace 41	11
	Deviation from the nominal curve EN 1363-1		12
	Pressure	Pr 08	13
Glazing	Temperatures at the center and the quarters of the diagonal of the glazing	Tc 09 to 16	15, 16 and 17
	Temperatures at 20 mm from the visible edges of the glazing, and at 150 mm from the free edge	Tc 18 to 23, 25 to 29	18, 19 and 20
	Temperatures at 20 mm from the visible edges of the glazing, and at 150 mm from the free edge	Tc 17 and 24	18, 19 and 20
	Deflections	Dis 36 to 40	22
Frame	Temperatures of the frame	Tc 30 to 34	21

9. OBSERVATIONS

9.1. BEFORE THE TEST

- Ambient temperature inside the laboratory : 21,9 °C.
- Specimen temperature before the test : 29,2 °C.

9.2. DURING THE TEST

Time (min)	Observations
00	Start of the test.
1	Cracking of the first exposed glazing n°1, 2 and 3. Partial reaction of the first intumescent gel layer of glazing n°1, 2 and 3.
3	Complete reaction of the first intumescent gel layer of glazing n°2 and 3.
4	Complete reaction of the first intumescent gel layer of glazing n°1.
12	Partial reaction of the second intumescent gel layer of glazing n°1, 2 and 3.
14	Presence of an incandescent point at the lower junction between glazing n°1 and 2.
15	No particular observation.
16	Smoke release between the frame and the foam, on the lower corner under glazing n°3, on the fix edge side.
22	Maximal elevation of the temperature lower than 180°C measured by a rover thermocouple on the incandescent point noted at 14 minutes. Smoke release between the frame and the foam, on the upper junction between glazing n°1 and 2.
26	Smoke release between the glazing and the frame, at the upper junction between glazing n°2 and 3.
28	Cracking of the non-exposed glass of glazing n°2.
29	Cracking of the non-exposed glass of glazing n°3. Partial reaction of the third intumescent gel layer of glazing n°2 and 3.
30	No particular observation.
31	Cracking of the non-exposed glass of glazing n°1.
32	Swelling of the no-exposed glass of glazing n°2, around Tc 27 and Dis 38.
33	Smoke release from the upper junction of glazing n°1 and 2. Smoke release from the lower junction of glazing n°2 and 3.
38	Smoke release between the frame and the foam, at mid-height of the fixed edge.
45	No particular observation.
46	Heating marks on the upper transom of the frame, at the junction between glazing n°1 and 3.
47	Partial reaction of the fourth intumescent gel layer of glazing n°1, 2 and 3.
54	Smoke release from a crack at the lower junction between glazing n°2 and 3.
61	Coton pad test performed on the smoke release from the crack at the lower junction between glazing n°2 and 3 is negative.
64	Sporadic flaming with a duration lower than 10 seconds from the crack at the lower junction between glazing n°2 and 3. Fall of glazing n°2 inside the furnace. **End of the test on request of the Sponsor.**

EL/ES = Exposed length/exposed side --- NEL/NES = Non-exposed length/non-exposed side.

9.3. AFTER THE TEST AND COOL DOWN

See the pictures in the appendix

10. FIRE RESISTANCE CRITERIA

In conformity with the standards mentioned in chapter 1, the times during which the specimen meets the fire resistance criteria may be regarded as follows:

Criteria	Method of control	Duration	Cause of limits
Integrity	Cotton wool pad	64 minutes	End of the test
	Gap gauges	64 minutes	End of the test
	Sustained flaming	64 minutes	End of the test
Thermal insulation	Maximal temperature rising	64 minutes	Not reached
	Mean temperature rising	64 minutes	Not reached
Radiation	Radiation	64 minutes	End of the test

11. 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 modeling the interaction between the elements at the same scale.

11.1. GENERAL

The test results are directly applicable to similar constructions where one or more of the changes in this A.4 are made and the construction continues to comply with the appropriate design code for its stiffness and stability.
Other changes are not permitted.
The result of a test on a specimen with mixtures of different types of construction (e.g. different types of glass or different types of framing, etc.) is only applicable to that tested.

11.2. FIELD OF DIRECT APPLICATION RULES NOT REQUIRING OVERRUN TIME

11.2.1. Glazed element

~~11.2.1.1. Installation angle~~

~~Test results on vertical glazed elements cover glazed elements sloped to a maximum angle of ± 10° from the vertical plane, provided the height of the glazed element is not larger than the maximum height tested.~~

11.2.1.2. Height of the glazed element

Test results cover rectangular glazed elements with a height increase of 10 % subject to a maximum increase of 0,3 m, above the height tested, provided that:

a) the maximum deflection of the test specimen did not exceed 100 mm;
b) the allowances for thermal expansion of the construction are increased pro-rata.

~~In case of elements intended to be classified for EW, the following additional provisions apply:~~

- ~~the average temperature of the unexposed face of the glazed element as well as the average temperature of the unexposed face of the non-glazed area of the test specimen (see Figures 12 or 14) remained below 300 °C, or~~
- ~~the heat radiation measured from the test specimen did not exceed 12,3 kW/m^2.~~

11.2.1.3. Width of the glazed element

Test results cover rectangular glazed elements of greater width by replication of the tested glazed element or parts thereof, provided:

a) the framing system is identical to the one tested;
b) the width of the specimen in the test was 2,8 m or greater with one vertical edge unrestrained;
c) the mullions within and/or connection joints between glazed elements have been tested.

~~In case of elements intended to be classified for EW, the following additional provisions apply:~~

- ~~the average temperature of the unexposed face of the glazed element as well as the average temperature of the unexposed face of the non-glazed area of the test specimen (see Figures 12 or 14) remained below 300 °C, or~~
- ~~the heat radiation measured from the complete and fully glazed test element with minimum size of 2,8 x 2,8 m did not exceed 12,3 kW/m^2.~~

11.2.2. Glazing system

11.2.2.1. Linear dimensions

The linear dimensions of panes may be decreased from the dimensions tested.

Height and width may be considered independently.

~~11.2.2.2. Aspect ratio~~

~~If both portrait and landscape aspect ratio rectangular panes have been tested, then the height of the landscape pane may be increased and/or the width of the portrait pane may be increased, subject to:~~

- ~~the area of the pane after increasing the linear dimensions shall be less or equal to the average area of the largest tested landscape and portrait panes, i. e. $A \leq ½ \times (A_{portrait, max} + A_{paysage, max})$, in which:~~

~~A~~	~~Area of assessed glass pane;~~
~~$A_{portrait, max}$~~	~~maximum area of tested glass pane oriented in "portrait" format~~
~~$A_{landscape, max}$~~	~~maximum area of tested glass pane oriented in "landscape" format~~

- ~~all panes were tested in an identical framing and glazing system,~~
- ~~the largest tested width as well as the largest tested height is not exceeded~~

11.2.2.3. Glazing beads

Test results on 'clip-on' beads cover screwed-on glazing beads, applied with the same or smaller centre to centre distance.

~~Test results on timber beads fixed by nails/pins cover screw fixing of at least the same length, applied with the same or smaller centre to centre distance.~~

~~Test results for applications intended for EI classification on sloped or chamfered bead profiles also cover a flat bead of the same height, but not vice versa, and also cover a bead depth that is at least the same as tested.~~

~~Test results for applications intended for E and/or EW classification on non-combustible bead profiles also cover a bead depth that is at least the same as tested with the height remaining the same as tested.~~

11.2.3. Framing system

The distance between mullions and/or transoms may be decreased from that tested.

The distance between fixing centres may be decreased from that tested.

~~The cross-sectional dimensions of the frame profiles may be increased from the dimensions tested, under the following restrictions:~~

- ~~For combustible framing intended to be used for E and/or EW classification, the depth of the frame profiles on the unexposed side is as tested.~~
- ~~For framing systems intended to be used for EI classification, no increase in width is allowed in case no temperature measurements on the unexposed side of the profiles were made during the test.~~

11.2.4. Supporting constructions

11.2.4.1. General

For specimens tested in the test frame without any supporting construction, the result is applicable to high density rigid supporting constructions with at least the same fire resistance as the test specimen.

11.2.4.2. 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:

a) the construction is of a stud and board type construction, classified in accordance with EN 13501-2;
b) the construction has an overall thickness not less than the minimum thickness of the appropriate range given in EN 1363-1 for the standard flexible wall used in the test;
c) the number of board layers and the overall board layer thickness is equal or greater than that tested;
~~d) 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, 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.~~

~~11.2.4.3. 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.~~

11.3. FIELD OF DIRECT APPLICATION RULES REQUIRING OVERRUN TIME

11.3.1. General

For some rules to be applicable an overrun time in the fire test result compared to the intended classification period is required.

The required overrun time is shown in Table A.1.

Intended classification period (min)	Overrun time A (min)	Overrun time B (min)
≤ 20	not applicable	≥ 3
30, 45 and 60	≥ 3 and < 6	~~≥ 6~~
~~≥ 90~~	~~≥ 5% and < 10% of the intended classification period~~	~~≥ 10 % of the intended classification period~~

NOTE: The rules given in 11.4.3 may be used in addition to the rules in 11.4.2.

11.3.2. Dimensions of the glazed element

11.3.2.1. Height

The test result of the glazed element covers the height up to a maximum of the tested height multiplied by a factor of 1,1 provided overrun time A is achieved. This is irrespective of the measured deflections.

~~The test result of the glazed element covers the height up to a maximum of the tested height multiplied by a factor of 1,2 provided overrun time B is achieved. This is irrespective of the measured deflections.~~

~~In case of elements intended to be classified for EW, the following additional provisions apply:~~

- ~~the average temperature of the unexposed face of the glazed element as well as the average temperature of the unexposed face of the non-glazed area of the test specimen remained below 300 °C, or~~
- ~~the heat radiation measured from the complete and fully glazed element did not exceed 12,3 kW/m^2.~~

The maximal height of the butt-to-butt glazed partition wall may be 3267 mm for EI60 classification only.

11.3.2.2. Width

The replication of the glazed element is covered based on rules described in 11.2.1.3.

~~For glazed elements tested with a width smaller than 2,8 meter, the following rules apply.~~

~~The test result of the glazed element covers the width up to a maximum of the tested width multiplied by a factor of 1,1 provided overrun time A is achieved. This is irrespective of the measured deflections.~~

~~The test result of the glazed element covers the width up to a maximum of the tested width multiplied by a factor of 1,2 provided overrun time B is achieved. This is irrespective of the measured deflections.~~

~~In case of elements intended to be classified for EW, the following additional provisions apply:~~

- ~~the average temperature of the unexposed face of the glazed element as well as the average temperature of the unexposed face of the non-glazed area of the test specimen remained below 300 °C, or~~
- ~~the heat radiation measured from the complete and fully glazed element did not exceed 12,3 kW/m^2.~~

Dimensions and area of individual rectangular glass panes

The test result of a pane covers dimensions up to a maximum of the tested dimensions multiplied by a factor 1,1 in width and/or height, provided overrun time A is achieved and the maximum tested area multiplied by a factor 1,1 is not exceeded.

~~The test result of a pane covers dimensions up to a maximum of the tested dimensions multiplied by a factor 1,2 in width and/or height, provided overrun time B is achieved and the maximum tested area multiplied by a factor 1,21 is not exceeded.~~

~~In case of elements intended to be classified for EW, the following additional provisions apply:~~

- ~~the average temperature of the unexposed face of the glazed element as well as the average temperature of the unexposed face of the non-glazed area of the test specimen (see Figure 12 or 14) remained below 300 °C, or~~
- ~~the heat radiation measured from the complete and fully glazed element did not exceed 12,3 kW/m^2.~~

  - For EI60 classification only:

Width (mm)	1320
Height (mm)	3141.6
Area (m^2)	The maximal increase of the glazed area must not exceed 3.77 m^2

In order to accommodate the increase in glass dimensions, it is permitted to increase the distance between mullions and/or transoms.

11.3.3. Aspect ratio

~~The calculation of permitted aspect ratio as defined in 11.2.2.2 shall be conducted after any increase in glass dimensions based on overrun time has been established; i.e. A ≤ ½ × (Aportrait, extended + Alandscape), in which~~

- ~~A area of assessed glass pane;~~
- ~~$A_{portrait,\ extended}$ extended area of glass pane oriented in "portrait" format;~~
- ~~$A_{landscape,\ extended}$ extended area of glass pane oriented in "landscape" format.~~

11.3.4. Area of individual circular, triangular and four side non-rectangular glass panes

~~The test result from individual circular, triangular and four sided non rectangular glass panes covers the area up to a maximum of the tested area multiplied by a factor 1,1 provided overrun time A is achieved.~~

~~The test result from individual circular, triangular and four sided non rectangular glass panes covers the area up to a maximum of the tested area multiplied by a factor 1,2 provided overrun time B is achieved.~~

~~The pane shall be of the same orientation and shape (including maintaining internal angles) as the tested pane.~~

~~In order to accommodate the increase in glass area, it is permitted to increase the distance between mullions and/or transoms.~~

12. WARNING

“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 standard EN 1363-1, and where appropriate in standard 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”.

Saint Aubin, 10 February 2025

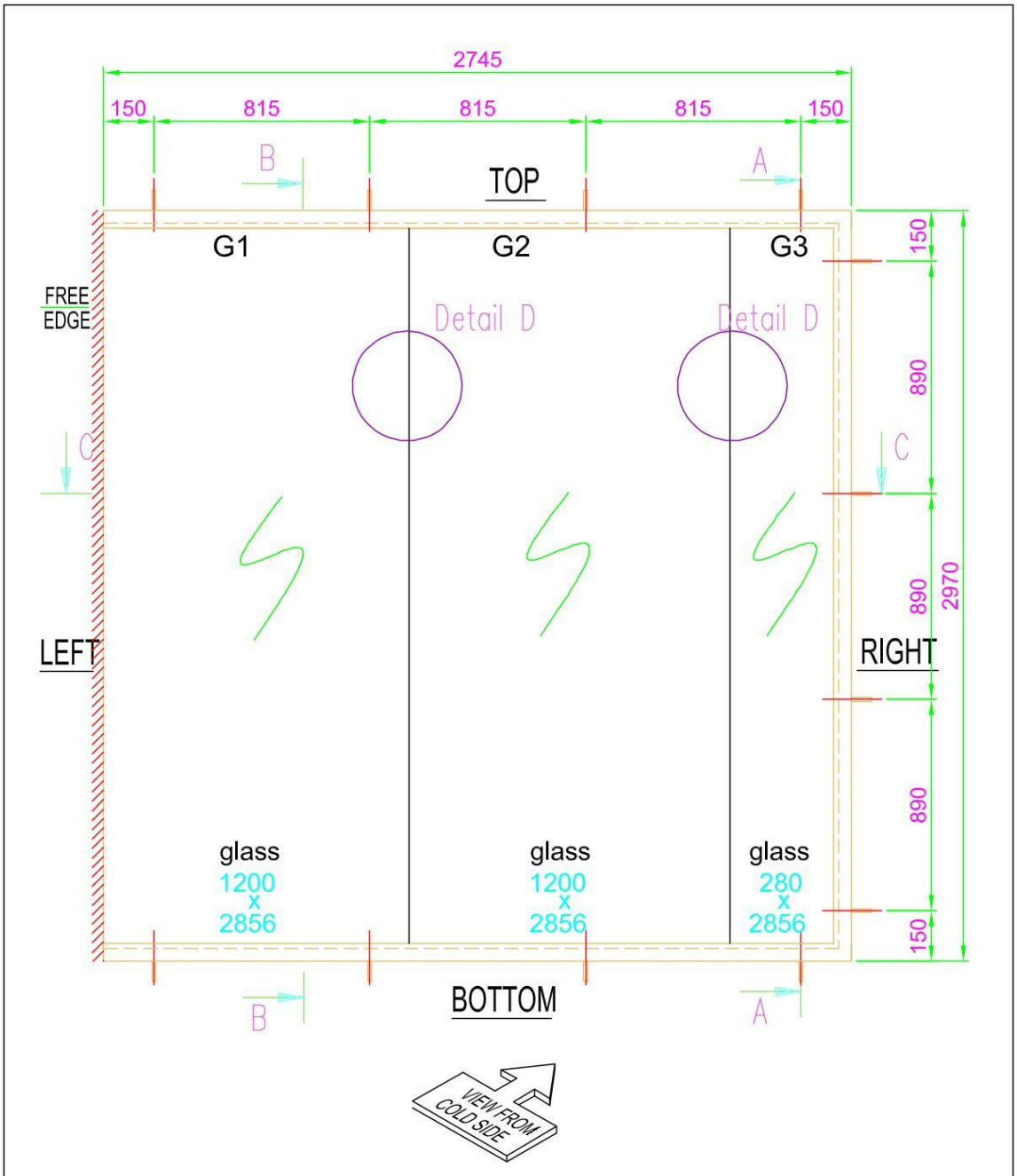
X Marceau STEPHAN

Project Leader
Signé par : Marceau STEPHAN

X Andréa VIARD

Test Supervisor
Signé par : Andréa VIARD

DRAWINGS APPENDIX : Plate No. 1



REF. TEST : EFR-23-004678	TARGET : EI60	GLASS PRODUCT : Pyrobel 25 VL (Vision Line)	
FIRE SIDE : symmetrical	GLAZING BEADS : in fire	NOMINAL THICKNESS : 26.6 +/- 1.5 mm	
Efectis FR : furnace V => dimensions = 3.0(w)x3.4(h) m	opening aperture dimensions = 2.8(w)x3.0(h)x0.2(t) m		
AGC	ELEMENT : Pyrobel 25 VL in Jansen Janisol C4 frame - gypsum wall		DATE : 30/08/24
	DETAIL : GENERAL VIEW		DRAWING N° : DL 1119 - 1/8

DRAWINGS APPENDIX : Plate No. 2

	G1-G2-G3
Product	Pyrobel 25 Vision Line
Structure	3/3/8/3/3
Nominal thickness	26.6 +/- 1.5
Fire side	symmetrical

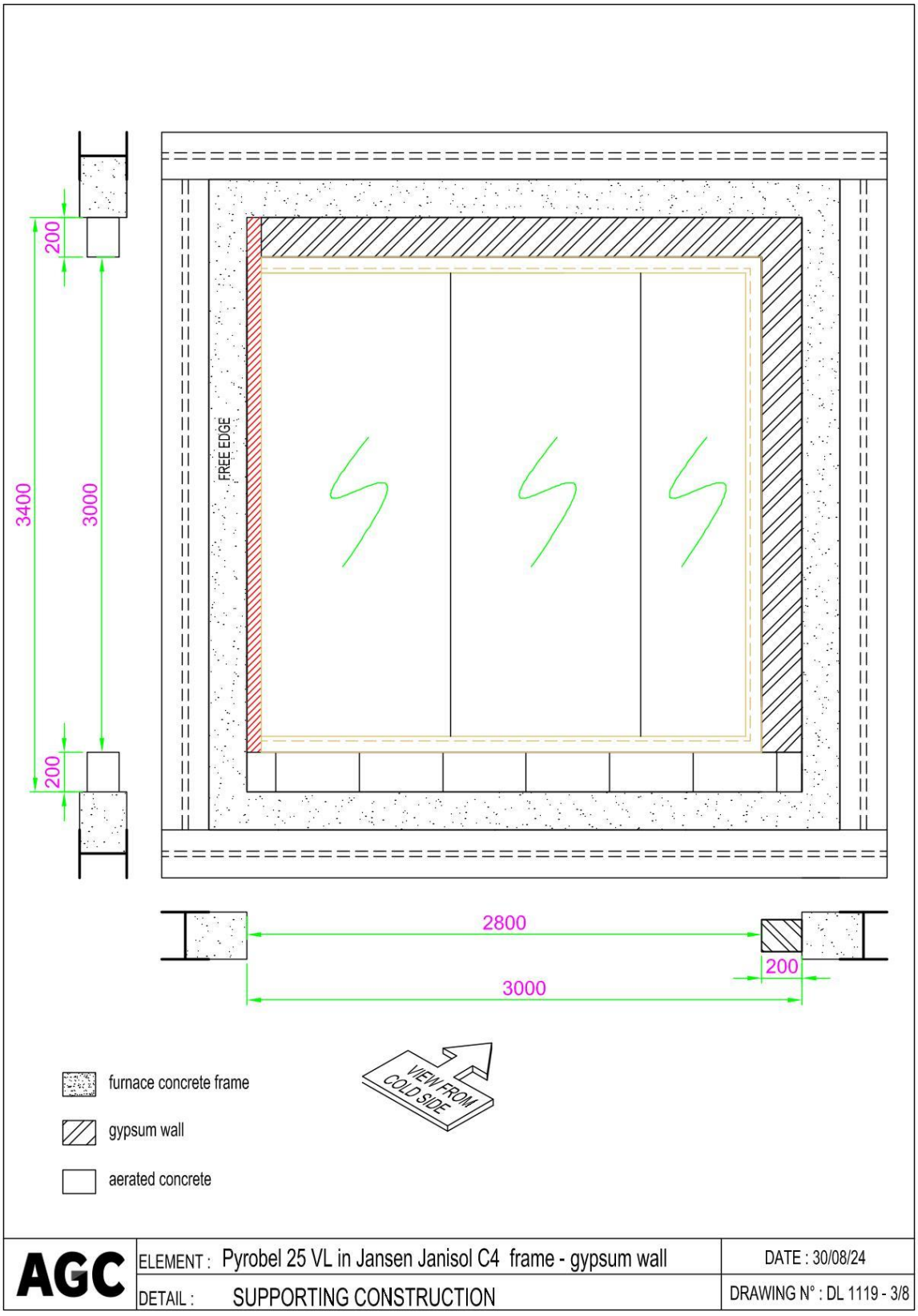
with 3 = 3mm float glass

/ = 1.65mm intumescent layer

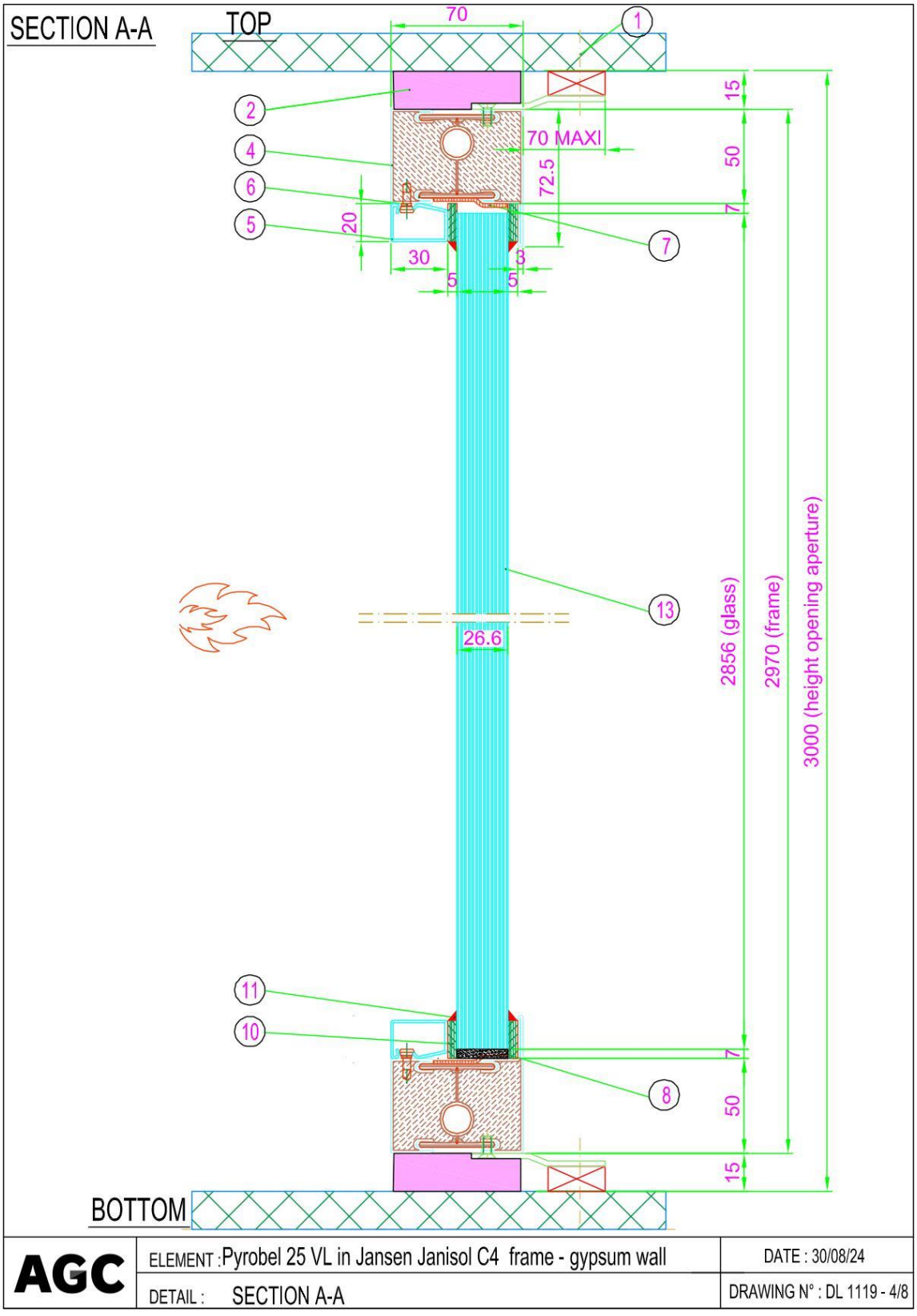
8 = 8mm float glass

AGC	ELEMENT : Pyrobel 25 VL in Jansen Janisol C4 frame - gypsum wall	DATE : 30/08/24
	DETAIL : GLASS PANES DATA	DRAWING N° : DL 1119 - 2/8

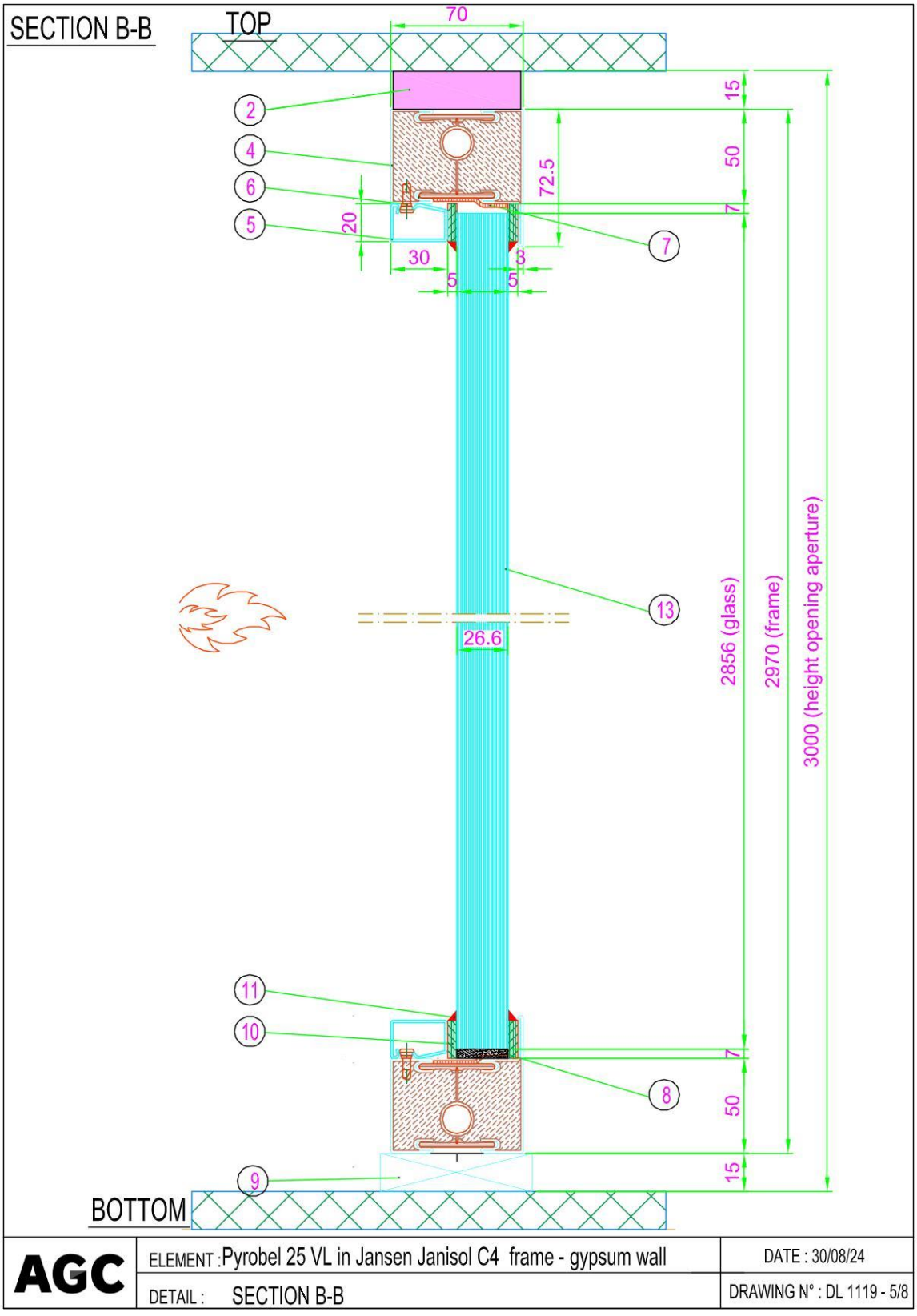
DRAWINGS APPENDIX : Plate No. 3



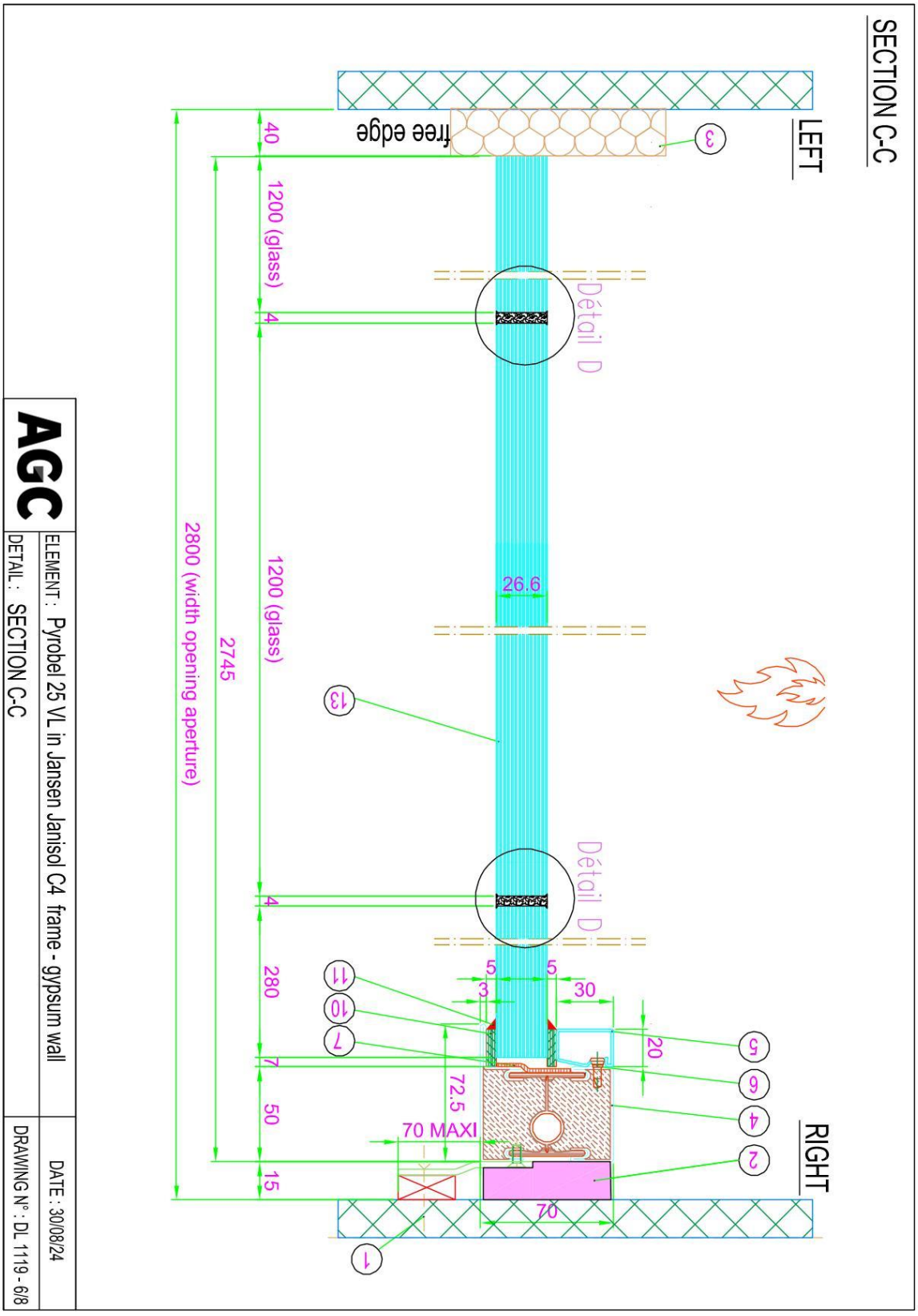
DRAWINGS APPENDIX : Plate No. 4



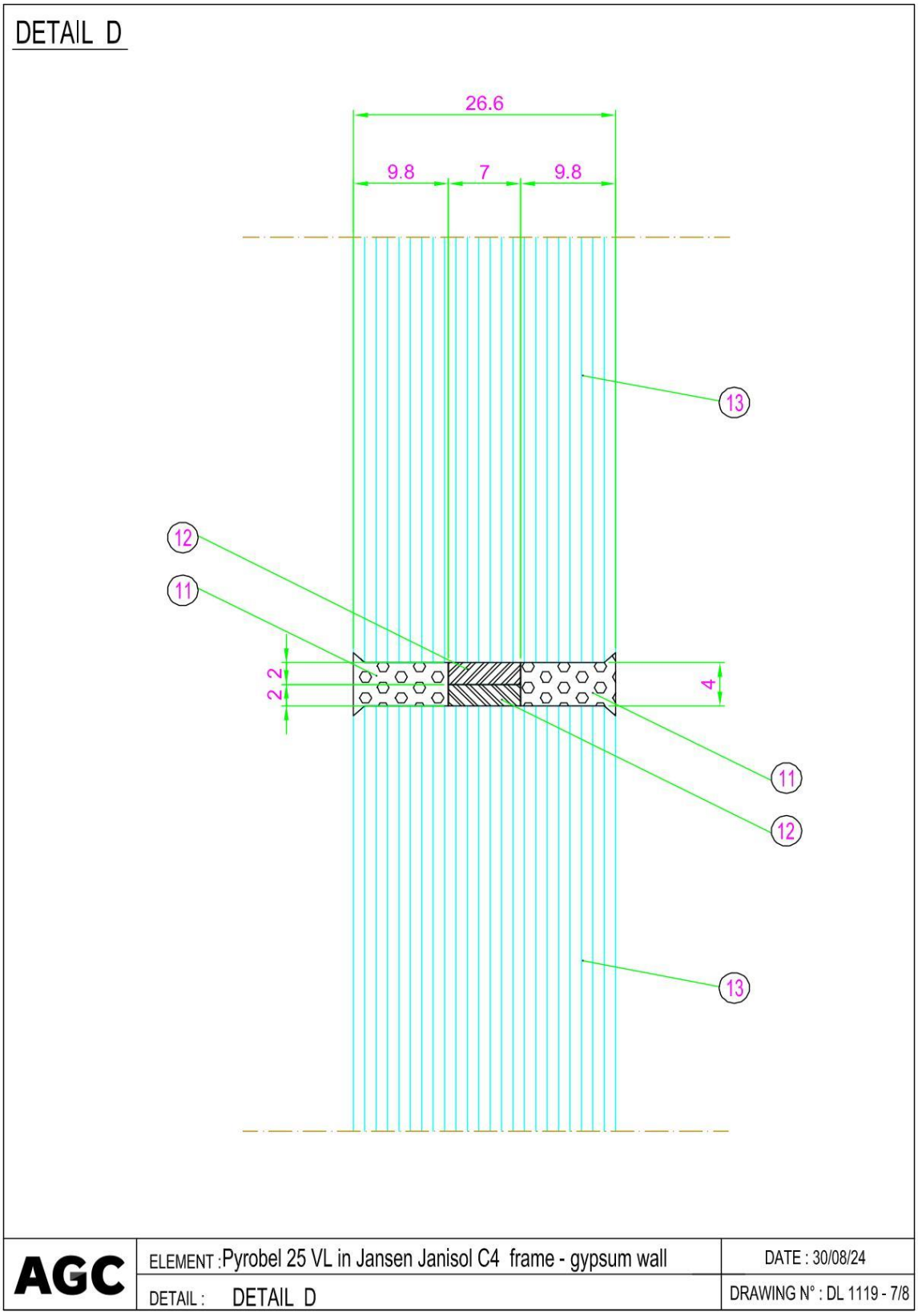
DRAWINGS APPENDIX : Plate No. 5



DRAWINGS APPENDIX : Plate No. 6



DRAWINGS APPENDIX : Plate No. 7

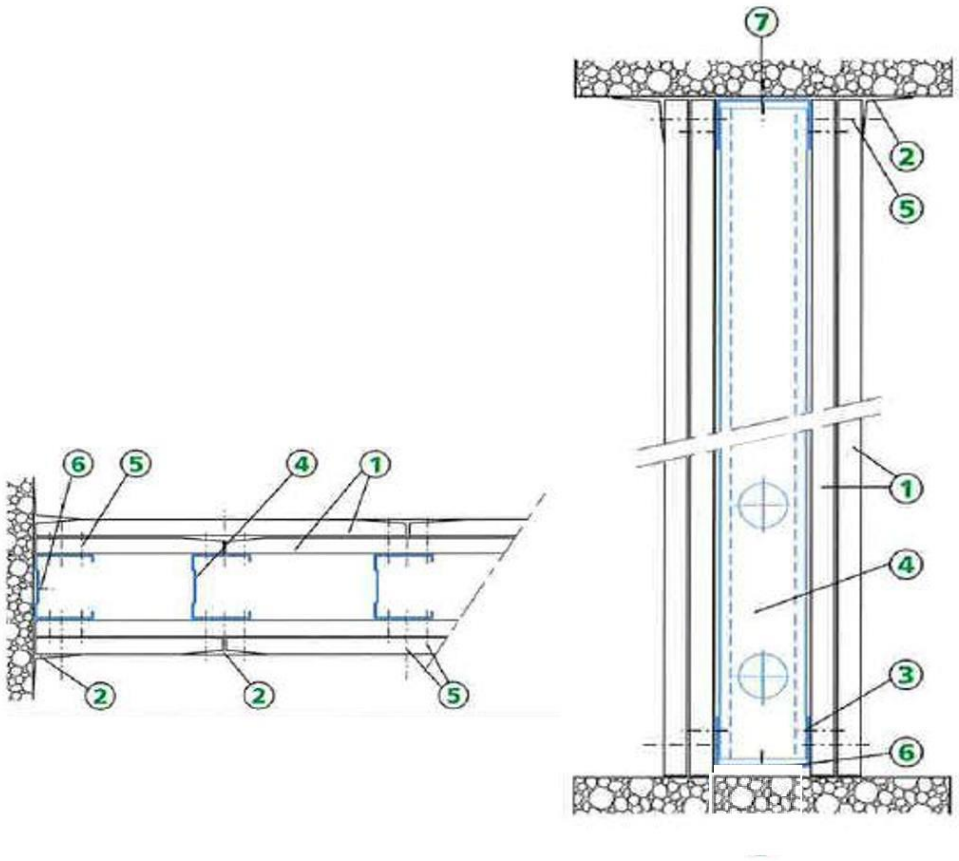


DRAWINGS APPENDIX : Plate No. 8

# REF	COMPONENTS
1	Fixation: Hilti HRD-C plastic frame anchor - Ø8xL60 mm
2	Thermal Insulation Soudal Soudafoam FR HY
3	Thermal Insulation Mineral Wool - 120 kg/m3
4	Jansen steel profile - Janisol C4 - reference 601.685.C4 Z
5	Jansen steel glazing bead - 20 mm x 30 mm- reference 402.130 Z
6	Jansen fastening stud- reference 450.007
7	Jansen Fire-resistant laminate - 40 mm x 1.8 mm - reference 451.083
8	Setting Block : (L) 80 mm x (W) 26 mm x (H) 5 mm
9	Setting Block : (L) 100 mm x (W) 70 mm x (H) 20 mm
10	Ceramic paper - Superwool X607 - 20 mm x 5 mm
11	Structural Glazing Sealant - Dow - Dowsil 895 - black
12	Self-adhesive Gluske Kerafix FXL200 - 7 x 2 mm
13	Pyrobel 25 VL (3/3/8/3/3)

AGC	ELEMENT : Pyrobel 25 VL in Janisol Arc C4 frame - gypsum wall	DATE : 30/08/24
	DETAIL : COMPONENTS LIST	DRAWING N° : DL 1119 - 8/8

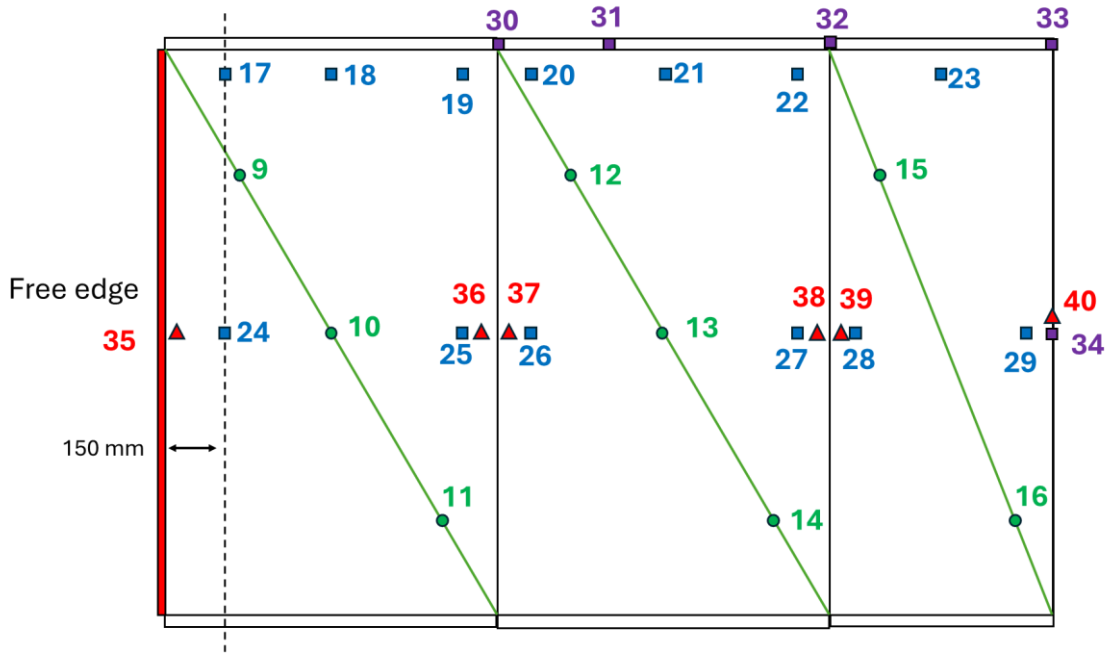
DRAWINGS APPENDIX : Plate No. 9



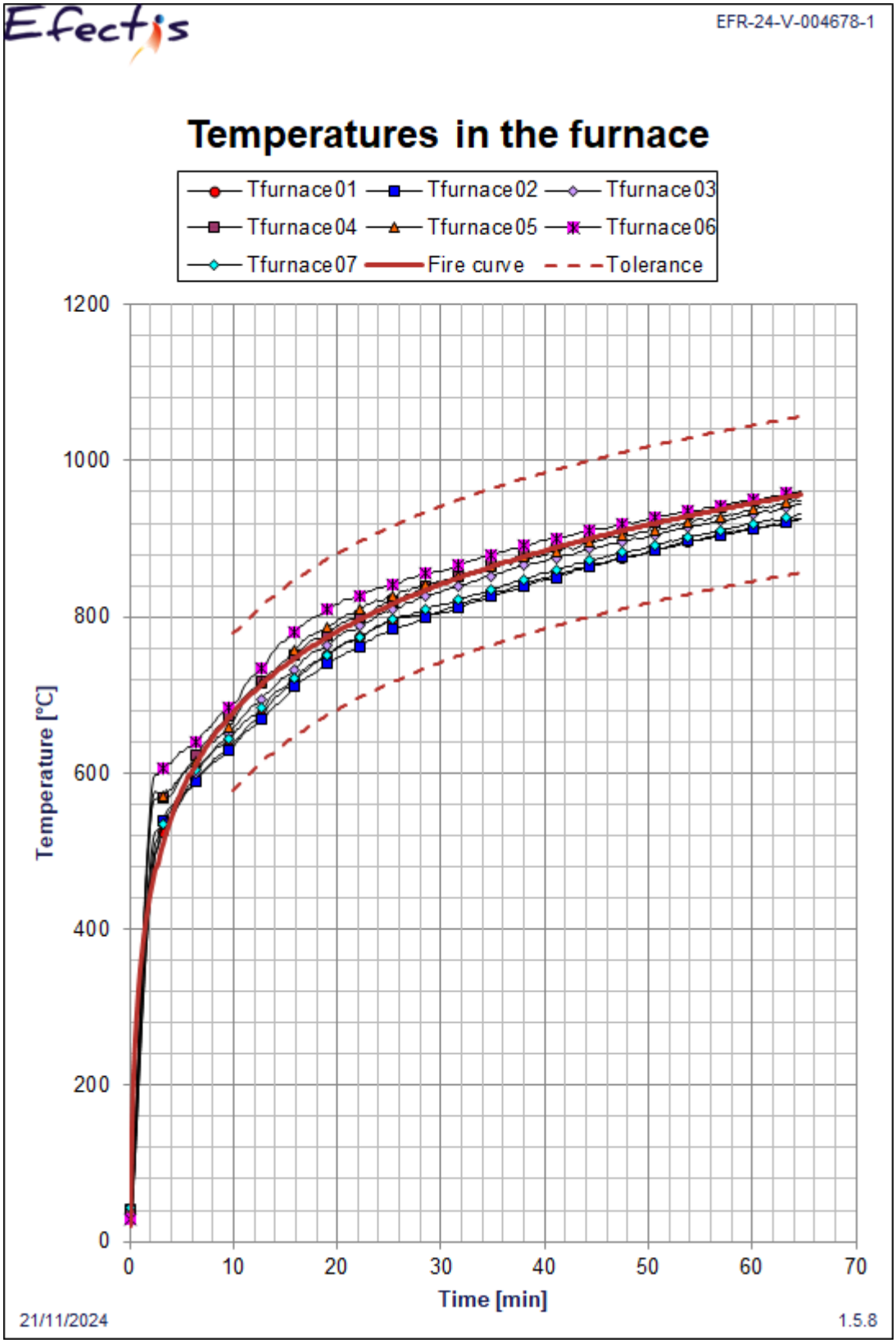
1	Knauf KF13
2	self-adhesive joint tape
3	MSH 75 horizontal profile
4	MSV 75 vertical profile
5	screws Ø3.6 x L25 (first layer)
5	screws Ø3.6 x L45 (second layer)
6	fixations Fischer FFS Ø7.5 x L132

AGC	ELEMENT : Pyrobel 25 in a timber frame in a gypsum wall	DATE : 16/11/20
	DETAIL : **EI60 gypsum wall**	PLAN N° : DL 1008

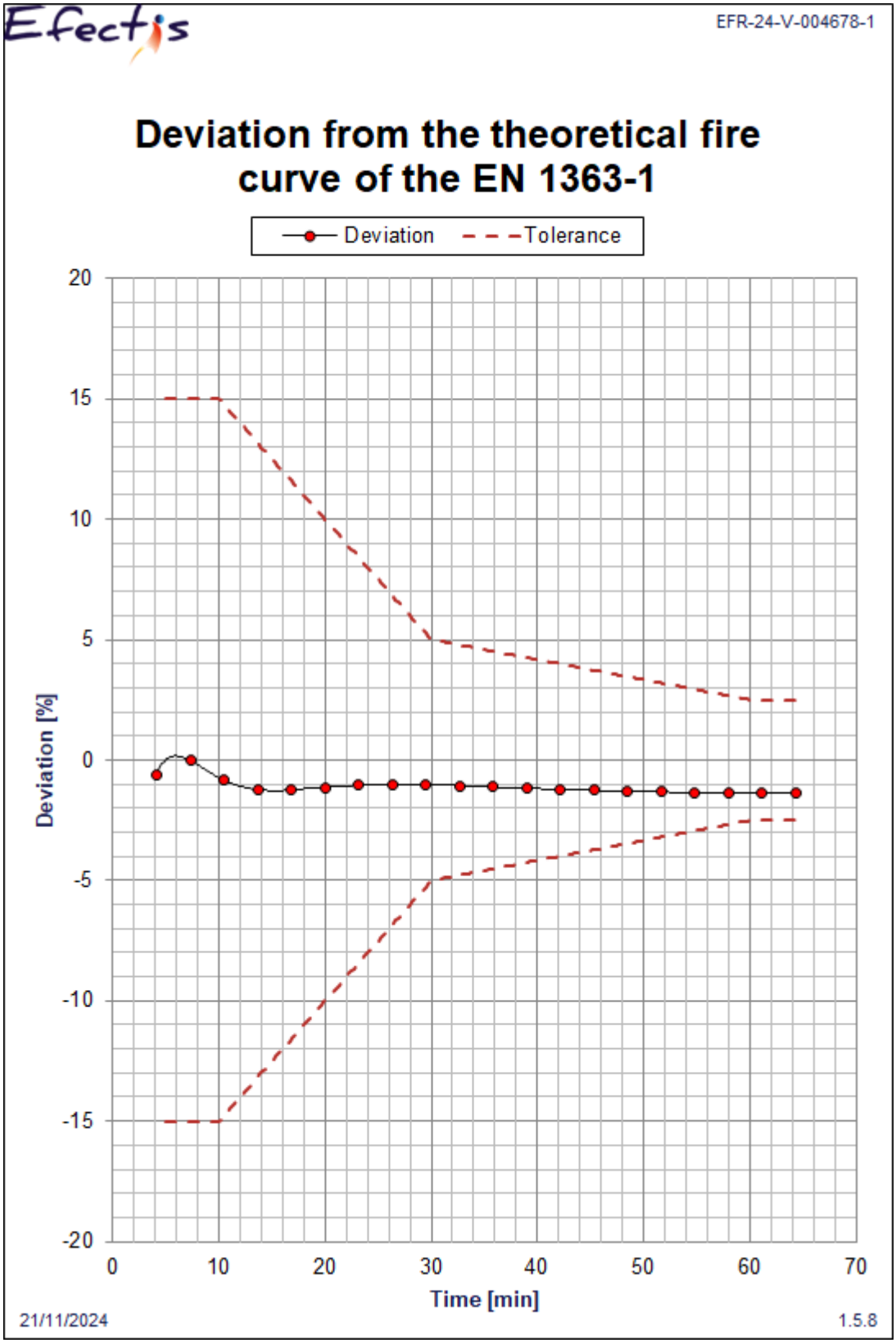
APPENDIX: INSTRUMENTATION Plate No. 10



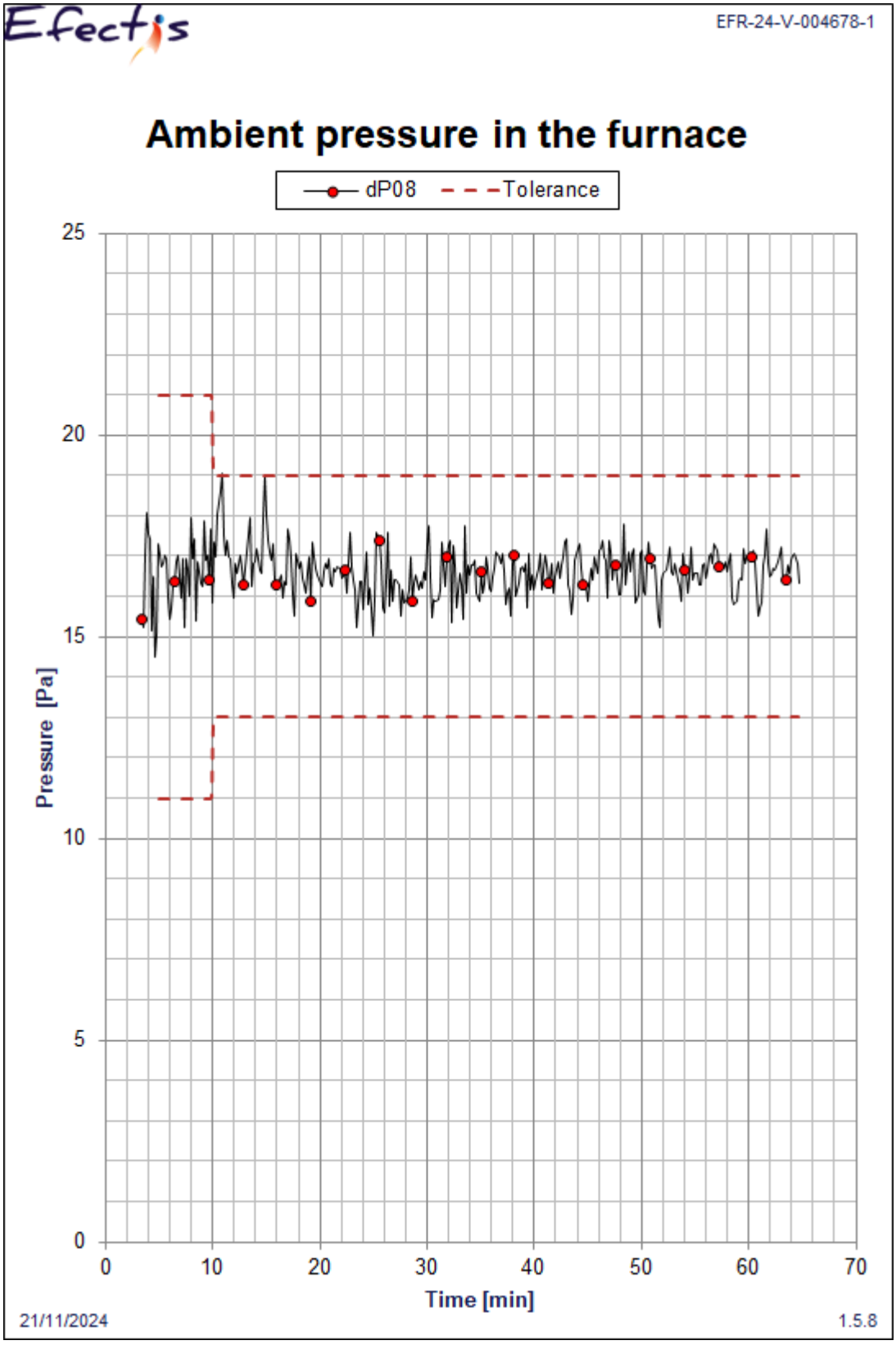
APPENDIX: CHARTS Plate No. 11



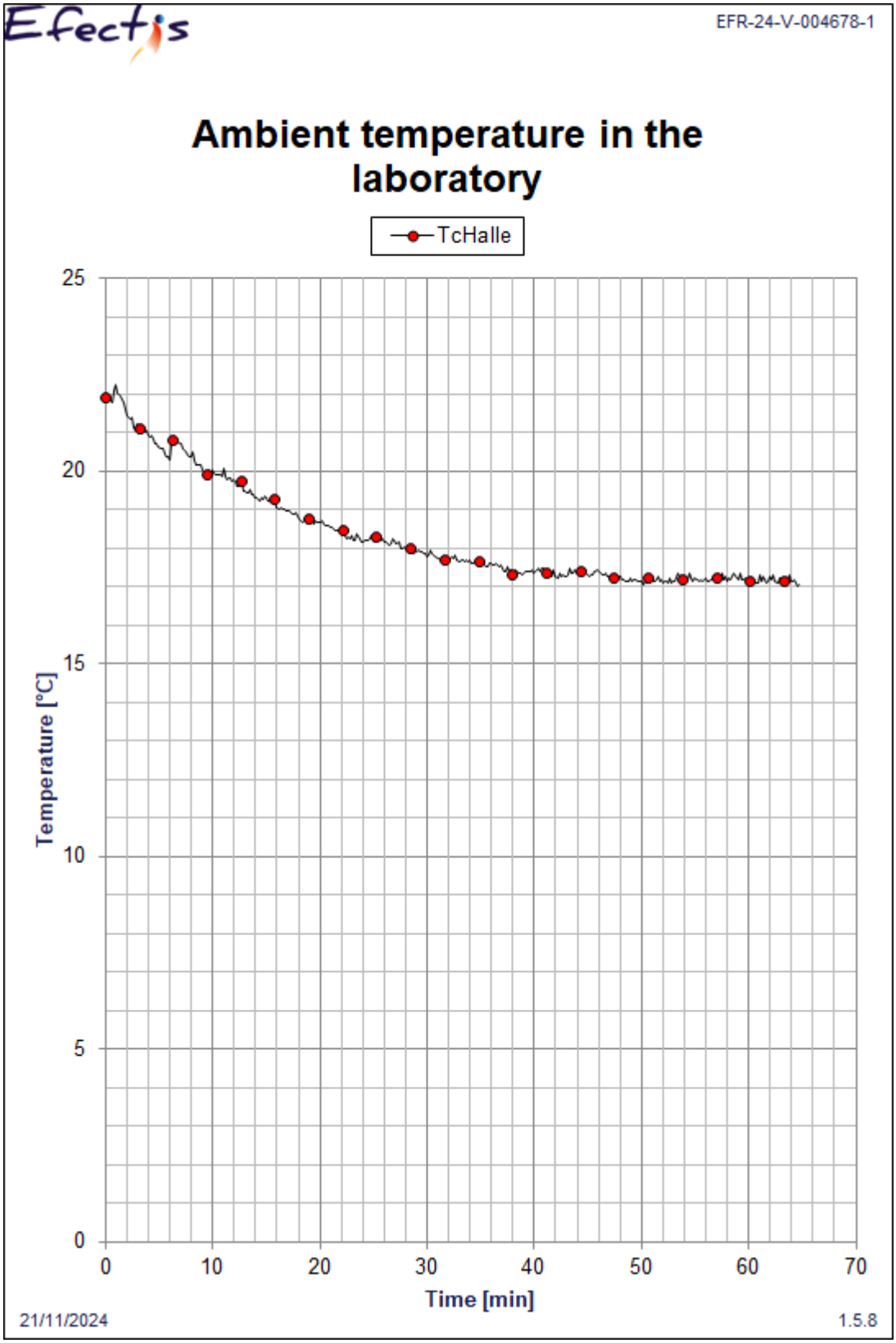
APPENDIX: CHARTS Plate No. 12



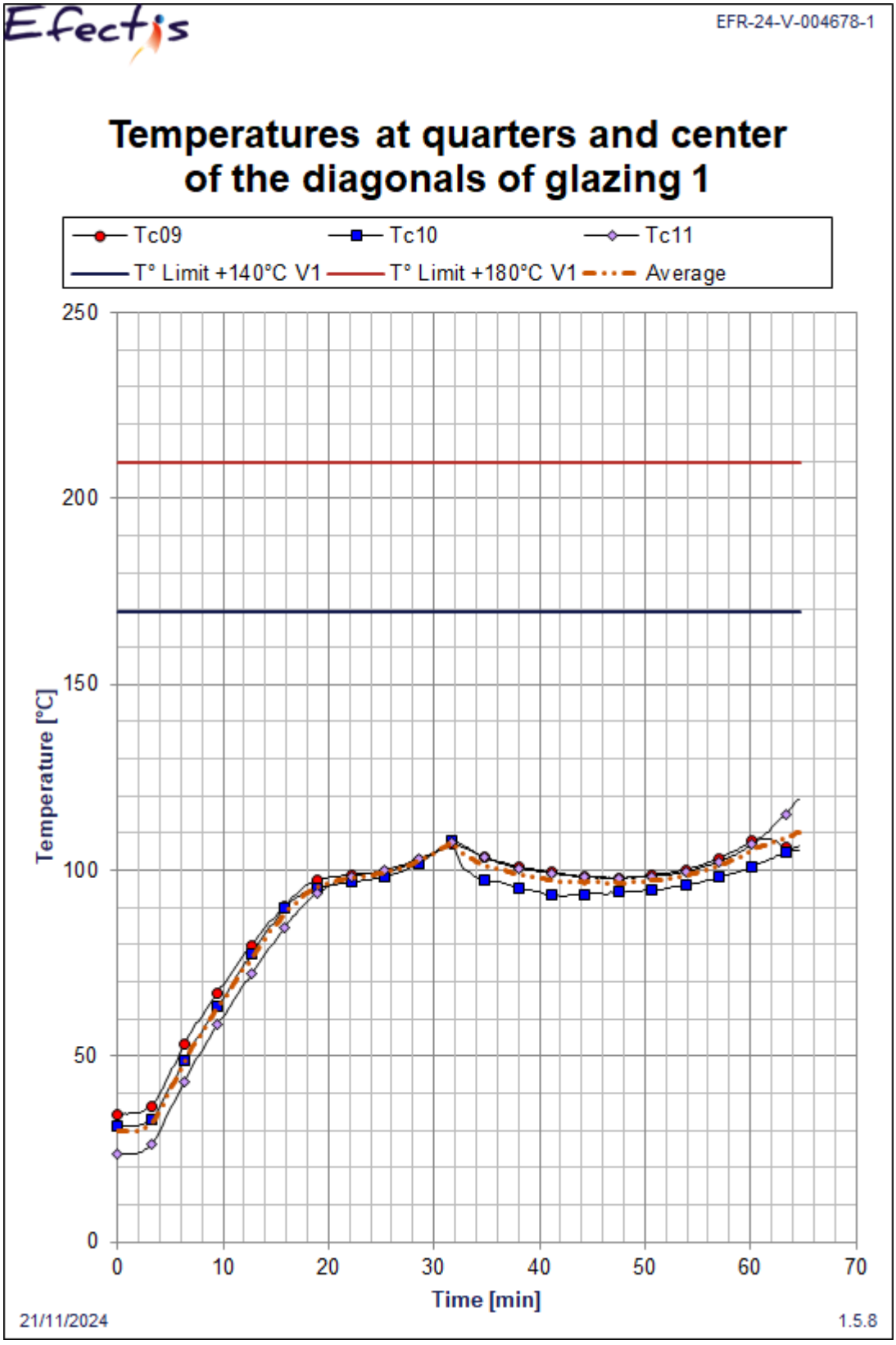
APPENDIX: CHARTS Plate No. 13



APPENDIX: CHARTS Plate No. 14



APPENDIX: CHARTS Plate No. 15



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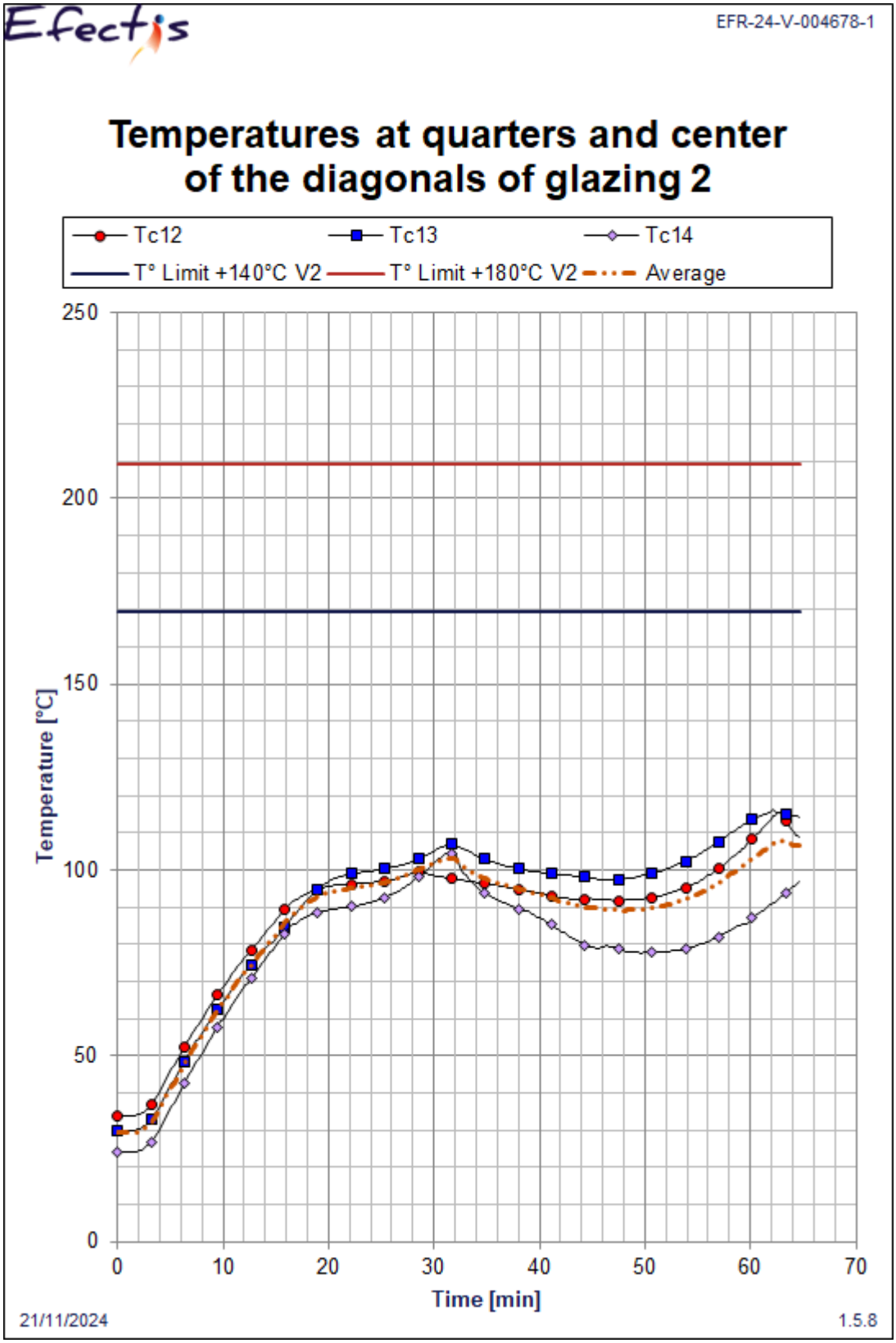

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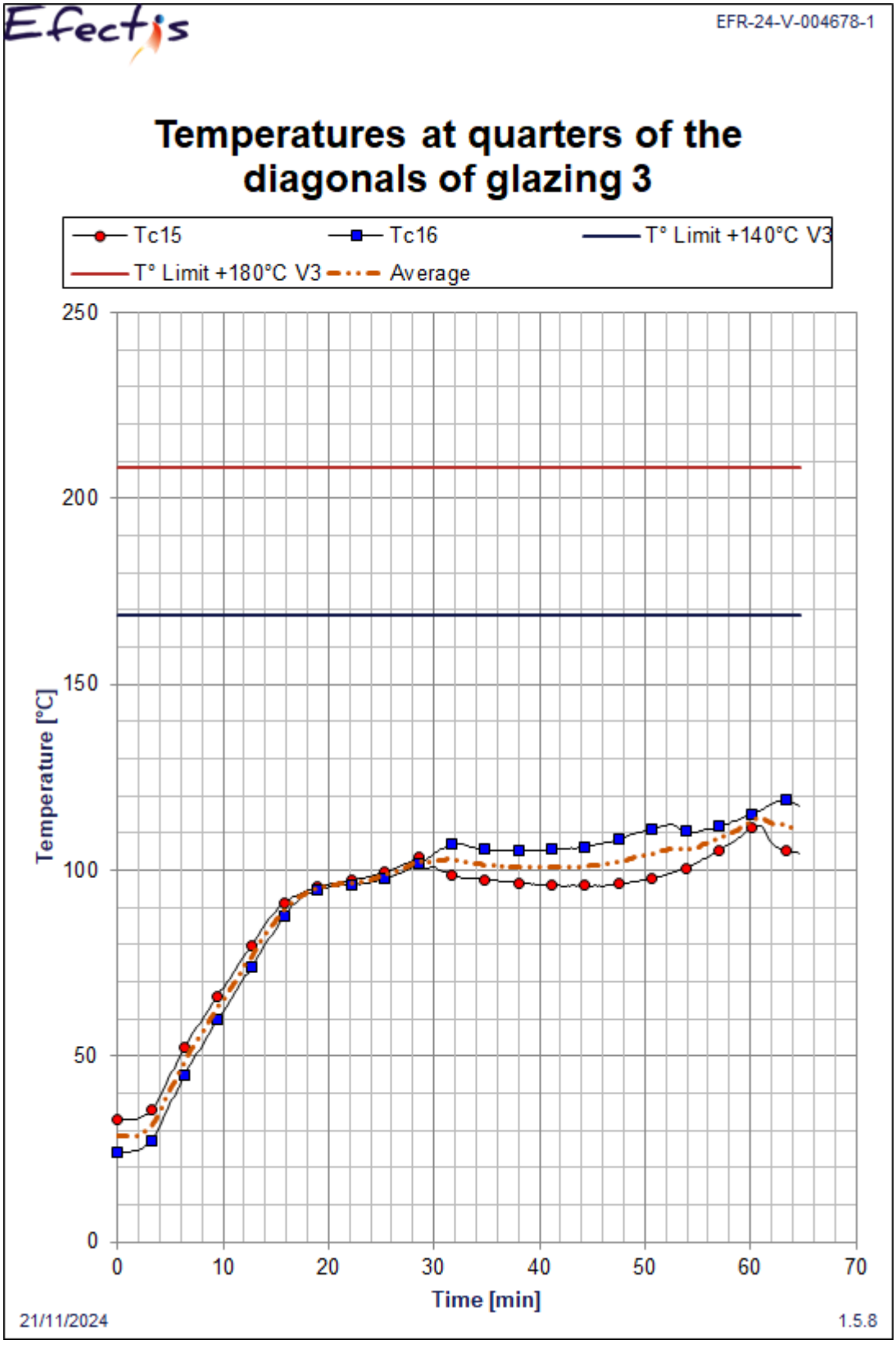

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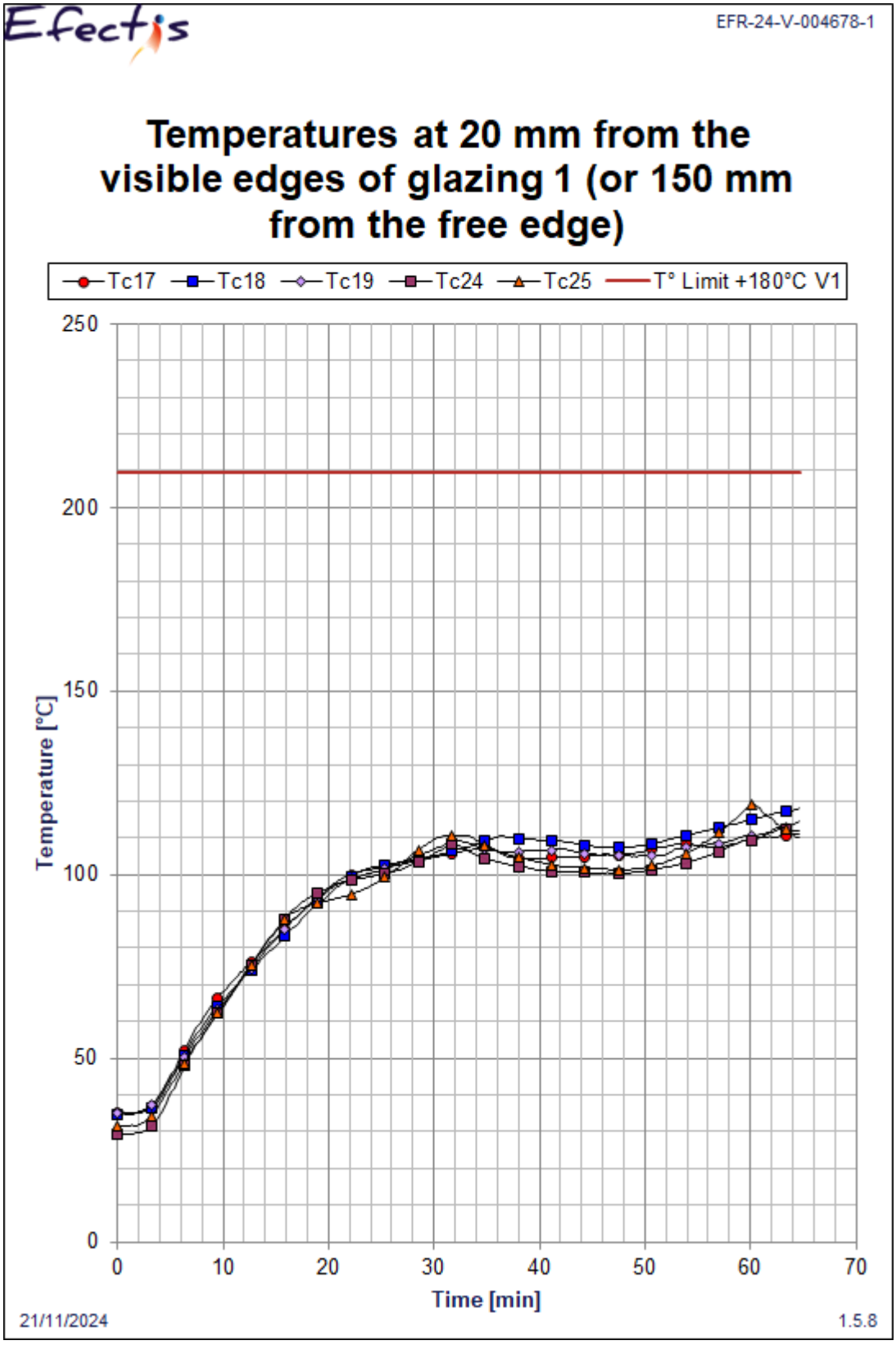

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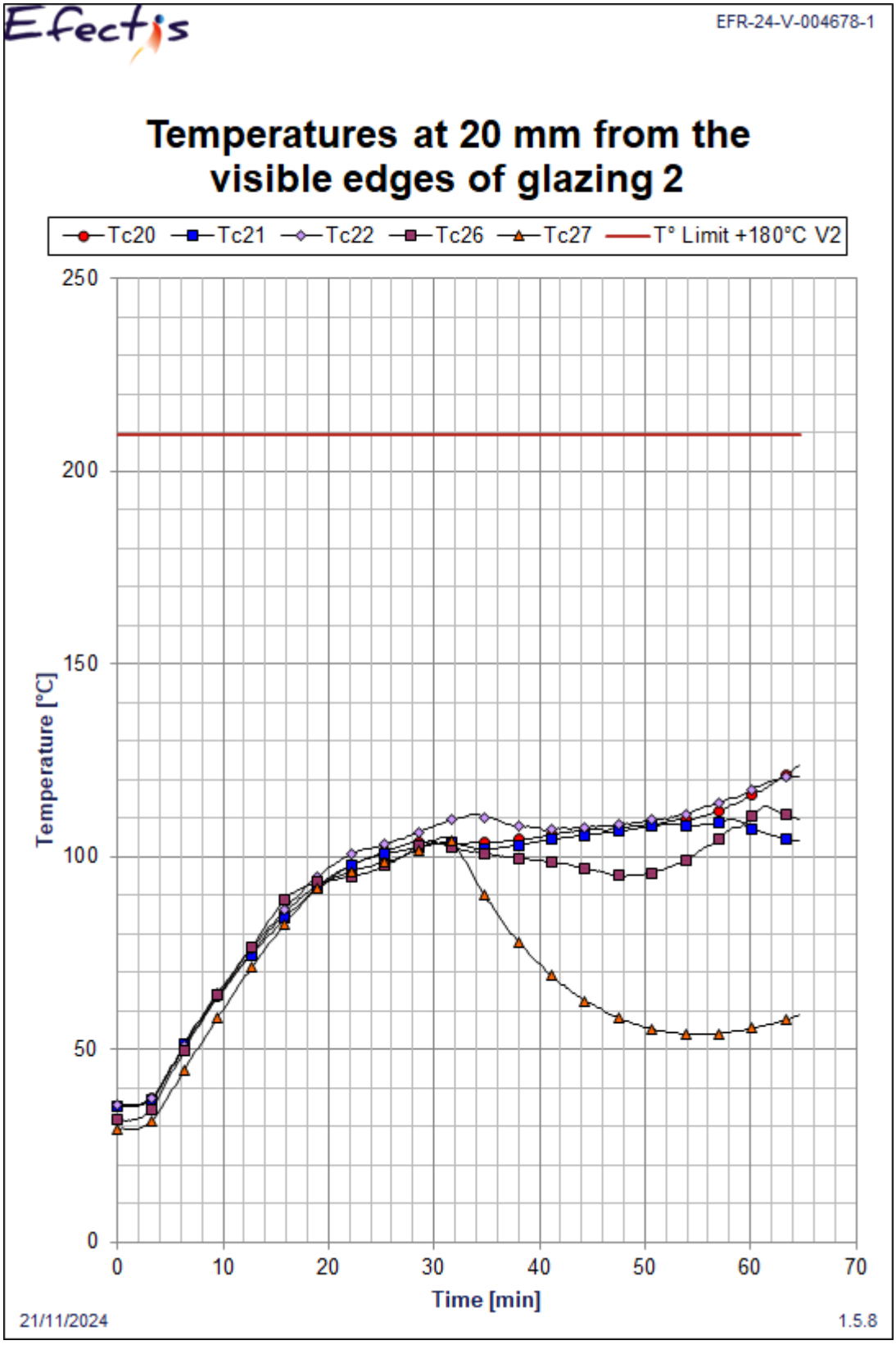
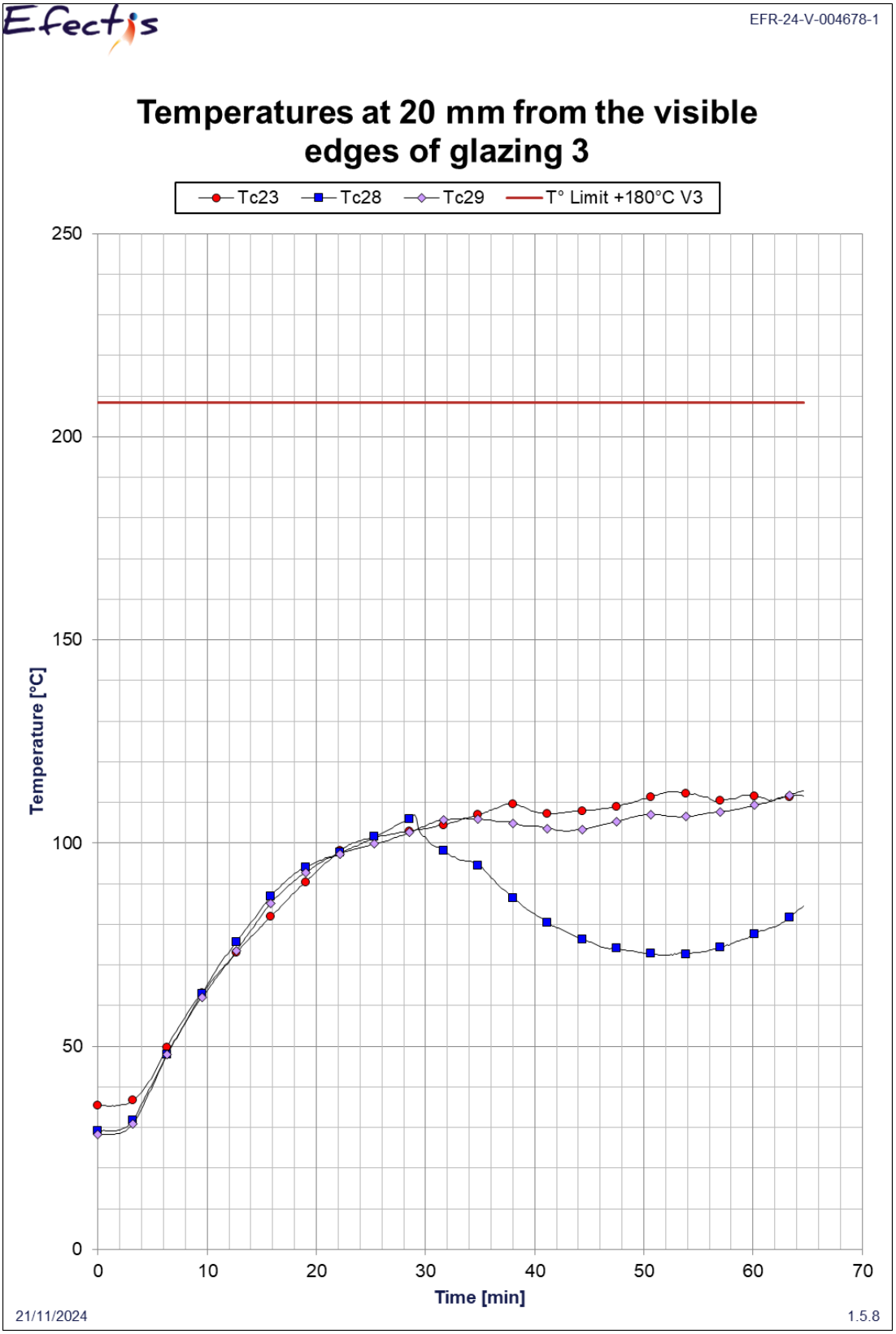


APPENDIX: CHARTS Plate No. 20



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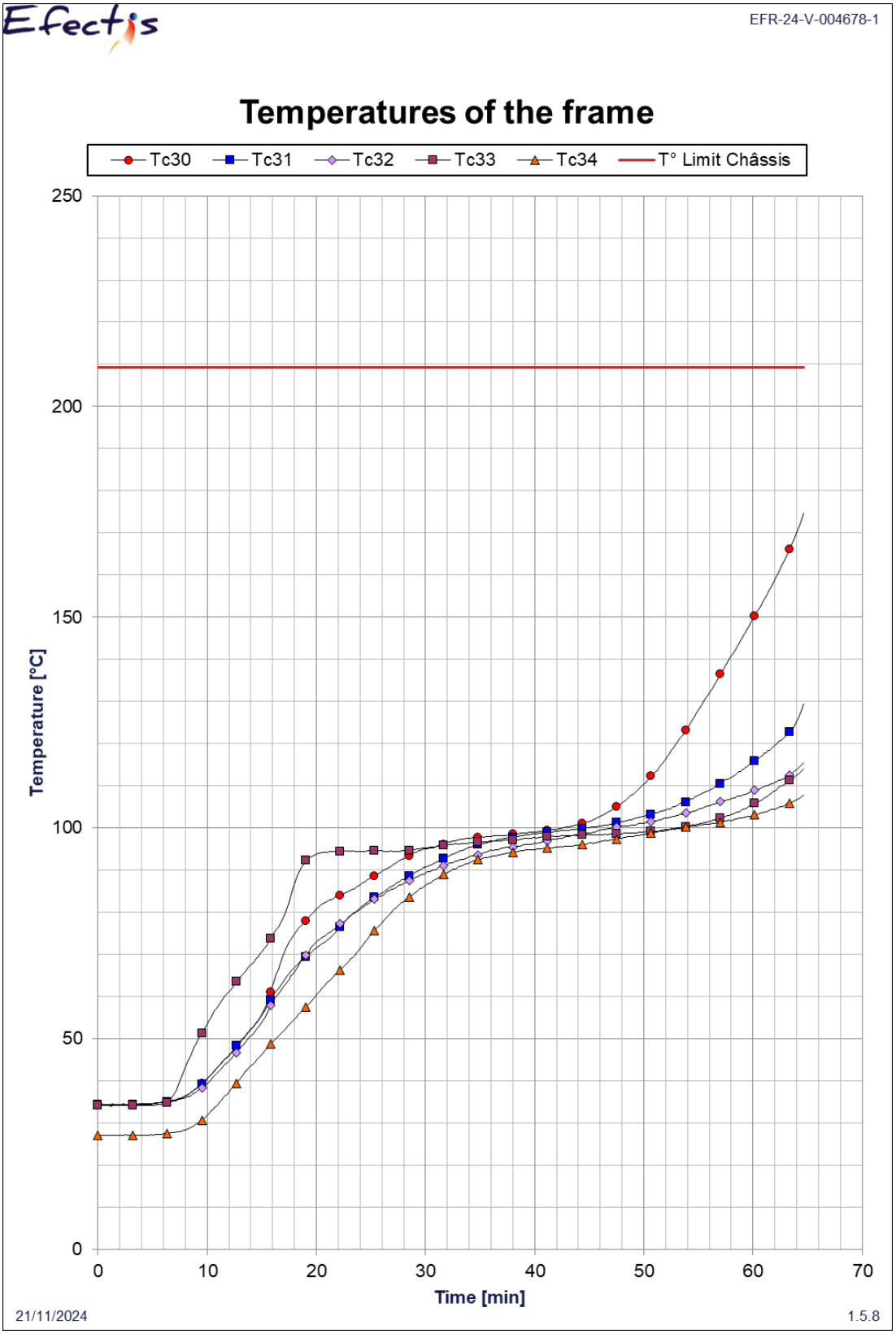
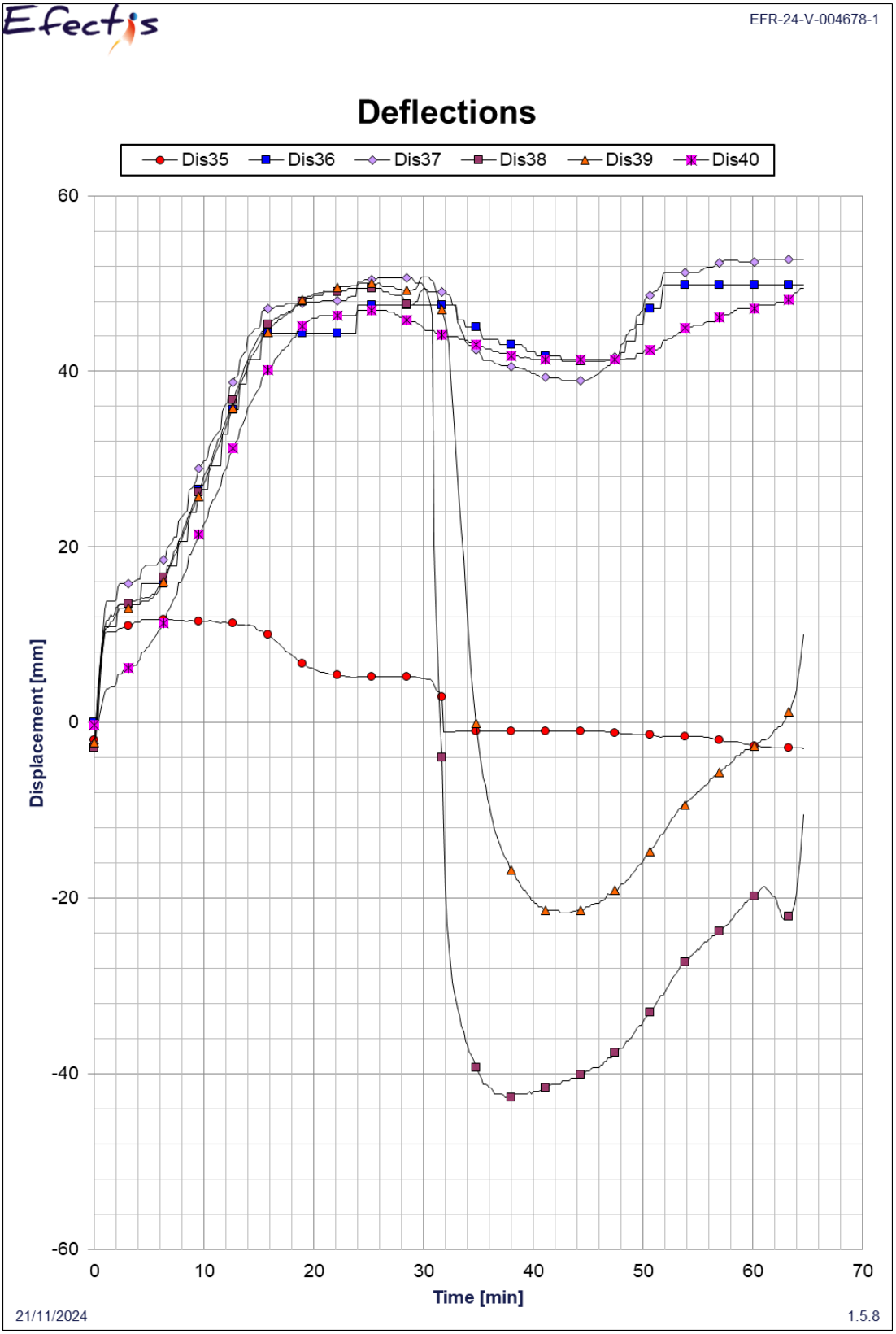


APPENDIX: CHARTS Plate No. 22



APPENDIX: PHOTOGRAPHS

Photo A: Non-exposed side of the element before the begining of the fire test

Photo B: Non-exposed side of the element after the beginng of the fire test

Photo C: Non-exposed side of the element before the end of the fire test

Photo D: Non-exposed side of the element at the end of the fire test

Photo E: Non-exposed side of the element after the end of the fire test and the cool down of the element

Photo F: Exposed side of the element after the end of the fire test and the cool down of the element

END OF TEST REPORT