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EFFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.

Dilovası OSB, 5. Kısım, Fırat Caddesi No:18 41455

Dilovası, KOCAELİ/TURKEY

DENEY RAPORU

TEST REPORT

AB-0556-T

12.10.2020

RFTR20249

Müşterinin adı/adresi : BAYRAK GRUP ORM. ÜRÜN İNŞ. İŞL. İNŞ. MAL. İTH. İHR. SAN. TİC. LTD. ŞTİ.
Customer name/address Tekeler Mah. Karaahmetoğlu Gölü Keresteciler Sit. Adapazarı, SAKARYA/TURKEY

İstek numarası : EEA-19-000362
Order No.

Numunenin adı ve tarifi : Single Leaf Timber Doors "BG DOORLIFE HOTEL, BG DOORLIFE HOUSE"
Name and identity of test sample

Numunenin kabul tarihi : 22.09.2020
The date of receipt of sample

Açıklamalar :
Remarks

Deneyin yapıldığı tarih : 23.09.2020
Date of test

Raporun sayfa sayısı : 25 (Totally 35 pages with annexes)
Number of pages of the Report

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The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report

Mühür

Seal



Tarih

Date

12.10.2020

Deney Sorumlusu

Person in charge of test

İrem ATMACA

Laboratuvar Müdürü

Head of Testing Laboratory

Ali BAYRAKTAR

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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1. SCOPE

Fire resistance test, in conformity with the general requirements of standards EN 1363-1:2012, with substitute or additional methods of standard EN1363-2:1999 and with the particular requirements of standard EN 1634-1:2014+A1:2018 "Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware - Part 1: Fire resistance tests for doors, shutters and openable windows".

2. TEST LABORATORY

Name : Efectis Era Avrasya Test ve Belgelendirme A.Ş.

Address : Dilovası OSB 5. Kısım Fırat Cad. No: 18
41455 Dilovası, KOCAELİ / TURKEY

3. DESCRIPTION OF THE TEST SPECIMEN**3.1. General**

Product identification : Single Leaf Timber Doors "**BG DOORLIFE HOTEL, BG DOORLIFE HOUSE** "

Door Nr.1 : **BG DOORLIFE HOTEL**

Door Nr.2 : **BG DOORLIFE HOUSE**

Direction of fire : Opening into the fire

Manufacturer : BAYRAK GRUP ORM. ÜRÜN İNŞ. İŞL. İNŞ. MAL. İTH. İHR. SAN. TİC. LTD. ŞTİ.
Tekeler Mah. Karahmetoğlu Gölü Keresteciler Sit. Adapazarı, SAKARYA/TURKEY

Sponsor of test : BAYRAK GRUP ORM. ÜRÜN İNŞ. İŞL. İNŞ. MAL. İTH. İHR. SAN. TİC. LTD. ŞTİ.
Tekeler Mah. Karahmetoğlu Gölü Keresteciler Sit. Adapazarı, SAKARYA/TURKEY

3.2. Construction

Single action timber door constructions, Single Leaf Timber Doors "**BG DOORLIFE HOTEL, BG DOORLIFE HOUSE** " were mounted in a masonry supporting construction, made of aerated concrete blocks with the mounting clearances dimensions of 1060 x 2200 mm (w x h) and 1060 x 2170 mm (w x h).

The supporting construction was supplied by the test laboratory (Efectis Era Avrasya) and consisted of aerated concrete blocks which have a density of 450 kg/m³ and thickness of 100 mm.

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3.3. Components

3.3.1. Door Nr.1:

3.3.1.1. Door Frame

The frame and jamb were consisted of MDF. Polyurethane based foam was used between the frame and supporting construction. Acrylic sealant was used between the supporting construction and the jamb at both sides and joints of the frame and the jamb. Intumescent seals were used at the contact points of leaf and frame. Smoke seal was used at rebated edge of the frame.

- Type : Frame – MDF(3 layers) ; Density: 770 kg/m³ ; Thickness: 18/12/18 mm
Jamb - MDF ; Density: 770 kg/ m³
- Dimensions :
 - Frame studs : 32/48 x 100 x 2158/2190 mm (w x d x h)
 - Frame header : 32/48 x 100 x 944/1040 mm (w x d x l)
 - Jamb (stud) : 80 x 2260 x 12 mm (w x h x t)
 - Jamb (header) : 80 x 1150/1180 x 12 mm (w x l x t)
- Filler :
 - Type : Polyurethane based fire resistant foam – TYTAN B1
 - Locations : Between the supporting construction and the frame.
- Sealant :
 - Type : EI240 intumescent acrylic sealant – PYROPLEX 2WT310
 - Thickness : 10 mm
 - Locations : Between the supporting construction and the jamb at both sides and joints of the frame and the jamb.
- Seals :
 - Type : Graphite based smoke seal – REDDIPLEX 11301/ HARMONY CORNER 9946
 - Dimensions : 12 x 12 mm (w x t)
 - Locations : Rebated edge of the frame.
 - Type : Graphite based intumescent seal/Rigid box with pile - PYROPLEX 8510
 - Dimensions : 10 x 4 mm (w x t)
 - Locations : Contact points of leaf and frame, at the frame.
 - Type : Graphite based intumescent seal/ Rigid box - PYROPLEX 8500
 - Dimensions : 10 x 4 mm (w x t)
 - Locations : Contact points of leaf and frame, at the frame.

3.3.1.2. Leaf:

The leaf was consisted of MDF at both sides. Door stile and rails softwood and tubular chipboard were used inside the leaf. Threshold seal was fitted in bottom edge of the door leaf.

- Dimensions : 970 x 47 x 2150 mm (w x t x h)
- Outer Layer : MDF ; Density: 770 kg/m³; Thickness: 6 mm (at both sides)

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- Inner Layer :
 - Type : Spruce door stile and rails softwood
 - Dimensions : 35 x 42 mm (t x w)
 - Density : 450 kg/m³.
 - Locations : Inside the leaf, each both sides. (See figures 4-5)
 - Type : Tubular chipboard – SAUERLAND SPANPLATTE – RH 987
 - Dimensions : 35 x 886 mm (t x w)
 - Density : 363 kg/m³
 - Hole diameter: 18 mm
 - Locations : Used was inside the leaf. (See figures 4-5)
- Seal :
 - Type : Threshold seal – PLANET KT FH RD 31109
 - Dimensions : 25 x 13 mm (h x t)
 - Location : In the bottom edge of the door leaf.
 - Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2; Thickness : 1 mm

3.3.1.3. Accessories:

- Hinges :

The leaf was hung on three steel hinges.

 - Type : Stainless steel hinge – METALURGIA PONS 135/1922
 - Dimensions : 14 x 76 x 101 x 3 mm (Ø x w x h x t)
 - Locations : Distance of 375 mm from the bottom of the door to the center, 200 mm distance from the top of the leaf to the center and 500 mm from the center of the top hinge to the center.
 - Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2; Thickness : 1 mm
- Lock :
 - Type : Card-operated lock – MIWA AL5H 072215
 - Dimensions : 20 x 230 mm (w x h)
 - Location : 950 mm distance from bottom of the leaf.
 - Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2; Thickness : 1 mm
- Door closer:
 - Type : Hidden closer – CDC 3800 – OZONE
 - Location : 90 mm distance from edge of the leaf.
 - Leaf gap dimensions for inside side: 275 x 75 x 30 mm (w x h x t)
 - Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2; Thickness : 1 mm
- Door viewer:
 - Type : Fire resistant door viewer – QUPUOPTIC 4014
 - Diameter : 20 mm
 - Location : 1520 mm from the sill.
 - Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2; Thickness : 1 mm

For detailed information see figure 1-5.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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3.3.2. Door Nr.2:**3.3.2.1. Door Frame**

The frame and jamb were consisted of MDF. Polyurethane based foam was used between the frame and supporting construction. Acrylic sealant was used between the supporting construction and the jamb at both sides and joints of the frame and the jamb. Intumescent seal was used at the contact points of leaf and frame. Smoke seal was used at rebated edge of the frame.

- Type : Frame – MDF(3 layers) ; Density: 770 kg/m³ ; Thickness: 18/12/18 mm
Jamb - MDF ; Density: 770 kg/ m³
- Dimensions :
 - Frame studs : 32/48 x 100 x 2128/2158 mm (w x d x h)
 - Frame header : 32/48 x 100 x 952/1036 mm (w x d x l)
 - Jamb (stud) : 80 x 2228 x 12 mm (w x h x t)
 - Jamb (top) : 80 x 1150/1176 x 12 mm (w x l x t)
- Filler :
 - Type : Polyurethane based fire resistant foam – TYTAN B1
 - Locations : Between the supporting construction and the frame.
- Sealant :
 - Type : EI240 intumescent acrylic sealant – PYROPLEX 2WT310
 - Thickness : 10 mm
 - Locations : Between the supporting construction and the jamb at both sides and joints of the frame and the jamb.
- Seals :
 - Type : Graphite based smoke seal – REDDIPLEX 11301/ HARMONY CORNER 9946
 - Dimensions : 12 x 12 mm (w x t)
 - Locations : Rebated edge of the frame.
 - Type : Graphite based intumescent seal/ Rigid box - PYROPLEX 8700
 - Dimensions : 15 x 4 mm (w x t)
 - Locations : Contact points of leaf and frame, at the frame.

3.3.2.2. Leaf:

The leaf was consisted of MDF at both sides. Door stile and rails softwood and chipboard without tubular were used inside the leaf.

- Dimensions : 970 x 44 x 2120 mm (w x t x h)
- Outer Layer : MDF ; Density: 770 kg/m³; Thickness: 3 mm (at both sides)
- Inner Layer :
 - Type : Spruce door stile and rails softwood
 - Dimensions : 38 x 42 mm (w x h)
 - Density : 450 kg/m³
 - Locations :Inside the leaf, each both sides.(See figure 9-10)

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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- Type : Chipboard without tubular – SAUERLAND SPANPLATTE - 38 VL
 - o Dimensions : 38 x 884 mm (t x w)
 - o Density : 490 kg/m³
 - o Locations : Used was inside the leaf. (See figure 9-10)

3.3.2.3. Accessories:**• Hinges :**

The leaf was hung on three steel hinges.

- Type : Stainless steel hinge– METALURGIA PONS 135/1922
 - o Dimensions : 14 x 76 x 101 x 3 mm (Ø x w x h x t)
 - o Locations : Distance of 350 mm from the bottom of the door to the center, 200 mm and 700 mm from the top of the leaf to the center respectively.
 - o Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2,Thickness : 1 mm

• Lock :

- Type : Mortise lock with barrel – ASSA ABLOY 1050
 - o Dimensions : 24 x 235 mm (w x h)
 - o Location : 1100 mm distance from bottom of the leaf.
 - o Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2,Thickness : 1 mm

• Door handle:

- Type : Fire resistant steel door handle – ASSA ABLOY AHW500UU00
 - o Location : 950 mm distance from the bottom of the leaf.
 - o Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2,Thickness : 1 mm

• Door viewer:

- Type : Fire resistant door viewer – QUPUOPTIC 4014
 - o Diameter : 20 mm
 - o Location : 1520 mm from bottom of the door sill.
 - o Insulation : Silicate based intumescent sheet – PYROPLEX PMFS2,Thickness : 1 mm

For detailed information see figure 6-10.

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4. PRE-TEST PROCESSES

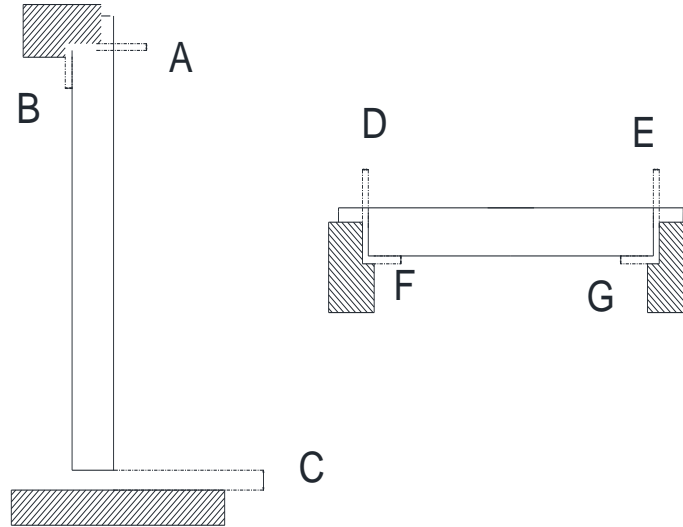
4.1. Verification of specimen

Efectis Era Avrasya A.S. randomly picked one of the two identical specimens delivered by the sponsor as the test specimen and kept the other one for further examination for each type. Materials and parts used on the test specimens and montage detail were verified against the data and drawings supplied by the customer, during installation.

The test specimen was assembled by the sponsor.

Brand, type, quantity and dimension information of the components, when it is not possible to be verified by the laboratory, are given according to the sponsor's declaration and the responsibility belongs to the sponsor. The test specimens are tested as received from the sponsor (when the laboratory does not carry out sampling).

4.2. Gap measurements



Door Nr.1	A	B	C	D	E	F	G
First	2,0	3,0	5,0	3,0	2,0	3,0	3,0
Middle	3,0	3,0	6,0	4,0	2,0	2,0	3,0
Third	4,0	3,0	6,0	3,0	2,0	2,0	4,0
Door Nr.2	A	B	C	D	E	F	G
First	3,0	2,0	5,0	2,0	3,0	2,0	3,0
Middle	4,0	3,0	5,0	2,0	3,0	2,0	2,0
Third	5,0	4,0	5,0	2,0	4,0	2,0	3,0

Dimensions in mm.

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4.3. Self-closing test

The functionality tests of the door have been made before the fire resistance test by both laboratory and customer.

Closing force of the leaf of doorset:

Door Nr.1 : 20 N

Door Nr.2 : No door closer force

The leaves of doors were submitted to 25 opening/closing operations under normal speed. No visible disorder was noted after this test.

4.4. Direction of fire

The test was performed with opening into the fire.

4.5. Conditioning

The construction was stored in the laboratory of Efectis Era Avrasya A.S. under the following conditions:

- Temperature : $22 \pm 2,1$ °C
- Relative humidity : $54,5 \pm 2$ %.

5. TEST PROCESS

5.1. Method

The fire test was conducted according to the EN 1634-1:2014+A1:2018.

The heating of the furnace followed the standard fire curve, as specified in the EN 1363-1:2020.

The target overpressure in the furnace was 0 Pa at 500 mm above floor level and 20 Pa at the top of the test specimen.

5.2. Measurements

Following test data were measured during the test:

- Ambient temperatures inside the furnace with six plate thermocouples (Furnace TC1 to Furnace TC6), evenly distributed over the directly heated surface (see figure A1).
- The pressure in the furnace, measured at sill level and a height of 2,9 meter above the furnace floor level (see figure A3).
- Ambient temperature in the laboratory (see figure A4).
- The surface temperatures on the unexposed side of the test specimen (TC3 up to TC36), see figure B2-B5).
- There was no need to use roving thermocouple
- The deformation of the test specimen (See Figure B6-B7)
- The positions of the thermocouple and displacement measurements are given in figure B1.

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6. OBSERVATIONS

Table 1: Observations during heating.

0	Heating was started.
3	Smoke release between leaf and frame for both doors.
10	Short-time flaming at the sill of Door Nr.2, $t_f \approx 1$ s.
20	Smoke release from the lock side for both doors.
27	Blackening at the door viewer side for Door Nr.2.
44	Opening at the right top edge of Door Nr.1, cotton pad was applied. No flaming.
47	Opening at the right top edge of Door Nr.1, cotton pad was applied. Ignition occurred, integrity (E) failed for the Door Nr.1.
51	Temperature increased at Thermocouple Nr.29, $\Delta T \geq 180$ °C. I_1 failed for Door Nr.2
53	Sustained flaming at the left top edge of Door Nr.2, $t_f > 10$ s. Integrity (E) failed for the Door Nr.2.
54	Test was terminated due to the failure of integrity.

 t_f : Flaming time**7. TEST RESULTS****7.1 Results**

The results are given in Table 2.

During the heating the temperature in the laboratory complied with the EN 1363-1:2020.

7.2 Uncertainty of measurements

Due to the nature of fire resistance testing, in which several non-linear effects are present in both the test configuration and the test specimen, which influence each other, it is at this moment not yet possible to give a stated degree of uncertainty of measurement.

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8. SUMMARY

The most important results of the examination are given in table 2.

Table 2: Summary of test results of the test specimen

	Door Nr.1.	Door Nr.2.
Integrity, (E) – Cotton pad – Gap gauges Ø 6 mm Ø 25 mm – Flames longer than 10 sec.	47 th minute no failure (not applied) no failure (not applied) no failure (not observed)	no failure(not applied) no failure (not applied) no failure (not applied) 53 rd minute
Insulation:, [I] – average temperature – maximum temperature	47 th minute (due to the failure of integrity) 47 th minute (due to the failure of integrity)	51 th minute for I ₁ . (TC 29) 53 rd minute (due to the failure of integrity)
The heating was terminated at 54 th minute due to the failure of the integrity.		

9. FIELD OF DIRECT APPLICATION OF TEST RESULTS**9.1 General**

This report details the method of construction, the test conditions and the results obtained when the specific elements of construction described herein was tested following the procedure outlined in EN 1363-1:2020, and when appropriate EN 1363-2:1999. Any significant deviation with respect to size, constructional details, load 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.

Except if otherwise specified hereafter, the design of the door-unit shall be identical to that of the test specimen. It is not allowed to modify the number of door leaves and the operating mode (e.g. swing door or pivoted door, single or double acting door).

9.2 Specific Restrictions Concerning Materials and Structures**9.2.1 Timber constructions**

It is not allowed to decrease the thickness of the door leaf or leaves but it is allowed to increase provide increase in weight up to 25%.

It is not allowed to change the composition (e.g. type of resin) of timber based products (e.g. particle board, block board etc.).

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It is not allowed to reduce dimensions and/or the density of the timber frames but it is allowed to increase dimensions and/or the density of the timber frames.

9.2.2. Decorative coatings

9.2.2.1. Paint

Where the paint finish is not expected to contribute to the fire resistance of the door, alternative paints are acceptable and can be added to door leaves or frames for which unfinished test specimens were tested. Where the paint finish contributes to the fire resistance of the door (e.g. intumescent paints) then no change is allowed.

9.2.2.2. Timber veneers

Decorative laminates and timber veneers up to 1,5 mm thickness are allowed to be added to the faces (but not the edges) of leaves and frames in door-sets which satisfy the insulation criteria (Allowed for only: Door Nr.1: EI₁45, EI₂45; Door Nr.2: EI₁45, EI₂45).

9.2.3. Fixings

It is permitted to increase the number of fasteners used to attach the fire resistant doors onto the supporting structures but it is not allowed to be reduced, and it is allowed to reduce the distance between the fasteners but it is not allowed to be increased.

9.2.4. Hardware

It is allowed to increase the number of movement-limiting devices such as locks, bolts and hinges but it is not allowed to be reduced.

Where self-closing characteristics are not required, it is allowed to remove closing device.

9.3 Permissible Size Variations

9.3.1 General

Doors with dimensions which are different from those of the test specimens shall be permitted within some extent, but variations depend on the type of product and on the time during which the fire resistance criteria are met.

The increase and decrease of dimensions permitted by the field of direct application are applicable to the overall size of each leaf, each side panel, each transom panel and each over panel independently and including ant rebates which may be present on the leaf or panel.

The limits of permitted size variation are given in Annex B of the standard EN 1634-1:2014+A1:2018.

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9.3.2 Dimension variations according to the type of product

9.3.2.1. Permissible dimension variations of the leaf

The amount of variation of size permitted is dependent on whether the classification time was just reached (category 'A') or whether an extended time (category 'B' overrun) in accordance with the following values was fulfilled before the test was concluded.

Classification time	All performance criteria fulfilled for at least
15 minutes	18 minutes
20 minutes	24 minutes
30 minutes	36 minutes
45 minutes	52 minutes
60 minutes	68 minutes

Consequently, increase of the dimension is only valid in case of related performance about "Category B overrun" is achieved in Clause 8, Table 2.

The 'Category A' and 'Category B' classification of the samples "BG DOORLIFE HOTEL, BG DOORLIFE HOUSE" is given in the classification report (EEA – 20 – 164).

a) Category A classification:

Unlimited size reduction is permitted for timber doors (hinged or pivoted). Size increase is not permitted.

b) Category B classification:

Overall dimension of the leaf	DOOR Nr.1		DOOR Nr. 2	
	Min.	Max.	Min.	Max.
Height	Unlimited	2472,5 mm (%15)	Unlimited	2438 mm (%15)
Width	Unlimited	1115,5 mm (%15)	Unlimited	1115,5 mm (%15)
Area	-	2,50 m ² (%20)	-	2,46 m ² (%20)

Size increases are only allowed for the door-sets provided that used with the gaps indicated in the table below:

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	Average measured	Maximum measured	Practical maximum allowed
Door Nr.1.			
A	3.0	4.0	5.50
B	3.0	3.0	5.00
C	5.7	6.0	7.83
D	3.3	4.0	5.67
E	2.0	2.0	4.00
F	2.3	3.0	4.67
G	3.3	4.0	5.67
Door Nr.2.			
A	4.0	5.0	6.50
B	3.0	4.0	5.50
C	5.0	5.0	7.00
D	2.0	2.0	4.00
E	3.3	4.0	5.67
F	2.0	2.0	4.00
G	2.7	3.0	4.83

9.3.2.2. Other changes

For doors with smaller dimensions, the relative position of the movement-limiting devices (e.g. hinges, bolts, etc.) shall remain identical to that of the test specimen, or any modification in the distance between them shall be limited to the same reduction percentage as the dimension reduction of the test specimen.

It is not allowed to change the relative position of the movement-limiting devices (Hinges, bolts, etc.). It is permitted to modify the distance with the same percentage for the reduction of the test specimen.

For larger doorset sizes the following also must be applied (Category B):

- 1) The height of the latch above floor level must be equal to or greater than the tested height, and the maximum of any change in height must be proportional to the increase in doorset height;
- 2) The distance of the top hinge from the top of door leaf must be equal to or less than that tested;
- 3) The distance of the bottom hinge from bottom of door leaf must be equal to or less than that tested.
- 4) For three hinges or distortion preventers are used, the distance between bottom of the door leaf and center restraint must be equal to or greater than tested.

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9.3.2.3. Timber construction

It is not allowed to change the number, size, location and orientation of any joints in the timber framing.

It is not allowed substitute with alternatives of lesser thickness or strength for decorative timber veneers that have more than 1.5 mm thick or other claddings which themselves provide constructive benefits are part of the test specimen.

9.4 Direction of Fire

The fire resistance behavior specified in section 8 of this test report shall be valid for only the following direction of fire:

Door Nr.1 & Door Nr.2 :

- Integrity : Opening away from the fire and towards to fire.*
- Thermal insulation : Opening away from the fire and towards to fire.*

* Classifications for the direction "opening away from the fire" is valid as long as the conditions below are met:

- That each of the door leaves are themselves of symmetrical construction with the exception of the edges (e.g. lock/leading edge and hinge edge or double rebated doors)
- That any restraining/supporting elements of building hardware has been included in a test to EN 1634-1 when exposed in both directions so that they will retain their function when exposed to the heat of the test
- That there is no change in the number of leaves or the mode of operation (e.g. sliding, swinging, single action or double action)
- That side, over and transom panels are excluded from Table 2 unless they are fully symmetrical

9.5 Supporting Construction

Aerated concrete block with a density of at least 450 kg/m³, having a thickness of at least 100 mm.

Rigid construction with a minimum EI45 classification according to EN 13501-2:2016 standard.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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10. DRAWINGS

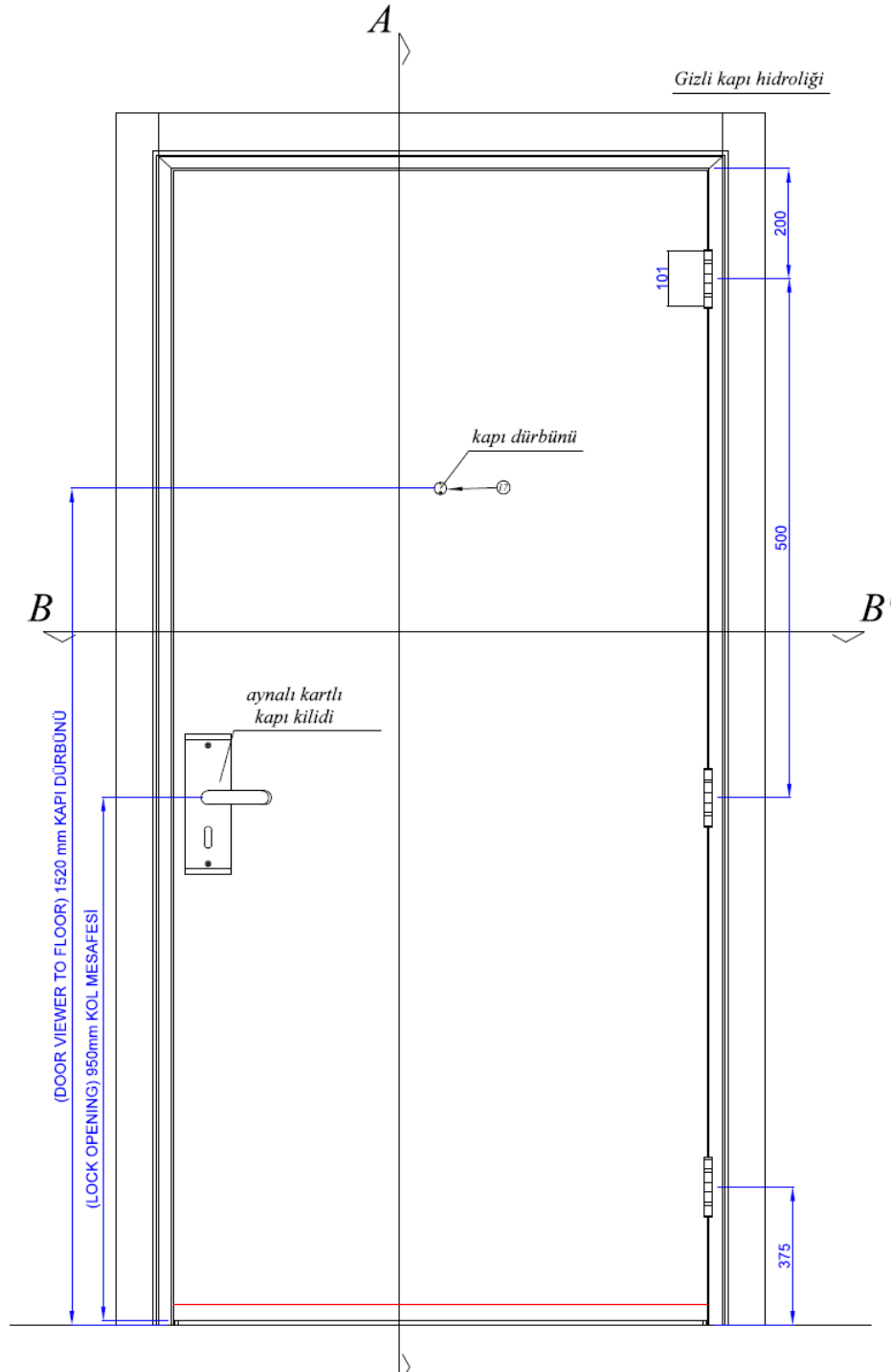


Figure 1: Accessories locations of Door Nr.1.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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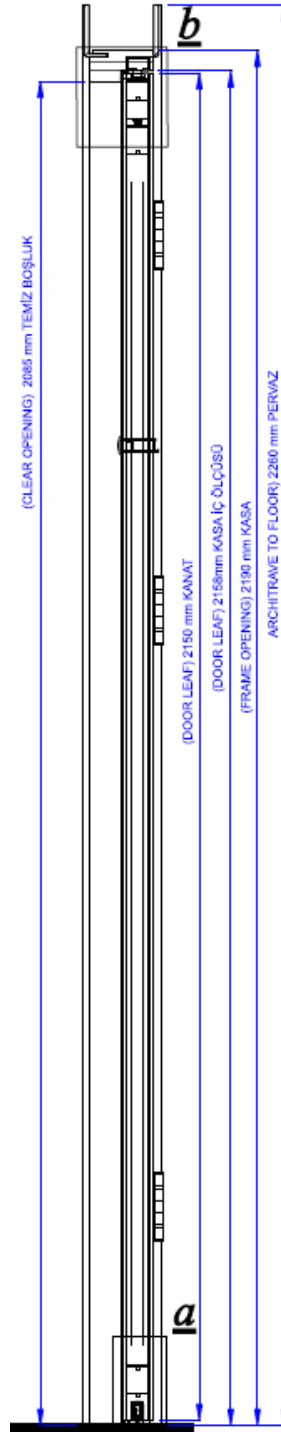


Figure 2: Longitudinal section view of the Door Nr.1.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Figure 3: Cross section view of Door Nr.1.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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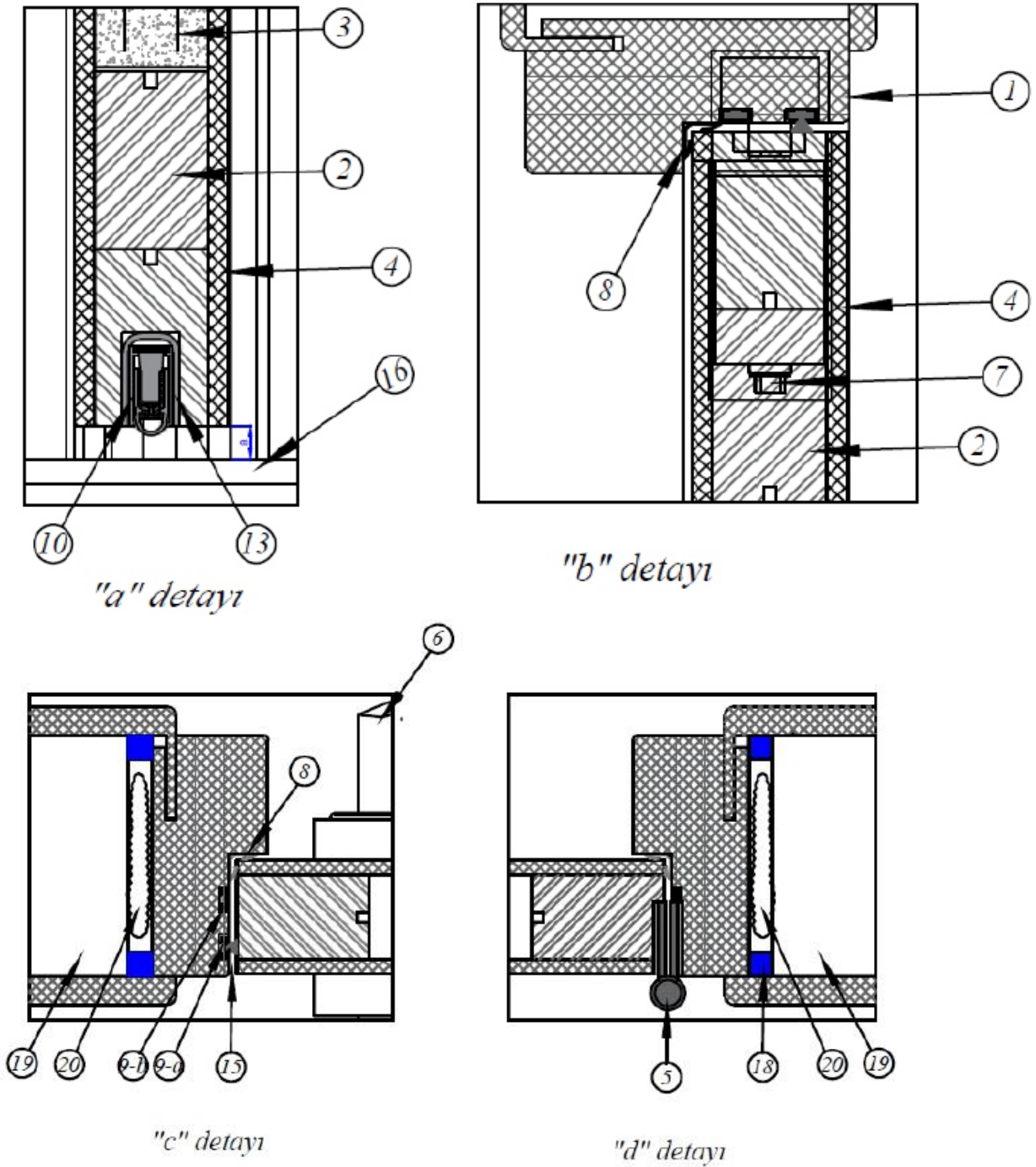


Figure 4: Sectional details of Door Nr.1.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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SIRA NO	ÜRÜN ADI	PRODUCT	ÜRÜN KODLARI ve TEKNİK ÖZELLİKLERİ/PRODUCT CODES AND SPECIFICATION
1-	MDF kapı kasası	MDF door frame (770 kg/m ³)	MDF (770kg/m ³) 18+12+18mm
2-	Kapı sereni	Stile and rails softwood (400-450 kg/m ³)	Kökner, ladın vb. 35x42mm (400-450kg/m ³)
3-	Kapı iç dolgu-çelikli okal levha	Tubular chipboard Sauerland 35RH 363/kg m ³ holl Ø 18 mm	Sauerland 35RH (363 kg/m ³) Delikli yoğunluğu, delik çapı 188 mm)
4-	Kapı yüzeyi	Door skin 6mm MDF (770 kg/m ³)	MDF (770kg/m ³), 6 mm
5-	Menteşe	Butt hinges	Metahrgia Pens 135/1922 Test no 1239
6-	Otel kilidi	Hotel lock	MIWA AL5H 072215
7-	Gizli kapatıcı	Concealed closer	Ozone CDC 3800
8-	Soguk duman fitili	Smoke seal	Reddiplex 11301/ Hormony Corner (9946 12x12 mm)
9a-	İntumesan fitil fırçalı	Intumescent seal / Rigid box with pile	Pyroplex 8510 (10x4 mm fırçalı fitil)
9b-	İntumesan fitil fırçasız	Intumescent seal / Rigid box	Pyroplex 8500 (10x4 mm fırçasız fitil)
10-	Kapı altı giyotini	Down drop seal	Planet KT FH RD 31109
11-	Kasa duvar arası boşluk 10mm	Masonry between frame gap / 10 mm	
12-	Pervaz	Casing / 100x12 mm MDF (770kg/m ³)	MDF (770kg/m ³), 100x12 mm
13-	Metal aksesuar gıtesi,yangın pedi	Intumescent metal accessory sheet	Pyroplex PMFS2, 1 mm
14-	İç dolgu çalışma boşluğu 2mm	Door core between stiles gap 2mm	
15-	Kanat ile kasa arası boşluk 3mm	Door leaf between frame opening	
16-	Kanat ile zemin arası boşluk 8mm	Door leaf between floor opening	
17-	Kapı dürbünü	Door viewer	Optuoptic 4014 / 40-60
18-	EI240 intumesan akrilik mastik	EI240 intumescent acrylic mastic	Pyroplex 2WT310
19-	Duvar	Drywall	
20-	B1 Poliüretan köpük	B1 polyurethane	Tytan B1

Figure 5: Materials list of Door Nr.1.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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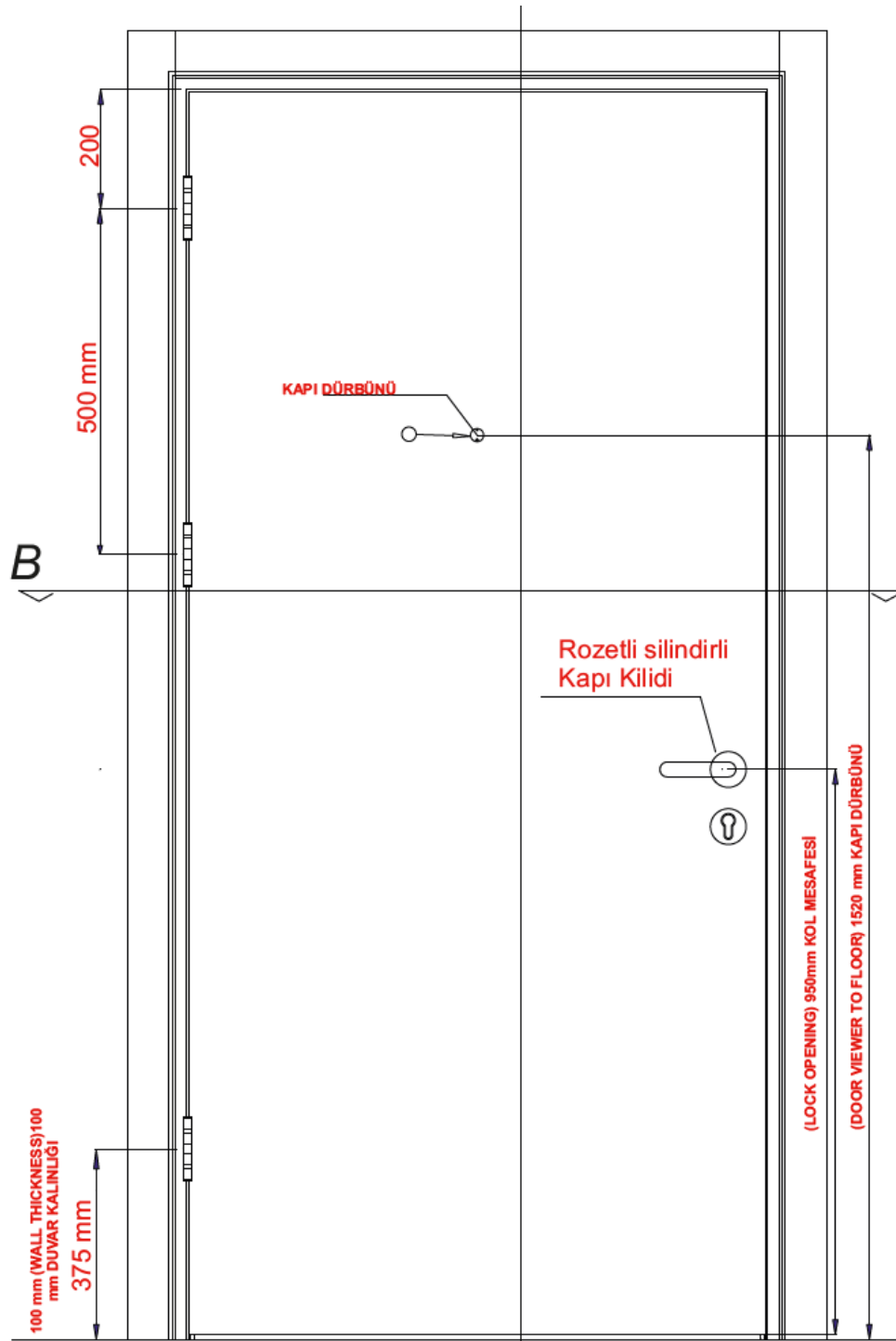


Figure 6: Locations of accessories of Door Nr.2.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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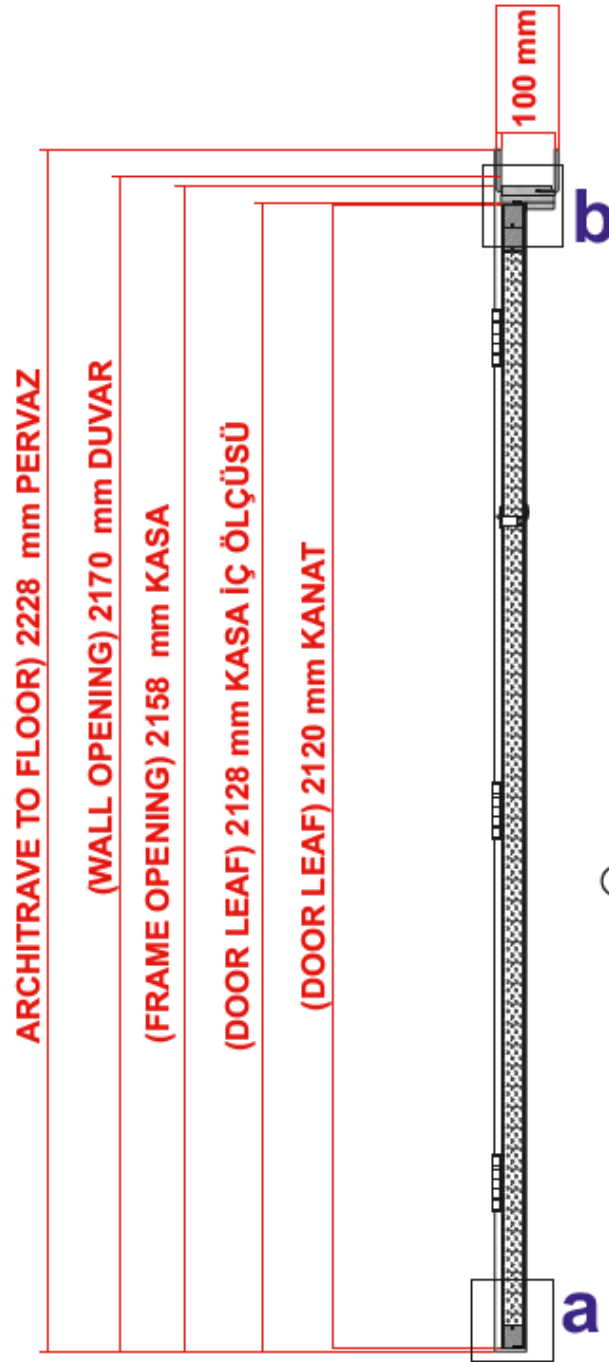


Figure 7: Vertical view of the Door Nr.2.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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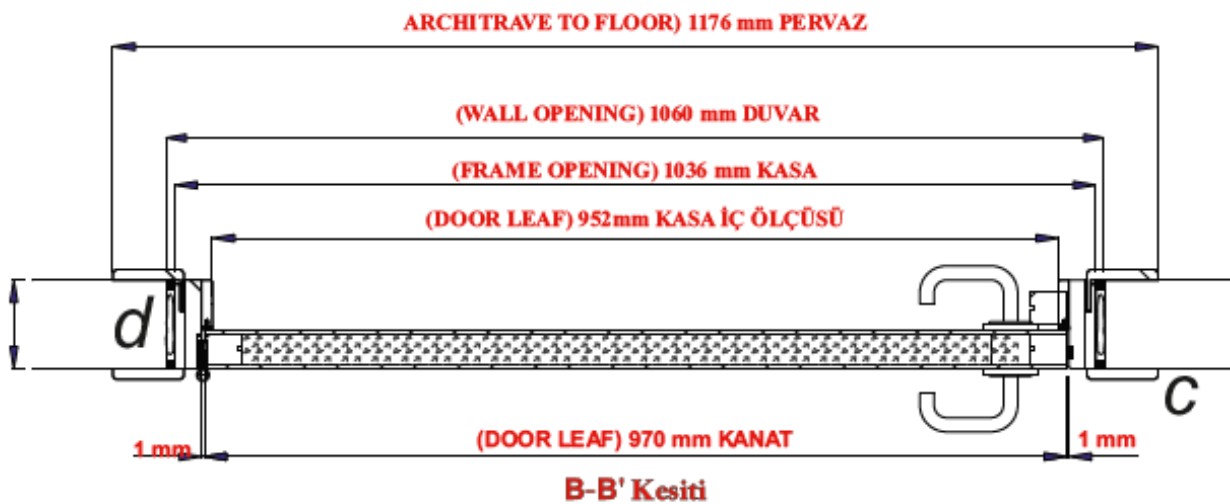


Figure 8: Cross section view of Door Nr.2

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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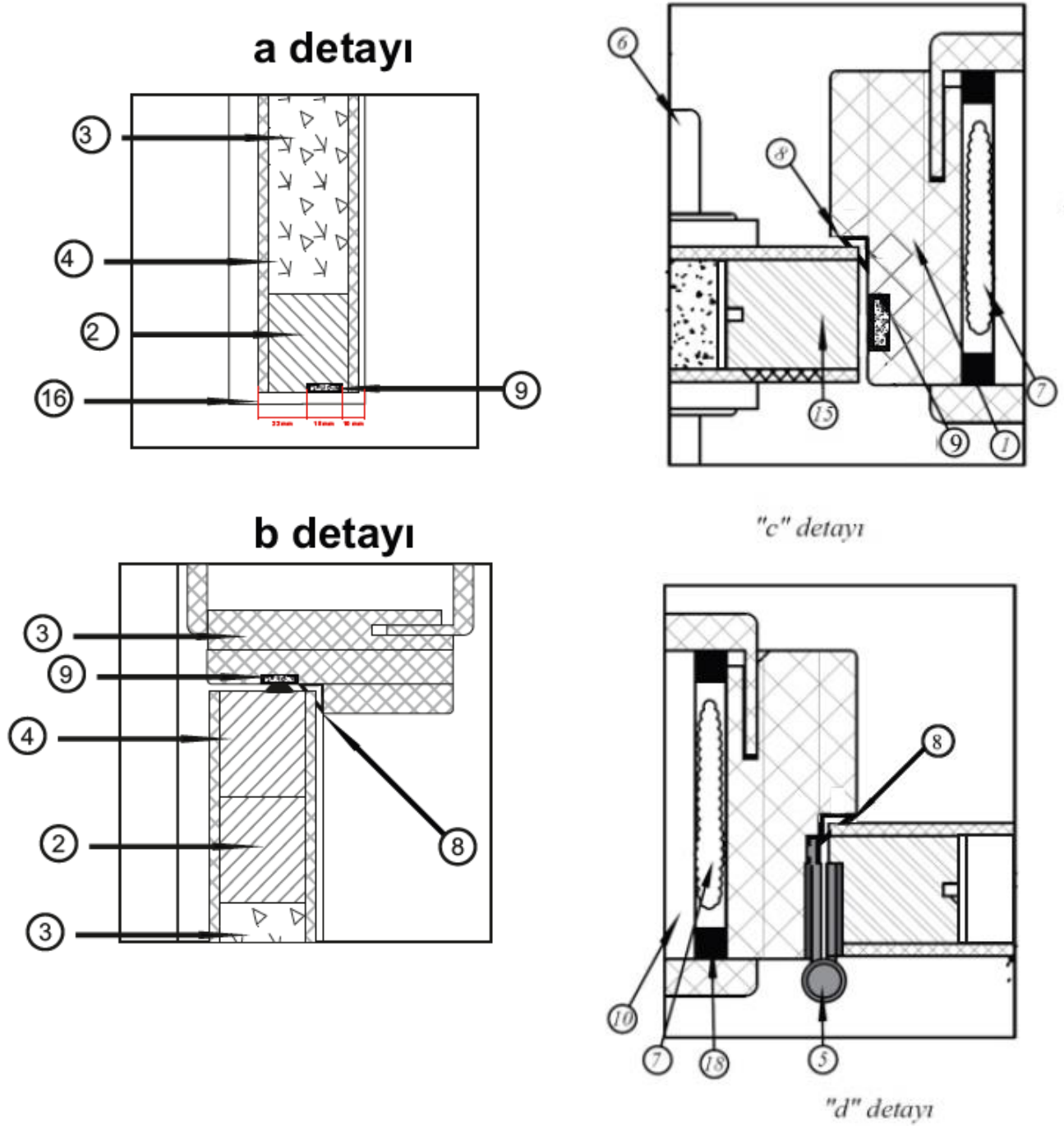


Figure 9: Sectional details of Door Nr.2.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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SIRA NO	ÜRÜN ADI	PRODUCT	ÜRÜN KODLARI ve TEKNİK ÖZELLİKLERİ/PRODUCT CODES AND SPECIFICATION
1-	MDF kapı kasası	MDF door frame (770 kg/m ³)	MDF (770kg/m ³)12+18+12 mm
2-	Kapı sereni	Stile and rails softwood (400-450 kg/m ³)	Kökmar, ladın vb.38x42 mm (400-450kg/m ³)
3-	Kapı iç dolgu-deliksiz okal levha	SAUERLAND 38VL Solid Board	SAUERLAND 38VL (490 kg/m ³)
4-	Kapı yüzeyi	Door skin 3mm MDF (770 kg/m ³)	MDF (770kg/m ³), 3 mm
5-	Menteşe	Butt hinges	Metalurgia Pons 135/1922 Test no 1239
6-	Silindirik kilidi	Cylinder lock	ASSA ABLOY 1050
7-	B1 Poliüretan köpük	B1 polyurethane	Tytan B1
8-	Soğuk duman fitili	Smoke seal	Reddiplex 11301/ Harmony Corner (9946) 12x12 mm
9-	İntumesan fitil fırçasız	Intumescent seal / Rigid box	Pyroplex 8700 15x4 mm fırçasız fitil
10-	Dıvar	Drywall	
11-	Kasa duvar arası boşluk 10mm	Masonry between frame gap / 10 mm	
12-	Pervaz	Casing / 100x12 mm MDF (770kg/m ³)	MDF (770kg/m ³), 100x12 mm
13-	Metal aksesuar şiltesi, yangın pedi	Intumescent metal accessory sheet	Pyroplex PMFS2, 1 mm
14-	İç dolgu çalışma boşluğu 2mm	Door core between stiles gap 2mm	
15-	Kanat ile kasa arası boşluk 3mm	Door leaf between frame opening	
16-	Kanat ile zemin arası boşluk 5mm	Door leaf between floor opening	
17-	Kapı diirbini	Door viewer	Optuoptic 4014 / 40-60
18-	EI240 intumesan akrilik mastik	EI240 intumescent acrylic mastik	Pyroplex 2WT310 (10mm)
19-	Kapı Kolu	Handel	Assa Abloy AHW500UU00 Yuvarlak rozetli kol seti

Figure 10: Materials list of Door Nr.2.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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APPENDIXES:

Appendix A: Furnace and laboratory conditions

Appendix B: Test results

Appendix C: Photos

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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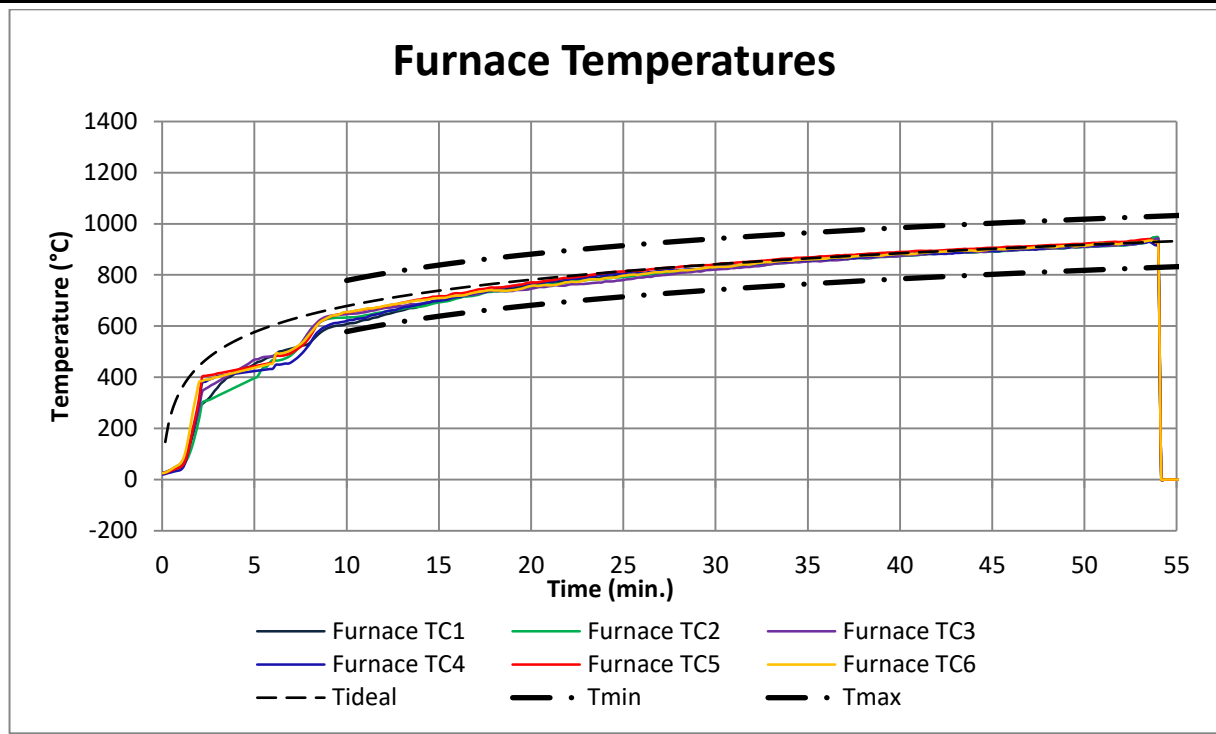


Figure A1: Furnace Temperatures

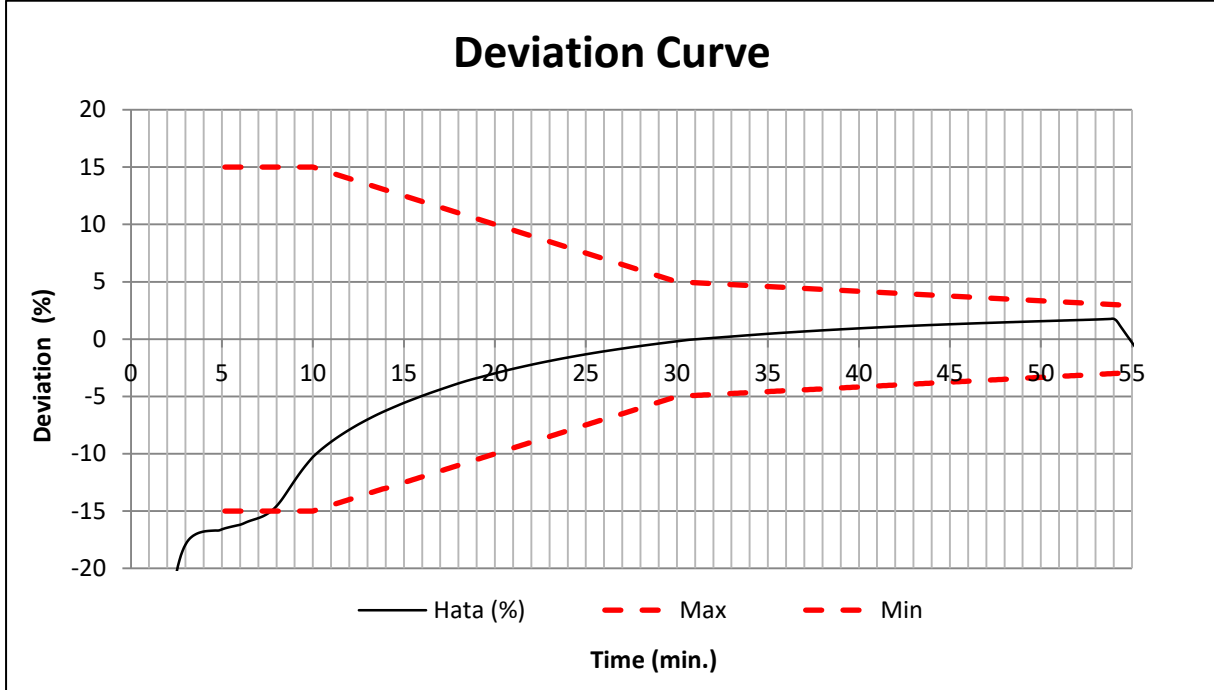


Figure A2: Deviation of furnace temperature.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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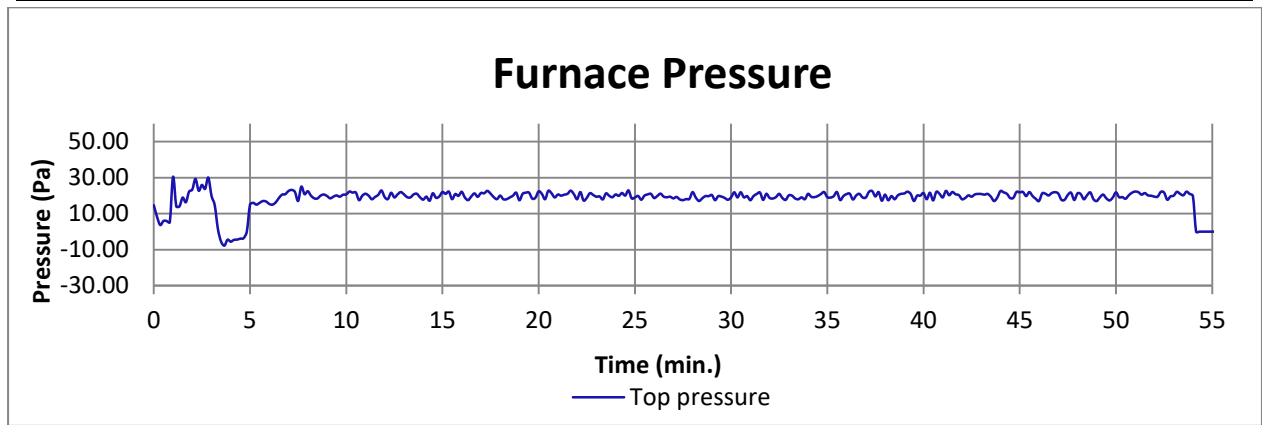


Figure A3: Pressure in the furnace

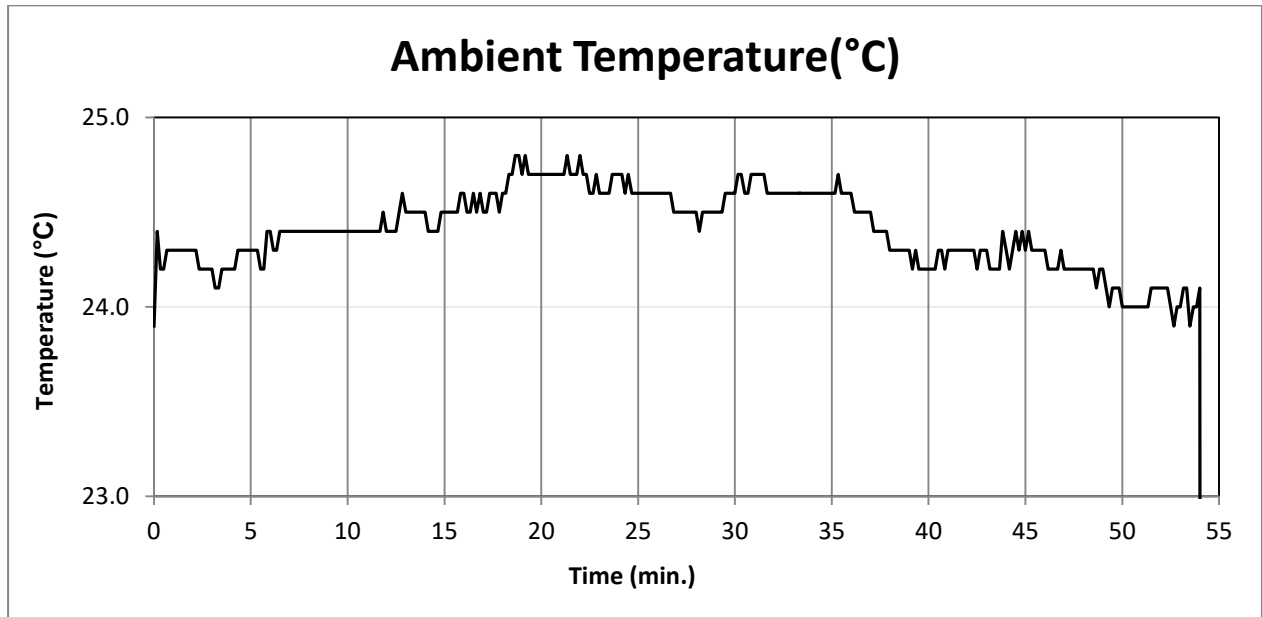


Figure A4: Ambient temperature at laboratory

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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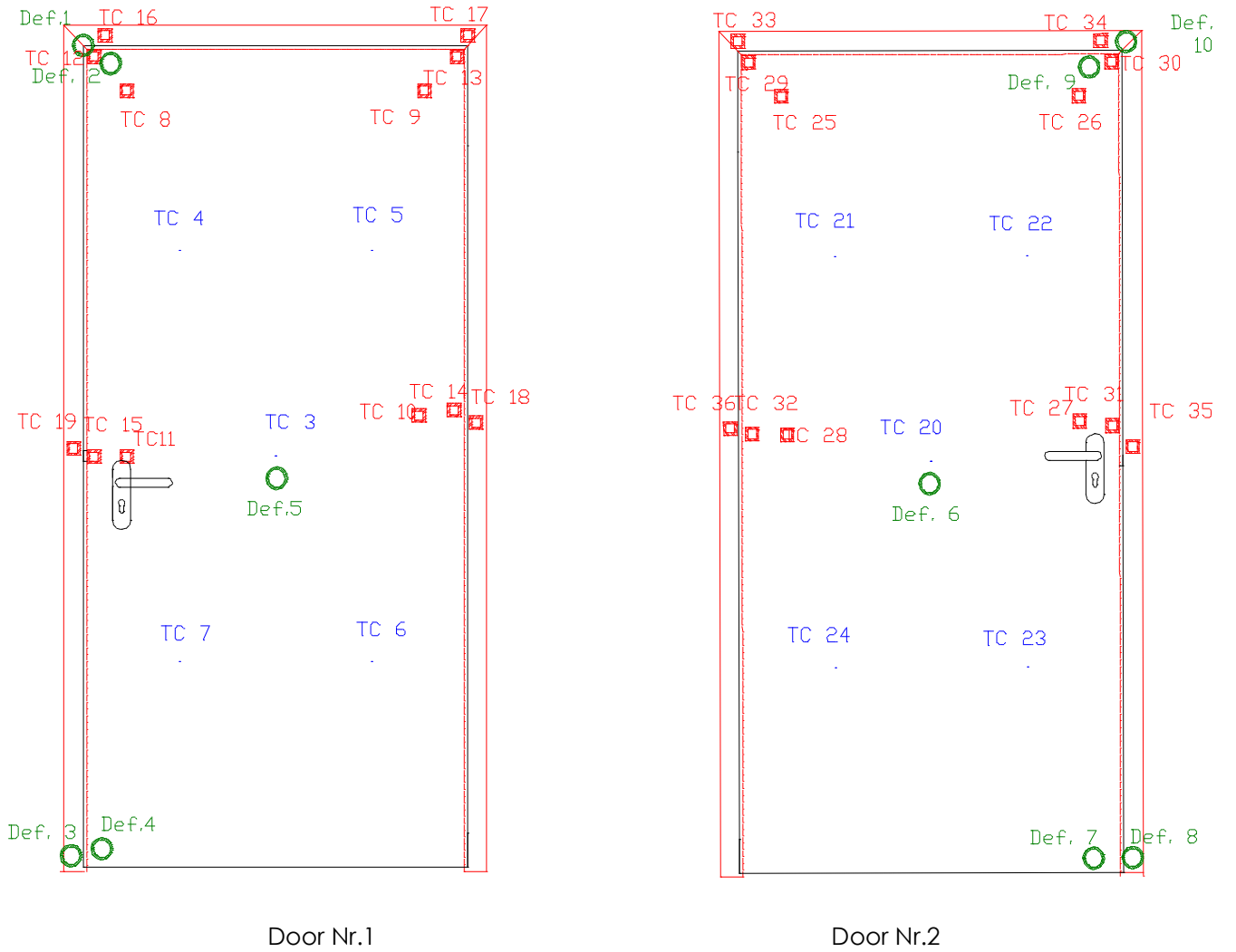


Figure B1: Locations of thermocouples and deflection sensors.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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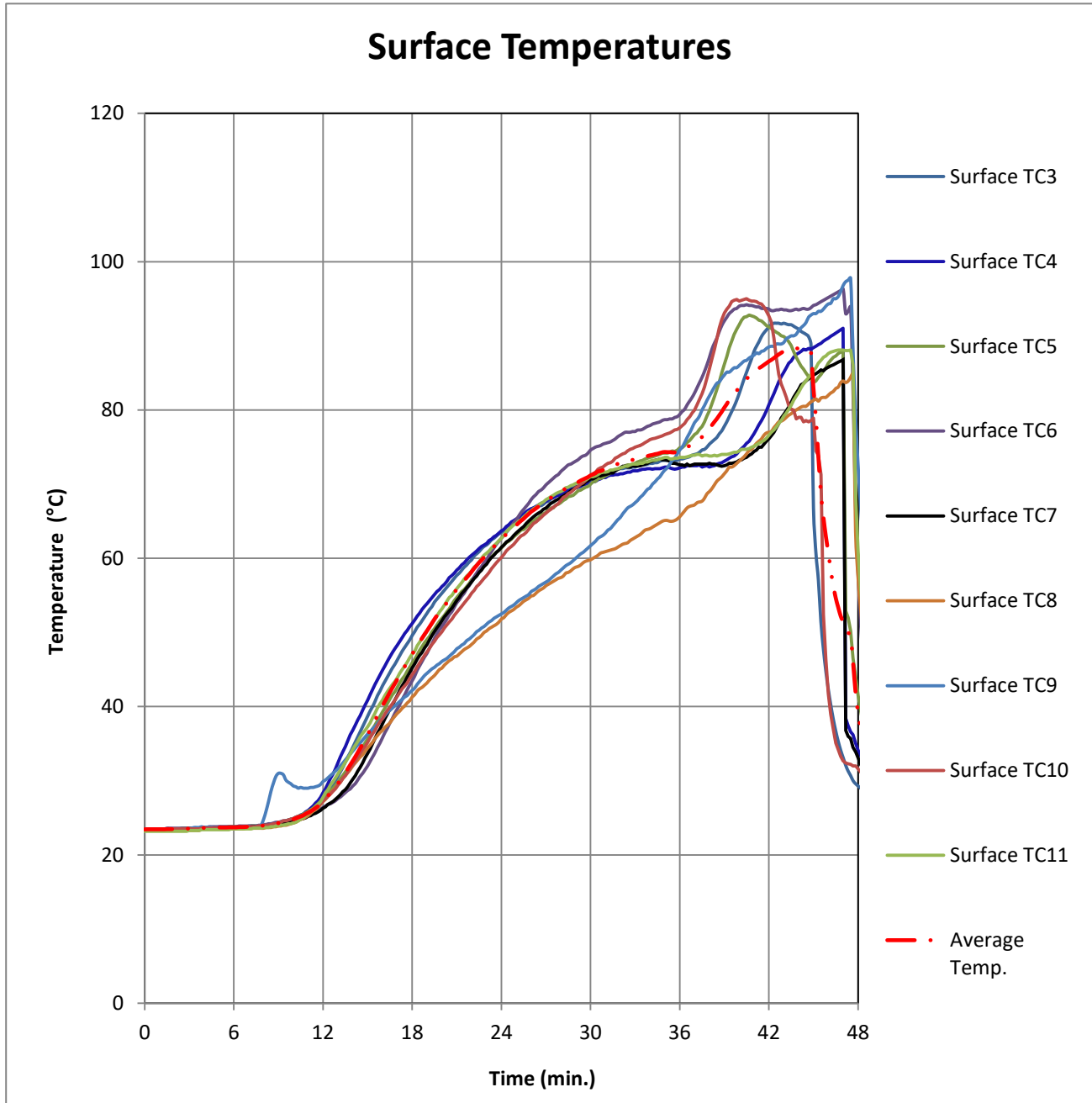


Figure B2: Surface temperatures of the Door 1. (TC3 – TC11 and avg. temperature).

*TC4 and TC10 were fell at 44th minute.

* Integrity of Door Nr.1 failed at 47th minute.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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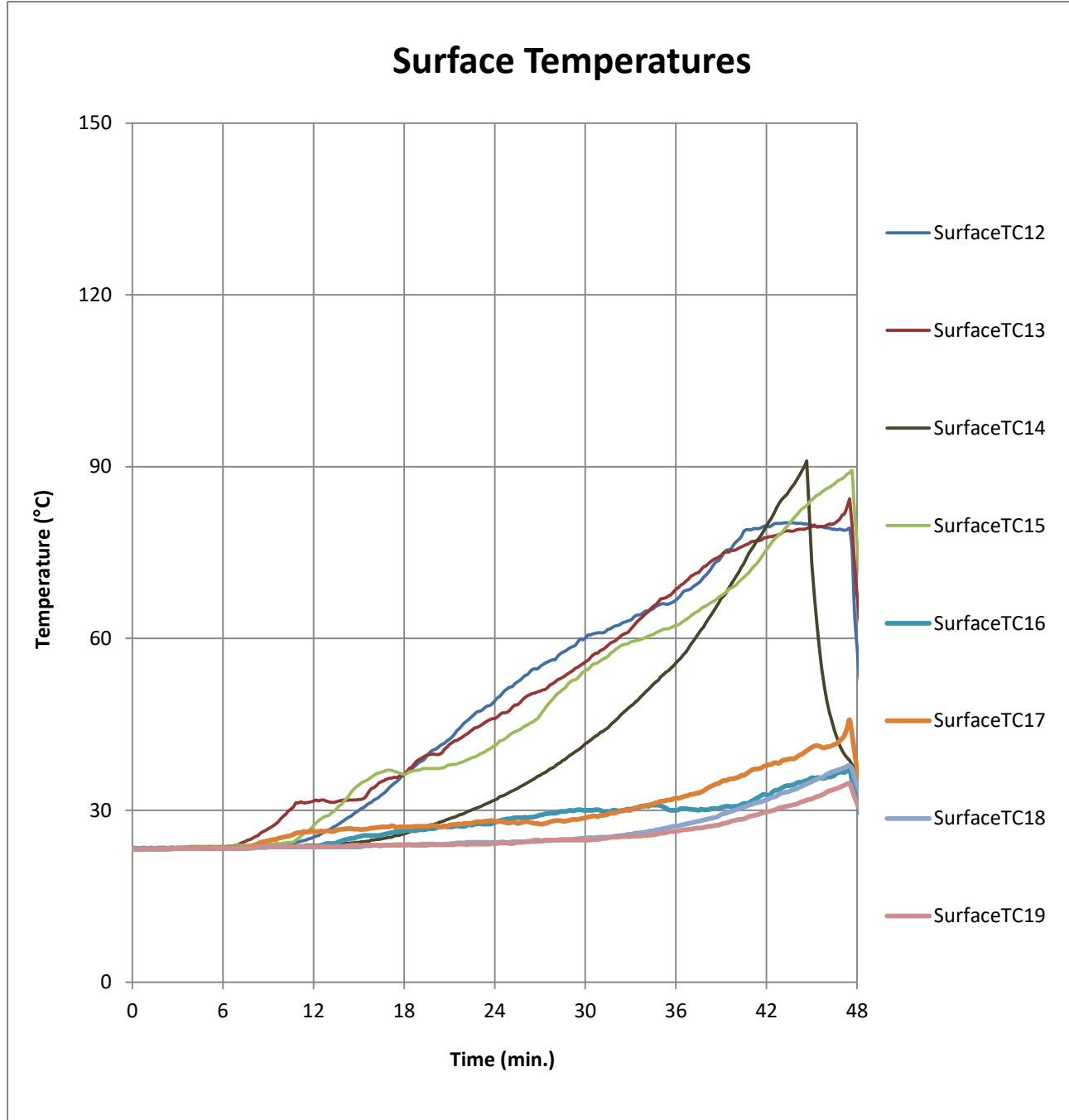


Figure B3: Surface temperatures of the Door 1. (TC12 – TC19).

*TC14 was fell at 44th minute.

* Integrity of Door Nr.1 failed at 47th minute.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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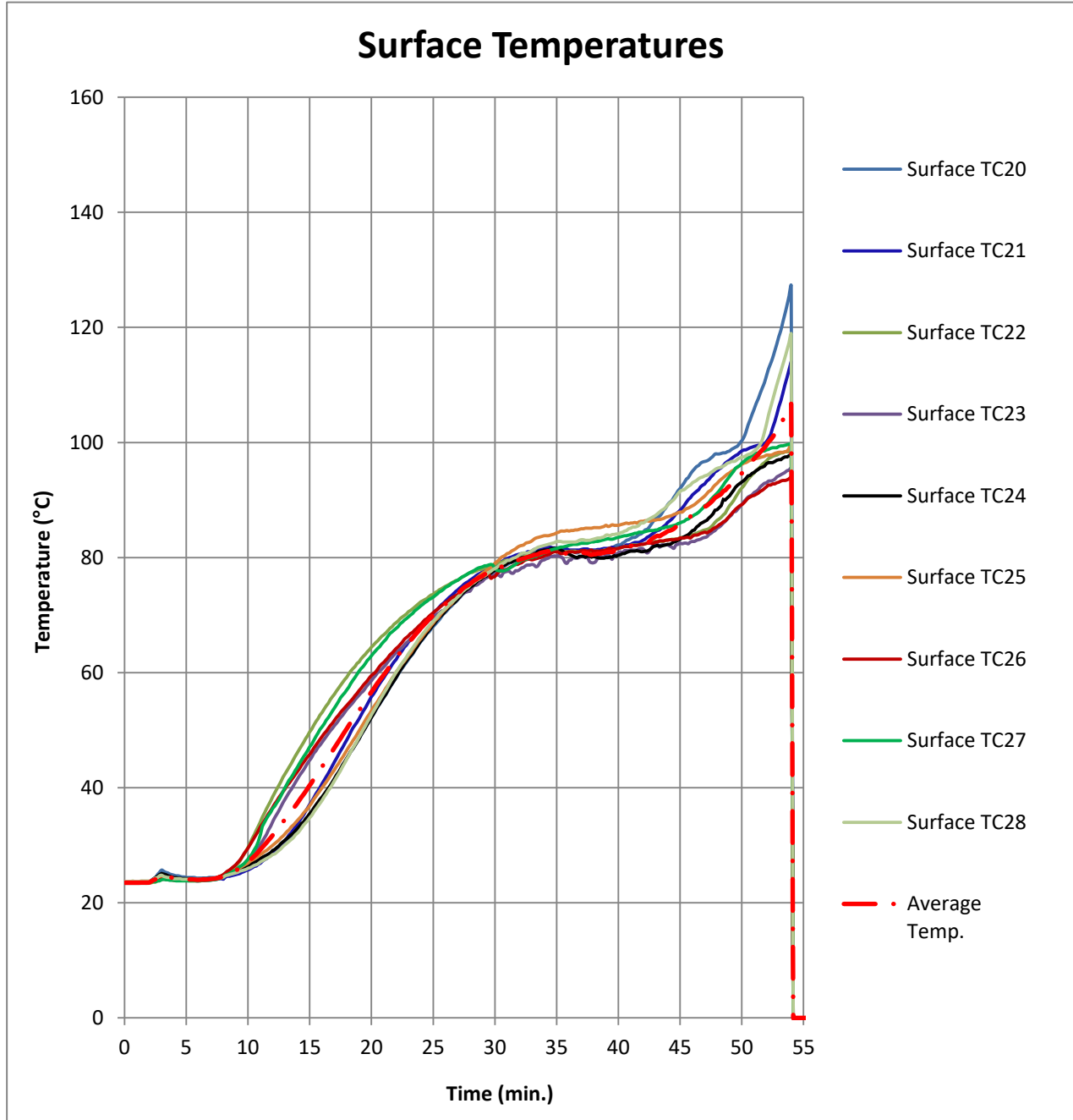


Figure B4: Surface temperatures of the Door 2. (TC20 – TC28 and avg. temperature).

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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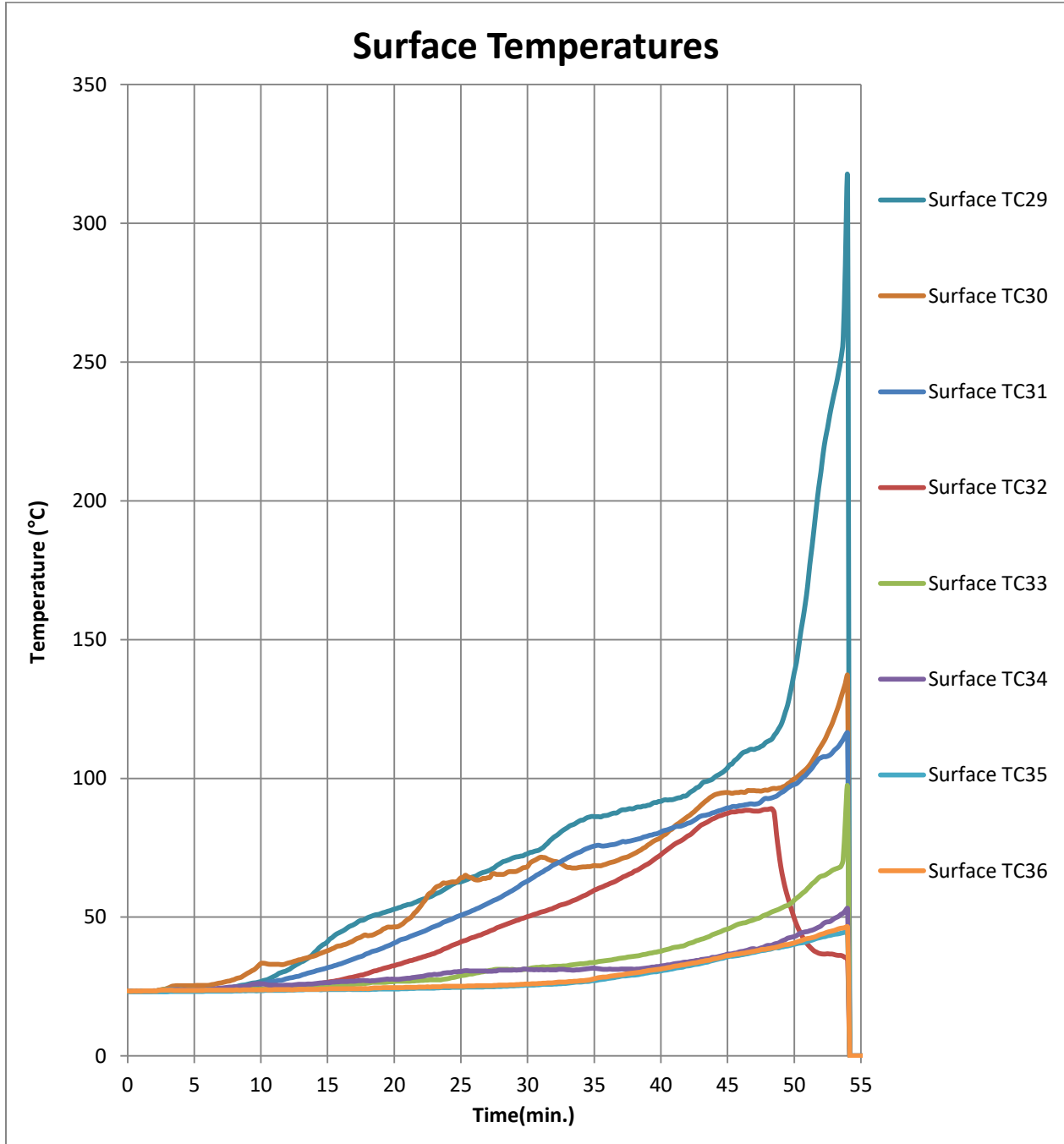


Figure B5: Surface temperatures of the Door 2. (TC29 – TC36)

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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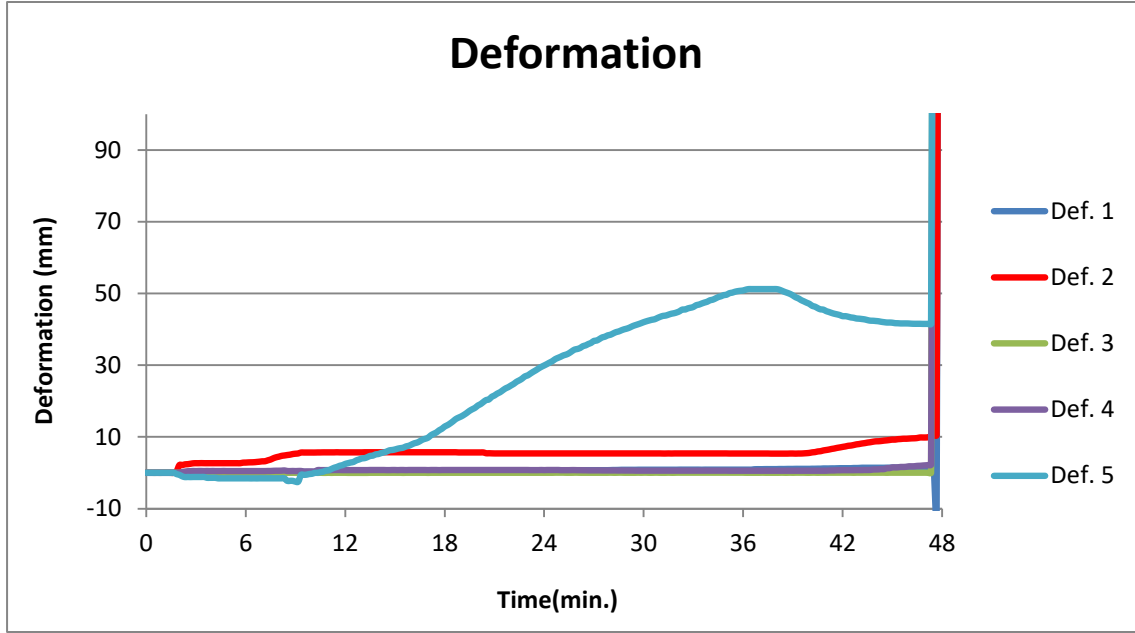


Figure B6: Deformation of the Door Nr.1.

* Integrity of Door Nr.1 failed at 47th minute.

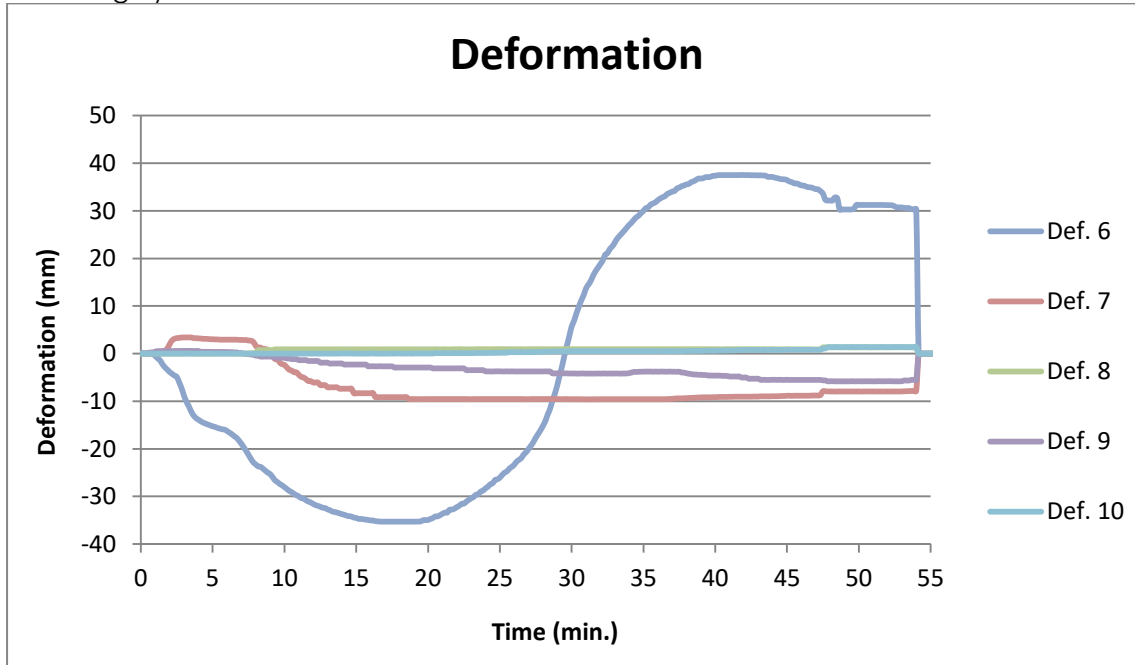


Figure B7: Deformation of the Door Nr.2.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Photo C1: Unexposed side of the doors before the test.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Photo C2: Unexposed side of the doors before the test.

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