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EFFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.

TOSB TAYSAD Organize San. Böl. 1. CD. ,15. Yol No: 1

Şekerpınar – Çayırova, KOCAELİ

DENEY RAPORU

TEST REPORT

AB-0556-T

18.09.2017

RFTR17172

Müşterinin adı/adresi : KIRAÇ METAL ÜRÜNLERİ SAN. VE TİC. LTD ŞTİ.
Customer name/address Organize Sanayi Bölgesi, Şehitler Bulvarı No:21
ESKİŞEHİR/TURKEY
İstek numarası : EEA-17-000275
Order No.
Numunenin adı ve tarifi : Cable System – Power cables fixed on cable trays and ladders “KIRAÇ”
Name and identity of test sample
Numunenin kabul tarihi : 12.09.2017
The date of receipt of sample
Açıklamalar :
Remarks
Deneyin yapıldığı tarih : 18.09.2017
Date of test
Raporun sayfa sayısı : 23 (28 pages including appendixes)
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

Deney Sorumlusu
Person in charge of test

Laboratuvar Müdürü
Head of Testing Laboratory



18.09.2017

Yusuf ÜSTÜNDAĞ

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 DIN 4102-2:1977, and with the particular requirements of standard DIN 4102-12:1998 "Fire resistance of electric cable systems required to maintain circuit integrity- Requirements and testing".

2. TEST LABORATORY

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

Address : TOSB TAYSAD Organize San. Böl. 1. CD. ,15. Yol No: 1
Şekerpınar – Çayırova, KOCAELİ, TURKEY

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

Product identification : Cable System - Power cables fixed on cable trays and ladders "KIRAÇ"

Manufacturer : KIRAÇ METAL ÜRÜNLERİ SAN. VE TİC. LTD ŞTİ.
Organize Sanayi Bölgesi, Şehitler Bulvarı No:21,
ESKİŞEHİR /TURKEY

Sponsor of test : KIRAÇ METAL ÜRÜNLERİ SAN. VE TİC. LTD ŞTİ.
Organize Sanayi Bölgesi, Şehitler Bulvarı No:21,
ESKİŞEHİR /TURKEY

3.2. Construction

Cable System – Power cables fixed on cable trays and cable ladders were fixed underneath the standard supporting construction.

The standard supporting construction consists of aerated concrete slabs which have a thickness of 200 mm and blocks which have the thickness of 200 mm. The extended length of the cable was sealed with ceramic wool at the penetration area.

The nominal density of the concrete side wall supporting construction is ca. 2000 kg/m³.
The aerated concrete blocks are 650 kg/m³.



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3.3. Components

3.3.1. Cables

- Type 1: KABELWERK EUPEN AG EUCASAFE (N)HXH-J FE180/E90 4X/25 mm² – 2 pcs used in cable tray (position 1), cable tray (position 2), cable tray (position 3), cable tray (position 4), cable ladder (position 5), cable ladder (position 6), cable tray (position 7), cable tray (position 8), cable tray (position 9), cable tray (position 10), cable tray (position 11), cable tray (position 12), cable tray (position 13).

➤ Length	: 5000 mm
➤ Cross section	: 4 x 25 mm ²
➤ Conductor	: Bare copper, solid
➤ Insulation	: Cross-linked halogen free ceramic forming 2 layer insulation HXI 2
➤ Outer sheath	: Halogen free polymer compound orange
➤ Min. bending radius	: 12 x Ø
➤ Outer diameter	: 26,70 mm
➤ Weight of cable	: 1,594 kg/km approx.
➤ Calorific potential	: 2,41 kWh/m
➤ Operating voltage	: 1 kV
➤ VDE Reg Nr.	: 8513

- Type 2: KABELWERK EUPEN AG EUCASAFE (N)HXH-J FE180/E90 4X/25 mm² – 2 pcs used in cable tray (position 1), cable tray (position 2), cable tray (position 4), cable ladder (position 5), cable ladder (position 6), cable tray (position 7), cable tray (position 8), cable tray (position 9), cable tray (position 10).

➤ Length	: 5000 mm
➤ Cross section	: 4 x 16 mm ²
➤ Conductor	: Bare copper, solid
➤ Insulation	: Cross-linked halogen free ceramic forming 2 layer insulation HXI 2
➤ Outer sheath	: Halogen free polymer compound orange
➤ Min. bending radius	: 12 x Ø
➤ Outer diameter	: 23,80 mm
➤ Weight of cable	: 1,146 kg/km approx.
➤ Calorific potential	: 2,05 kWh/m
➤ Operating voltage	: 1 kV
➤ VDE Reg Nr.	: 8513

3.3.2. Cable supporting systems: KIRAÇ METAL.

The cable support system consisted of galvanized steel cable tray, cable ladder, profile rail with cable clips and auxiliary fittings as described below:



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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SYSTEM	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>
MODEL	KRC	KRC	KRC	KRC	MERD.	MERD.	KRC	INNOV.	INNOV.	KRC	INNOV.	INNOV.	KRC
MEASUREMENTS	600x60	600x60	100x40	200x40	400x60	400x60	400x60	300x35	300x35	300x40	100x35	100x35	100x40
THICKNESS	2	2	1,5	1,5	1,5	1,5	1,5	0,7	0,7	1,5	0,7	0,7	1,5
COVERING	SD	PG	SD	PG	SD	PG	SD	SD	PG	SD	SD	PG	PG
LENGHT	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
PROFILE COVER STATUS	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR	VAR
INTER STEP					300	300							
SHEET METAL STEP SIZE					400x150	400x150							
SHEET METAL STEP PIECE					20	20							
I80 CEILING ANCHORING COMPONENT	16 PIECES - KRCI80P21000												
CEILING PIN	64 PIECES - KRCM8X75SGD												
I80 PROFILE 100 mm - KRCI80K100											4	4	4
I80 PROFILE 200 mm - KRCI80K200													
I80 PROFILE 300 mm - KRCI80K300								4	4	4			
I80 PROFILE 400 mm - KRCI80K400					4	4	4						
I80 PROFILE 500 mm - KRCI80K500													
I80 PROFILE 600 mm - KRCI80K600	4	4	4										

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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ROOF CONNECTION WITH ROD	32 PIECES												
ROD CEILING PIN	w												
I80 PROFILE BINDING BOLT PIECES	8	8	8	8	8	8	8	8	8	8	8	8	8
I80 PROFILE BINDING BOLT MEASURES	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15
I80 PROFILE BINDING NUT PIECES	8	8	8	8	8	8	8	8	8	8	8	8	8
I80 PROFILE BINDING NUT MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
I80 PROFILE BINDING WASHER PIECES	8	8	8	8	8	8	8	8	8	8	8	8	8
I80 PROFILE BINDING WASHER MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
I80 PROFİL - TRAY/LADDER BOLT MEASURES	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15
I80 PROFİL - TRAY/LADDER BOLT PIECES	20	20	20	20	20	20	20	20	20	20	20	20	20
I80 PROFİL - TRAY/LADDER NUT MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
I80 PROFİL - TRAY/LADDER NUT PIECES	20	20	20	20	20	20	20	20	20	20	20	20	20
I80 PROFİL - TRAY/LADDER WASHER MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
I80 PROFİL - TRAY/LADDER WASHER PIECES	20	20	20	20	20	20	20	20	20	20	20	20	20
FISH PLATE PIECES	2	2	2	2	2	2	2	2	2	2	2	2	2
FISH PLATE THICKNESS	3	3	3	3	3	3	3	3	3	3	3	3	3
FISH PALET BOLT MEASURES	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15
FISH PLATE BOLT PIECES	56	56	56	56	56	56	56	56	56	56	56	56	56

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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FISH PLATE NUT MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
FISH PLATE NUT PIECES	56	56	56	56	56	56	56	56	56	56	56	56	56
FISH PLATE WASHER MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
FISH PLATE WASHER PIECES	56	56	56	56	56	56	56	56	56	56	56	56	56
ARTICULATION COMPONENT PIECES	2	2	2	2	2	2	2	2	2	2	2	2	2
ARTICULATION COMPONENT BOLT PIECES	24	24	24	24	24	24	24	24	24	24	24	24	24
ARTICULATION COMPONENT BOLT MEASURES	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15	M6x15
ARTICULATION COMPONENT NUT PIECES	24	24	24	24	24	24	24	24	24	24	24	24	24
ARTICULATION COMPONENT NUT MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
ARTICULATION COMPONENT WASHER PIECES	24	24	24	24	24	24	24	24	24	24	24	24	24
ARTICULATION COMPONENT WASHER MEASURES	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
CABLE CLIP 4x16 mm	12	12	12	12	12	12	12	12	12	12	12	12	12
CABLE CLIP 4x25 mm	12	12	12	12	12	12	12	12	12	12	12	12	12

ORDER	MATERIAL	QUANTITY	
1	E90 CABLE 4x16	170	m
2	E90 CABLE 4x25	170	m
3	KRC 600x60x2 SD	6000	mm
4	KRC 600x60x2 PG	6000	mm
5	KRC 400x60x1,5 SD	6000	mm
6	KRC 300x40x1,5 SD	6000	mm
7	KRC 200x40x1,5 PG	6000	mm
8	KRC 100x40x1,5 SD	6000	mm

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9	KRC 100x40x1,5 PG	6001	mm
10	INNOVATRAY 300x35x0,7 SD	6002	mm
11	INNOVATRAY 300x35x0,7 PG	6003	mm
12	INNOVATRAY 200x35x0,7 SD	6004	mm
13	INNOVATRAY 100x35x0,6 SD	6005	mm
14	INNOVATRAY 100x35x0,6 PG	6006	mm
15	INNOVATRAY 100x35x0,7 SD	6007	mm
16	INNOVATRAY 100x35x0,7 PG	6000	mm
17	CABLE LADDER 400x60x1,5 SD	6000	mm
18	CABLE LADDER 400x60x1,5 PG	6000	mm
19	CABLE CLIP 4x16	100	Pieces
20	CABLE CLIP 4x25	100	Pieces
21	I80 CEILING ANCHORING COMPONENT	16	Pieces
22	CEILING PIN	32	Pieces
23	I80 PROFİL 100 mm	12	Pieces
24	I80 PROFİL 300 mm	12	Pieces
25	I80 PROFİL 400 mm	12	Pieces
26	I80 PROFİL 600 mm	12	Pieces
27	ROOF CONNECTION WITH ROD	36	Pieces
28	ROD CEILING PIN	50	Pieces
29	LADDER TRAY STEP 400x150	50	Pieces
30	I80 PROFILE BINDING BOLD M6x15	104	Pieces
31	I80 PROFILE BINDING WASHER M6	104	Pieces
32	I80 PROFILE BINDING WASHER M6	104	Pieces
33	I80 PROFILE TRAY BINDING BOLT M6x15	260	Pieces
34	I80 PROFILE TRAY BINDING NUT M6	260	Pieces
35	I80 PROFILE TRAY BINDING WASHER M6	260	Pieces
36	FISH PLATE 3 mm	40	Pieces
37	FISH PLATE BOLT M6x15	750	Pieces
38	FISH PLATE NUT M6	750	Pieces
39	FISH PLATE WASHER M6	750	Pieces
40	PROFILE ATTACHMENT	40	Pieces
41	PROFILE ATTACHMENT BOLT M6x15	350	Pieces
42	PROFILE ATTACHMENT NUT M6	350	Pieces
43	PROFILE ATTACHMENT WASHER M6	350	Pieces

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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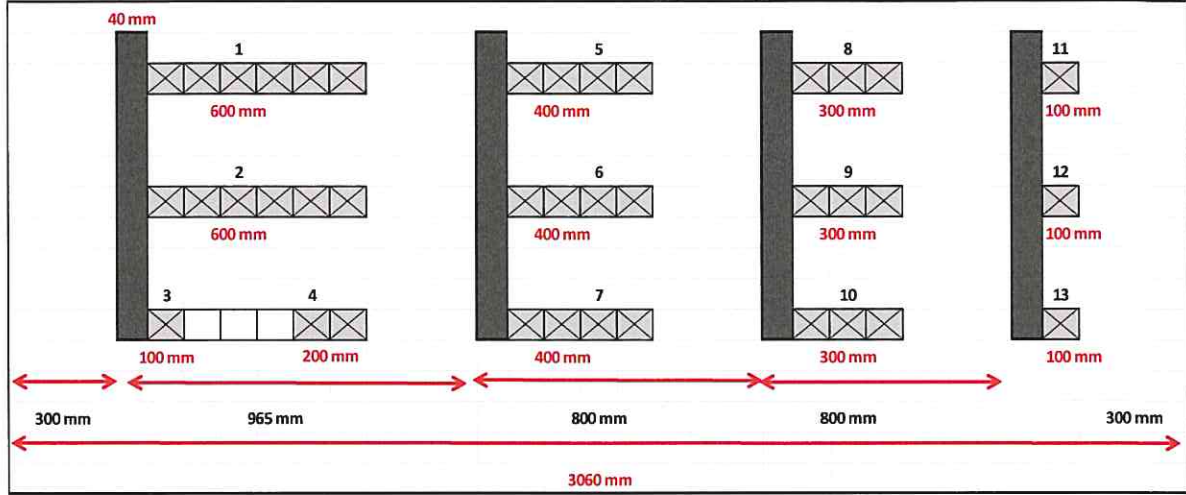
MATERIAL CODES	PIECES
KRC600A6020S	2
KRC600A6020PG	2
KRC100A4015S	2
KRC200A4015PG	2
KRC400MRD6015S	2
KRC400MRD6015PG	2
KRC400A6015S	2
KI35300S	2
KI35300P	2
KRC300A4015S	2
KI35100S	2
KI35100P	2
KRC100A4015PG	2
KRCI80K100	12
KRCI80K300	12
KRCI80K400	12
KRCI80K600	12
KRCI80P21000	16
KRCM8P	104
KRCM6FS	
KRCM6X15BB	
KRCM6P	
KRCM8X75SGD	64

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

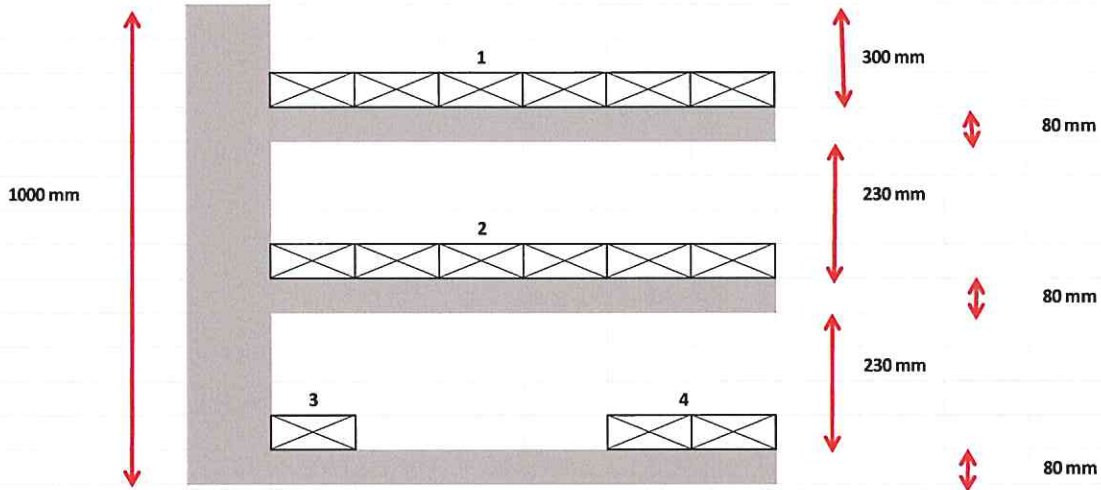
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Her sırada 4 adet askı var ve ara mesafeleri 1265 mm (3800 / 3)



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	MODEL	WIDTH	COVERING	HEIGHT	THICKNESS	TEST CLASS	
1	KRC	600	PG	60	2		KRC600A6020
2	KRC	600	SD	60	2		KRC600A6020S
3	KRC	100	SD	40	1,5		KRC100A4015S
4	KRC	200	PG	40	1,5		KRC200A4015
5	LADDER	400	SD	60	1,5		KRC400MK6015S
6	LADDER	400	PG	60	1,5		KRC400MK6015
7	KRC	400	SD	60	1,5		KRC400A6015S
8	INNOVATRAY	300	SD	35	0,7		KI3530007
9	INNOVATRAY	300	PG	35	0,7		KI3530007S
10	KRC	300	SD	40	1,5		KRC300A4015S
11	INNOVATRAY	100	SD	35	0,7		KI3510007S
12	INNOVATRAY	100	PG	35	0,7		KI3510007
13	KRC	100	PG	40	1,5		KRC100A4015

For further information, see figures 1-9.



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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4. PRE-TEST PROCESSES

4.1. Verification of specimen

Efectis Era Avrasya A.S. verified the used materials and parts against the supplied data and drawings during installation of the test specimen and not involved in the selection of test specimen.

The test specimen was assembled by the sponsor.

4.2. Conditioning

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

- Ambient temperature : $30,3 \pm 2,3$ °C.
- Relative humidity : $52,5 \pm 6,5$ %.

4.3. Electrical conditions

- Tested voltage : 400 V
- Current flow : 0,28 A

4.4. Loading

- 10 kg/m steel chain load was evenly separated by fixing to the steel trays.
- 20 kg/m steel chain load was evenly separated by fixing to the steel ladders.

5. TEST PROCESS

5.1. Method

The fire test was conducted according to the standard DIN 4102-12:1998.

The heating of the furnace followed the standard fire curve, as specified in the standard DIN 4102-2:1977.

The target overpressure in the furnace was 10 Pa at 100 mm below the furnace ceiling level.

5.2. Measurements

Following test data were measured during the test:

- Ambient temperatures inside the furnace with eight thermocouples (Furnace TC1 to TC8), evenly distributed over the directly heated surface (see figure A1).
- The pressure in the furnace, measured at a height of 2,9 meter above the furnace floor level (see figure A3).
- Ambient temperature in the laboratory (see figure A4)



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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6. OBSERVATIONS

Table 1: Observations during heating

Time (min.)	Observations
0	Heating started. See photo C1-C2.
5	Smoke leakage from the specimen.
24	Circuit integrity (E) failed for Type 4.
32	Circuit integrity (E) failed for Type 7.
35	Circuit integrity (E) failed for Type 3.
38	Circuit integrity (E) failed for Type 10.
40	Circuit integrity (E) failed for Type 2.
45	Circuit integrity (E) failed for Type 11.
46	Circuit integrity (E) failed for Type 8.
85	Circuit integrity (E) failed for Type 5.
90	Test was terminated after consulted with sponsor.

F: Inside the furnace

7. TEST RESULTS

7.1 Results

The results are given in Table 2 and appendixes B and C.

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.

8. SUMMARY

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

Table 2: Summary of test results of the test specimen



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Circuit Integrity (E)	24 th minute for Type 4												
	32 nd minute for Type 7												
	35 th minute for Type 3												
	38 th minute for Type 10												
	40 th minute for Type 2												
	45 th minute for Type 11												
	46 th minute for Type 8												
	85 th minute for Type 5												
The heating was terminated at 90 th minute after consulted with sponsor.													
CIRCUIT INTEGRITY CLASS													
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8	Type 9	Type 10	Type 11	Type 12	Type 13
Minutes	90	40	35	24	85	90	32	46	90	38	45	90	90
Classification	E90	E30	E30	N/A	E60	E90	E30	E30	E90	E30	E30	E90	E90

9. APPLICATION OF TEST RESULTS

9.1 General:

Test results are valid for the cable system arranged either diagonally or vertically as long as the cable system is supported in transitional areas in such a manner that the cables will not slip or kink at corners.

9.2 Position:

Test results are valid attached to ceiling and wall horizontally.

9.3 Types:

The test result is only valid for the tested product types for the cross section sizes.

9.4 Load:

Test results are valid for linear load up to 10 kg/m for trays and 20 kg/m for ladders.

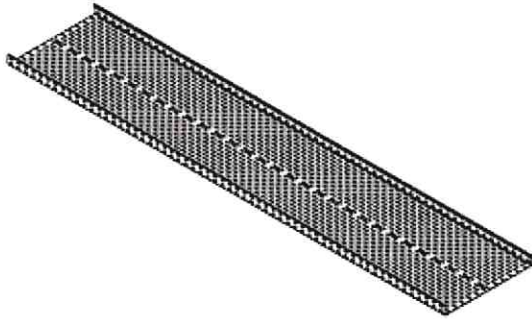
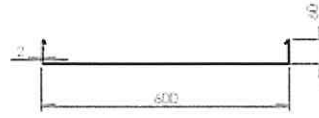
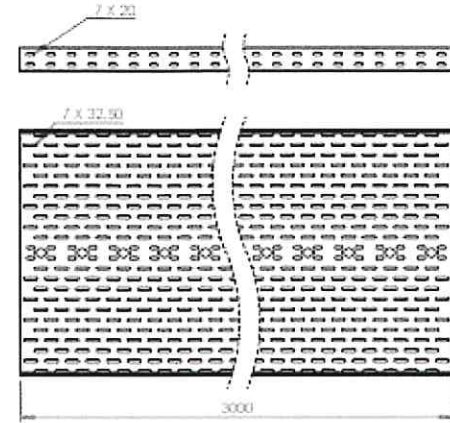


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10. DRAWINGS



Miktar/Qty (ad/pcs):	Kalınlık/Thk (mm): 2	Yüzey Alanı/Surface Area (mm ²): 307500.00
Ağırlık/Weight (gr): 25300.00	Malzeme/Mat.: HDG-G2512+2	Yüzey İşlemi/Surface Treat.
 DIN: 6 ISO: F	Parça Adı/ Part Name : KROSDANIZO SNIŞZ Parça No/ Part No : Parça No/ Part No : KM01-Y0002-C-00	Toz Boya/Powder Coating : - Yaş Boya/Liquid Coating : - Saklama/Situation : -
ÜRÜNÜN KULLANIM ALANINDA KULLANILAN MALZEMELERİN KALİTESİNDEN SORUMLU OLUNUR.	A.D. Sorumlusu/Name-Responsable : Çizim/Draw : Kontrol/Check : Onay/Approv :	Tarih/Date : İmza/Signature : Kontrol/Check : Onay/Approv :
Bu teknik çizim, sadece teknik amaçlar için kullanılmak üzere hazırlanmıştır. Herhangi bir şekilde değiştirilmeden kullanılması esastır.	KIRAC METAL 	Kaldırma/Lifting : Soğuk Dehidratat/Hot Drying : - Elektroliz/Anodizasyon : - Kalın Kap/Thin Plating : -
Sayfa No/ Sheet No : 1	Toplam Sayfa/ Total Sheet : 10	Çizim/Date : 12.09.2017

Figure 1: Component details of cable tray – Type 1

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

İmzasız ve mühürsüz raporlar geçersizdir.

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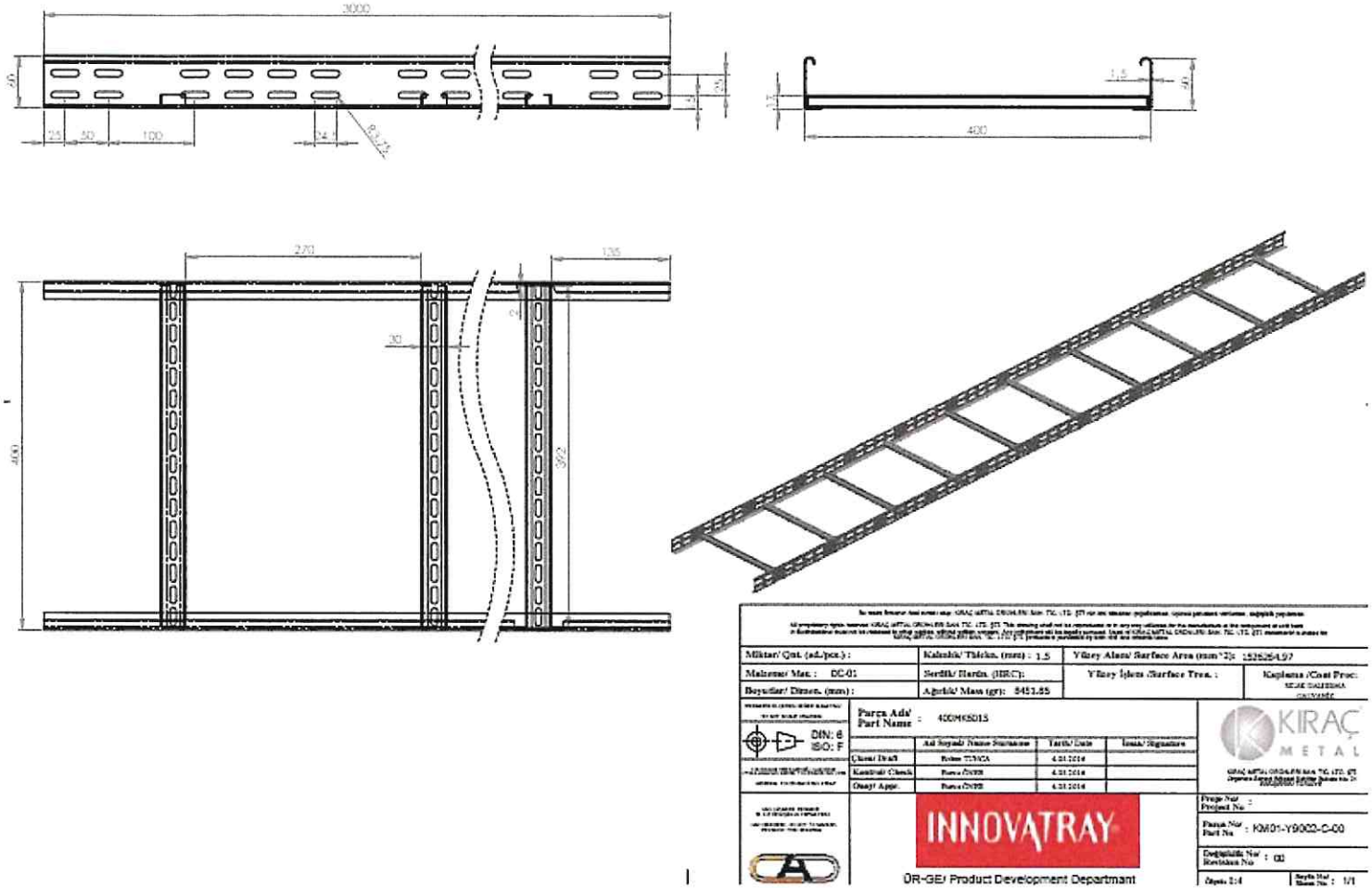


Figure 4: Component details of cable ladder – Type 5.

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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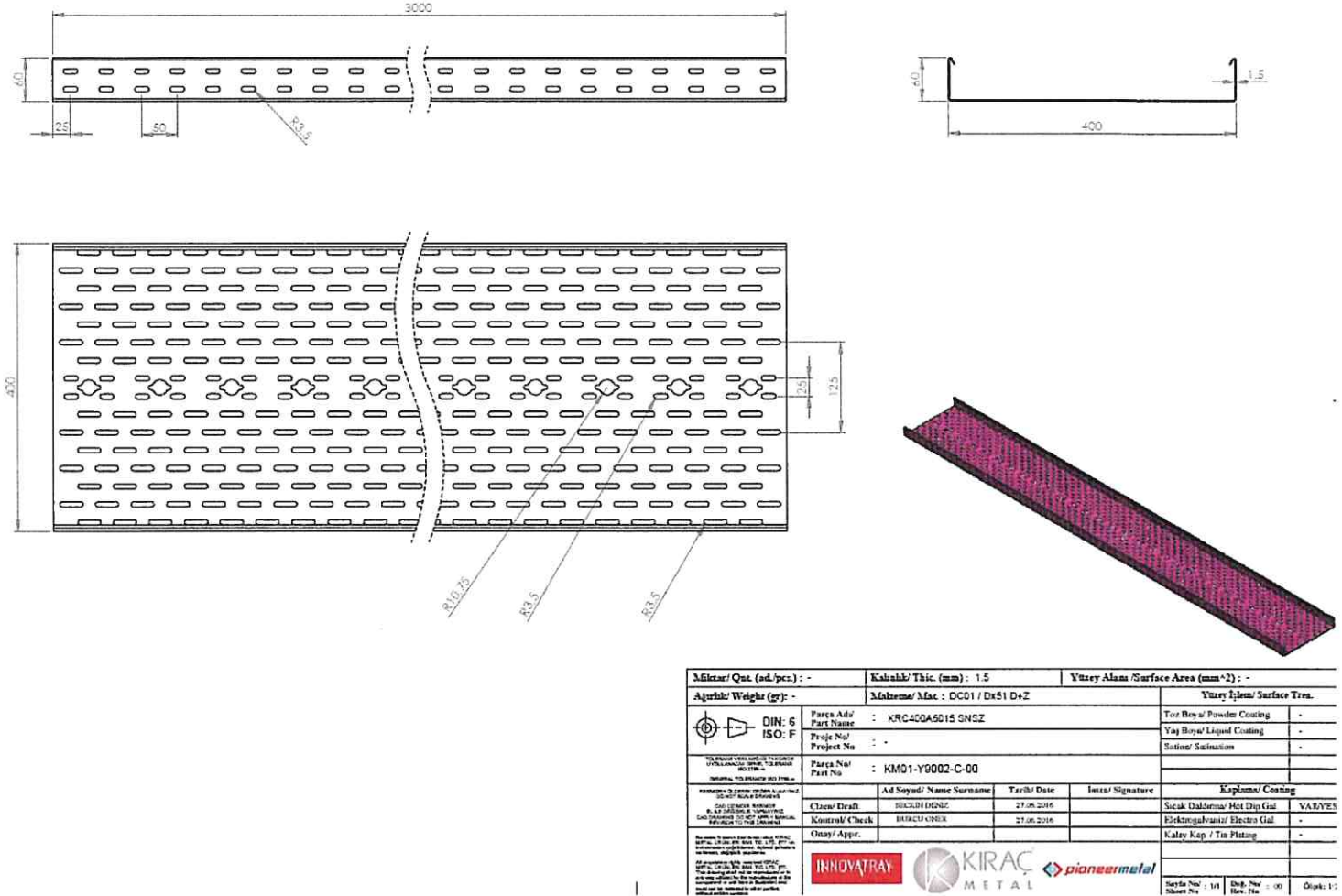
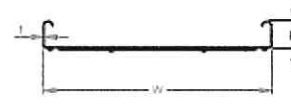
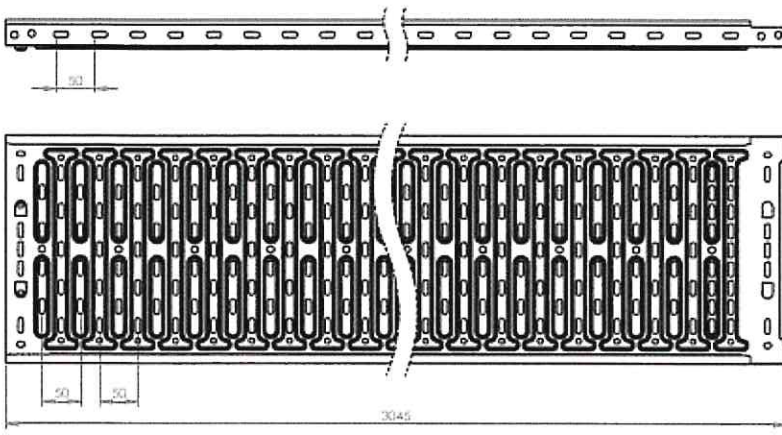


Figure 6: Component details of cable tray – Type 7

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

İmzasız ve mühürlü raporlar geçersizdir.

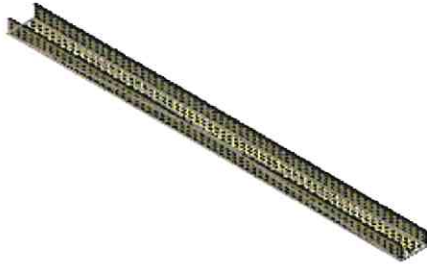
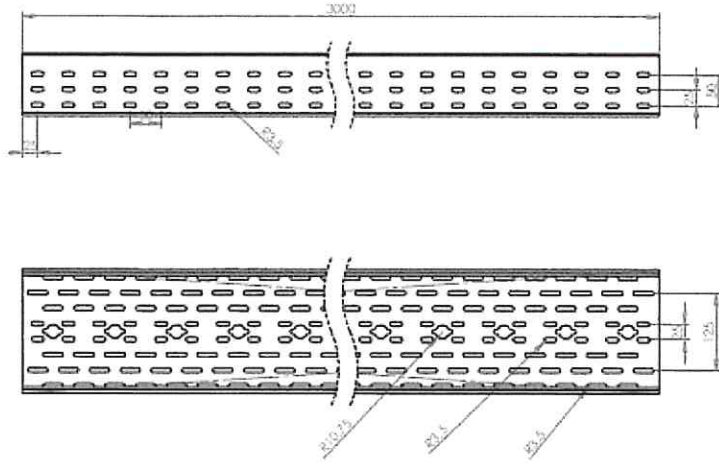
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TABLO - 1 / TABLE - 1					
ÜRÜN KODU / PRODUCT CODE	MALZEME / METARIAL	KALINLIK / THICKNESS (t) (mm) $\pm \pm 10$	GENİŞLİK / WIDTH (W) (mm)	YÜKSEKLİK / HEIGHT (H) (mm)	KAPLAMA / COATING
K135100P	DX51D+Z	0,7	100	35	-
K135200P	DX51D+Z	0,7	200	35	-
K135300P	DX51D+Z	0,7	300	35	-
K135100S	S235JR / DC01	0,7	100	35	VAR / YES
K135200S	S235JR / DC01	0,7	200	35	VAR / YES
K135300S	S235JR / DC01	0,7	300	35	VAR / YES

Miktar/ Qant (ad/pcs) : -	Kalınlık/ Thick. (mm) : 0,7 / 0,7 / 0,7 / 0,7 / 0,7 / 0,7	Yüzey Alanı/ Surface Area (mm ²) : 2440000
Ağırlık/ Weight (gr) : -	Malzeme/ Mat. : BKZ. TABLO / SEE TABLE	Yüzey İşlemi/ Surface Treat.
DIN : 8	Parti Adı/ Part Name : K135KAK	Tuz Buzulu Toz Kaplama/ -
ISO : 8	Proje No/ Project No : INNOVATRAY	Yan Tozlu Toz Kaplama/ -
Parti No/ Part No : KM01-Y9002-G-00	Ad (Gözetim)/ Name (Inspection) : Tarih/ Date : 18.09.2017	Yan Tozlu Toz Kaplama/ -
Çizim/ Draw : EME CAYIR	İmza/ Signature : 18.09.2017	Kaplama/ Coating
Kontrol/ Check : NURAN YILMAZ	Çekim/ Check : 18.09.2017	Çekim/ Check : 18.09.2017
Çekim/ Check : 18.09.2017	Çekim/ Check : 18.09.2017	Çekim/ Check : 18.09.2017

Figure 7: Component details of cable tray – Position 8, 9, 11 and 12



NO	URUN KODU PRODUCT CODE	W Genişlik Width (mm)	H Yükseklik Height (mm)	T ET KALINLIĞI THICKNESS (mm)
1	KRC050AXXXX	50	40-50-60-100-150	1-1,2-1,8-2
2	KRC100AXXXX	100	40-50-60-100-150	1-1,2-1,8-2
3	KRC150AXXXX	150	40-50-60-100-150	1-1,2-1,8-2
4	KRC200AXXXX	200	40-50-60-100-150	1-1,2-1,8-2
5	KRC250AXXXX	250	40-50-60-100-150	1-1,2-1,8-2
6	KRC300AXXXX	300	40-50-60-100-150	1-1,2-1,8-2
7	KRC400AXXXX	400	40-50-60-100-150	1-1,2-1,8-2
8	KRC500AXXXX	500	40-50-60-100	1-1,2-1,8-2
9	KRC600AXXXX	600	40-50-60-100	1-1,2-1,8-2

Mikseri Çatı (m/pcs) :-	Kalınlıkı T14c (mm) :- 2	Yüzey Alanı (Surface Area (m²)) :-
Ağırlık/ Weight (kg) :-	Malzeme/ Mat : DCD1 / Cds1 D=2F	Yüzey Özel Yüzey T14c
ISO: 8	Parça Adı/ Part Name : KRCXXXXXXX DMSZ	T14c Boyut/ Profile Coding :-
ISO: F	Proje No/ Project No :-	Yüzey Özel Yüzey T14c
Parça No/ Part No : KM01-Y0002-C-00	Ad Soyadı/ Name Surname : KIRAC	Satın Alınan/ Purchased :-
Çizim/ Draw : KIRAC	Tarih/ Date : 18.09.2017	İmza/ Signature : KIRAC
Onay/ Approv : KIRAC	İmza/ Signature : KIRAC	İmza/ Signature : KIRAC

Figure 9: Component details of cable tray – Type 13



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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APPENDIXES:

Appendix A: Furnace and laboratory conditions

Appendix B: Photos



Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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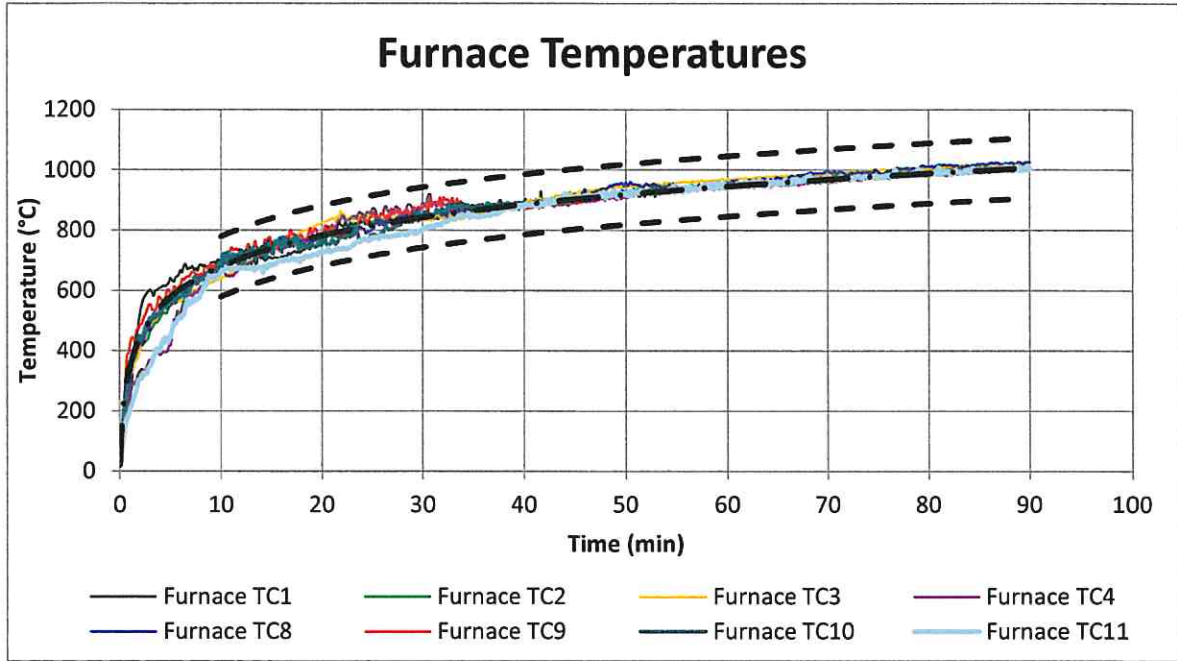


Figure A1: Furnace Temperatures

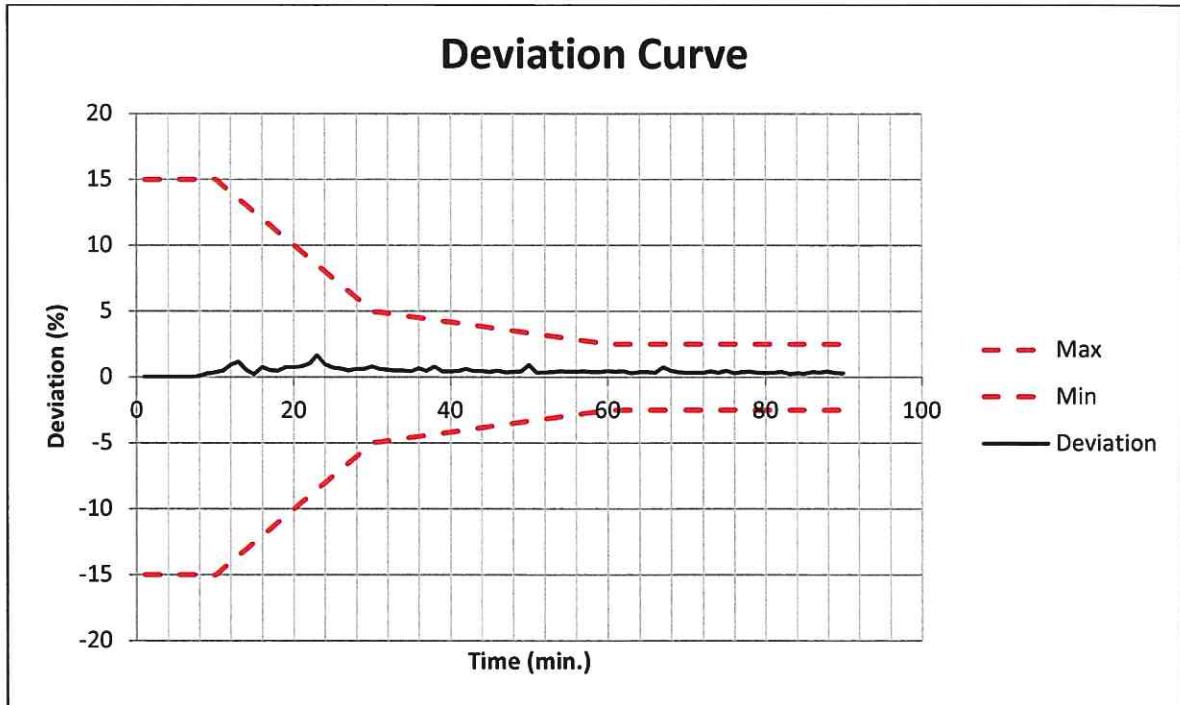


Figure A2: Deviation of furnace temperature

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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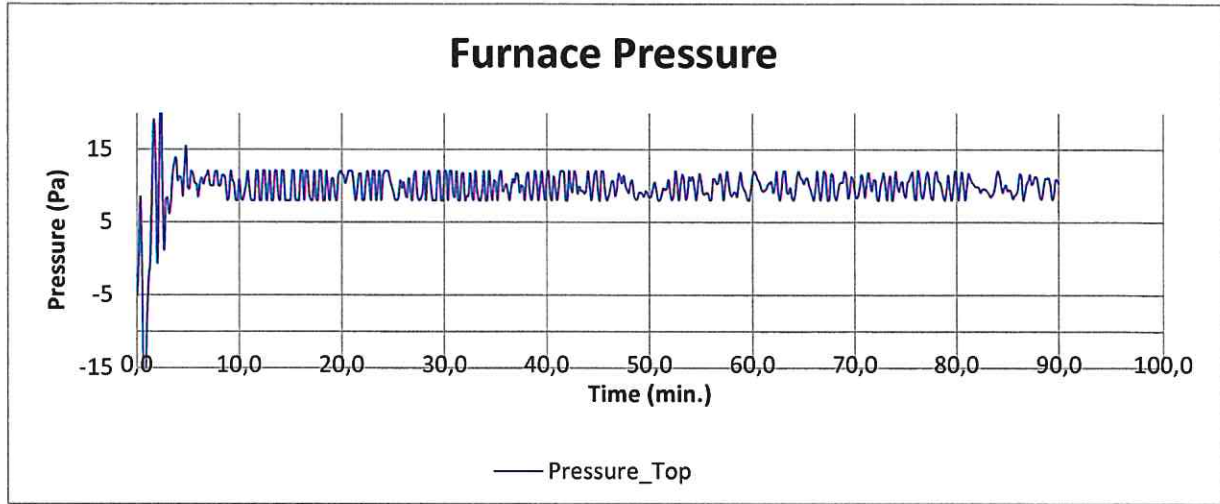


Figure A3: Pressure in the furnace

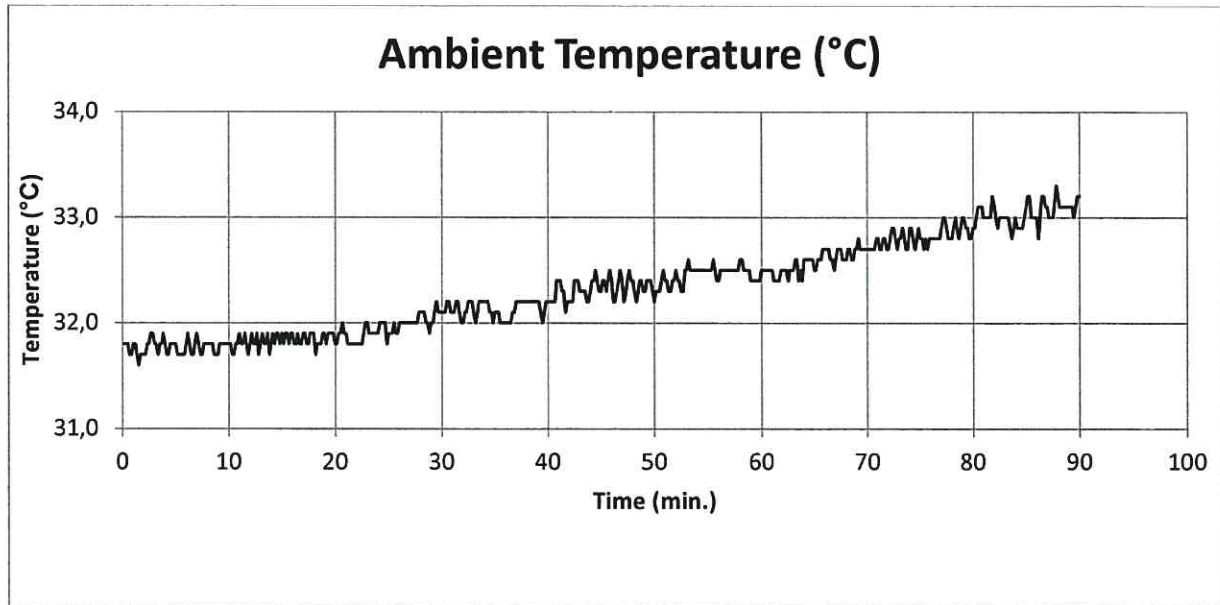


Figure A4: Ambient temperature at laboratory

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Photo B1: Test setup of the cable system before the test

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Photo B2: Exposed side of the test specimen after the test

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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Photo B3: Exposed side of the test specimen after the test.

Efectis

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanıp çoğaltılamaz.

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