





OUR MISSION & OUR VISION

We as KALRE PARATONER have started our initial R&D on lightening protection systems in 2014 and after achieving the desired quality as per the international standards, officially established in city of Izmir, Turkey in 2015. Completely committed to excellence production mentality and enhanced test results have been awarded by the Ministry of Industry of Turkey, Research and Development Department with Government Promotions. All our products have also been tested and approved by Internationally Accredited ICMET Labrotories according the latest version of NFC17-102 Annex-C 2011 standards.

In addition to ICMET, all our products have also been tested and approved by Mechanical Test, Humus Test as well as ESE Tests wherein our brand has been shifted to another category in this field. Therefore all KALRE products are being manufactured with the CE Conformity Certificate. Developing market conditions and our customer demands forced us to start producing grounding and fluctuation equipments in 2019. Considering the principle of Brand Permanence depends on the Product Quality, KALRE is devoted himself to control all processes starting from R&D, design, sample production, fileld tests and bulk production in to fulfill the customer satisfaction.

Our mission is to follow up the latest Technologies continuously in order to become a longterm solution partner to our customers and to supply best products.

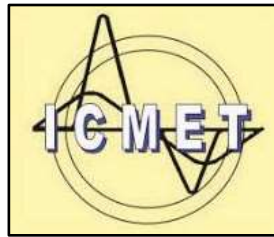


KALRE
ACTIVE LIGHTNING RODS

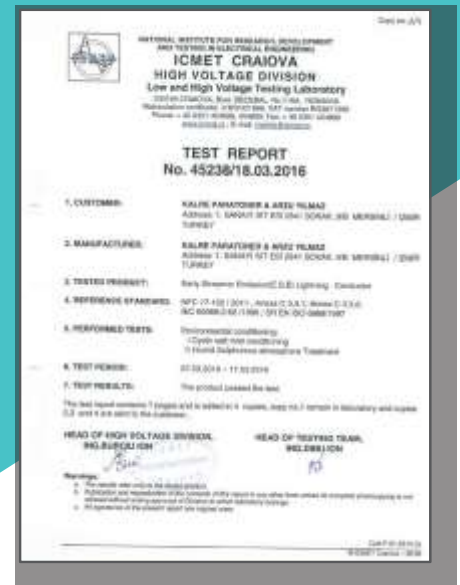
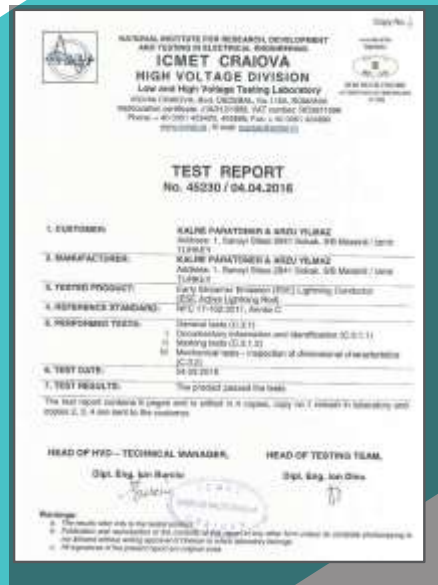
CERTIFICATE



OUR DOCUMENTS



- ICMET NFC 17-102: 2011 ANNEX C HUMID SULFUR TEST
- ICMET NFC 17-102: 2011 ANNEX C GENERAL MECHANICAL TEST
- ICMET NFC 17-102: 2011 ANNEX C ESE TEST



OUR DOCUMENTS

- METU Lightning Catching Head Impulse Voltage Streamer Time Lag. Gain Measurements
- METU Current Impulse Stand test 200kA current level

HIZAL HIGH VOLTAGE and HIGH CURRENT ELECTRIC TEST LABORATORY Hızal Elektrik Deneyleri Tic. Ltd. Şti.		Rapor / Report No
TEST REPORT		
- RAPOR BİLGİLERİ / Report info:		
Müşteri Customer	Kalre Paratoner Ltd. Şti.	
İletişim Bilgileri Contact info	Arzu YILMAZ Address:2841 Sokak No: 9/C 1.Sanayi Sitesi Konak - Izmir Phone:+90 533 238 07 61 Phone:+90 538 077 26 00 EMail:info@kalreparatoner.com EMail:export@kalreparatoner.com	
Namune Sample	E.S.E Lightning Conductor	
Marka Trade Mark	ALR-07	
Deney Tarihi Date of Test	09/04/2023	
Rapor Sayfa Sayısı Number of Pages of Report	II	
- TEST KATILIMCILARI / Test authority and observers:		
Testi İsteyen ve Koordine eden kurum Test Monitored & Coordinated by	OTU -E.E.B./ YGAM-OYDEM	
Teste katılan firma ve yetkilisi Test Customer representative		
Test Laboratuvarı Test Lab. Conducted In	HIZAL San.Tic.Ltd Yüksek Gerilim Laboratuvarı Ankara -Turkey	
Laboratuvar Sorumlusu-Deneyi Uygulayan Mühendis Lab Official-Test Executed by	HÜSEYİN KABASAKAL Elektrik Elektronik Mühendis	
Deney Sorumlusu-Deneyi İsteyen ve Kontrol eden Test Official-Test Monitored and controlled by	MUSTAFA FAKILI Elektrik Elektronik Mühendis	

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Namune Sample	E.S.E Lightning Conductor	
Marka Trade Mark	RAPID 40	
Deney Tarihi Date of Test	10/04/2023	
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- TEST KATILIMCILARI / Test authority and observers:		
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Marka Trade Mark	RAPID 30	
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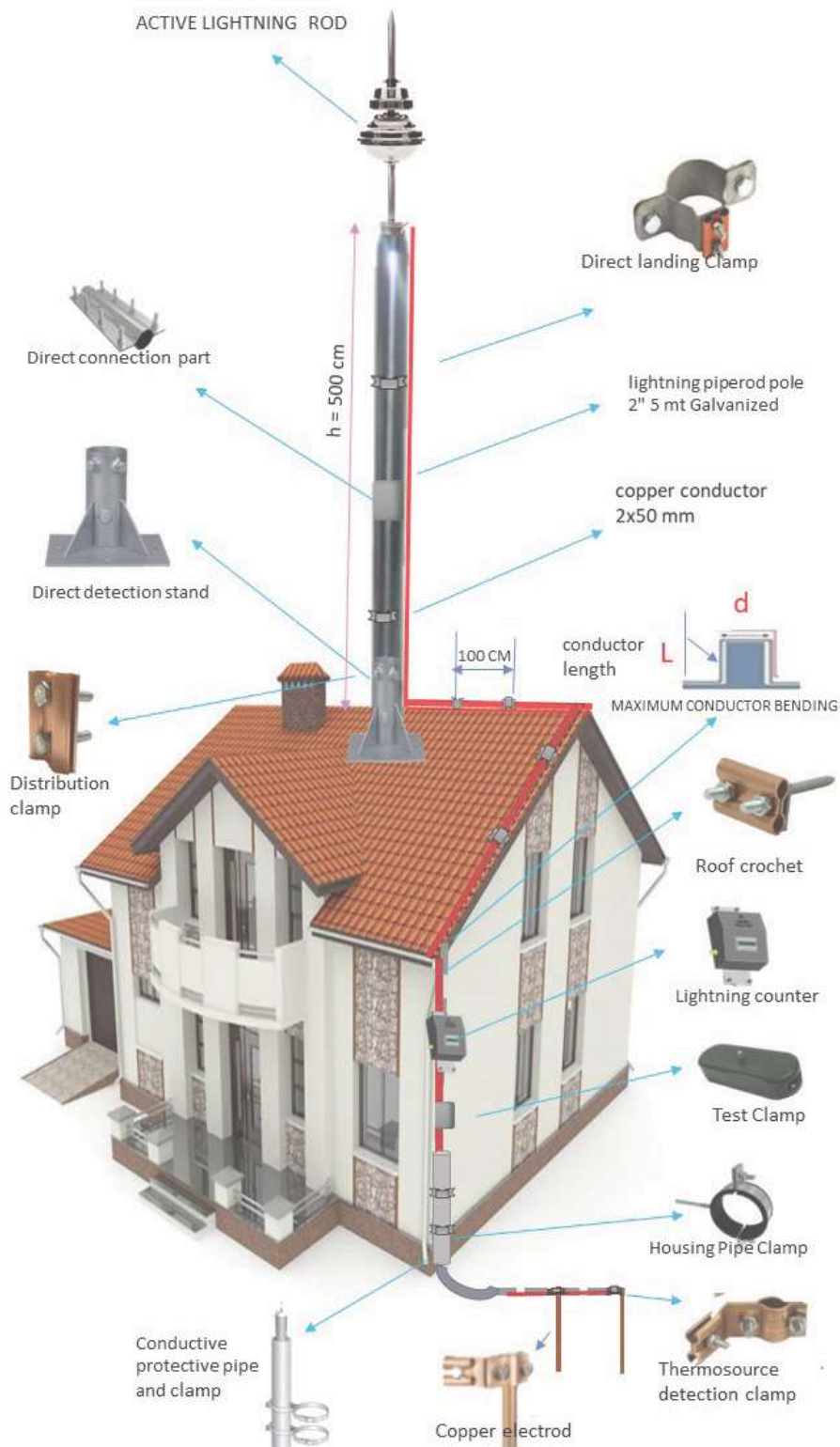
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Namune Sample	E.S.E Lightning Conductor	
Marka Trade Mark	STRONG30	
Deney Tarihi Date of Test	11/04/2023	
Rapor Sayfa Sayısı Number of Pages of Report	II	
- TEST KATILIMCILARI / Test authority and observers:		
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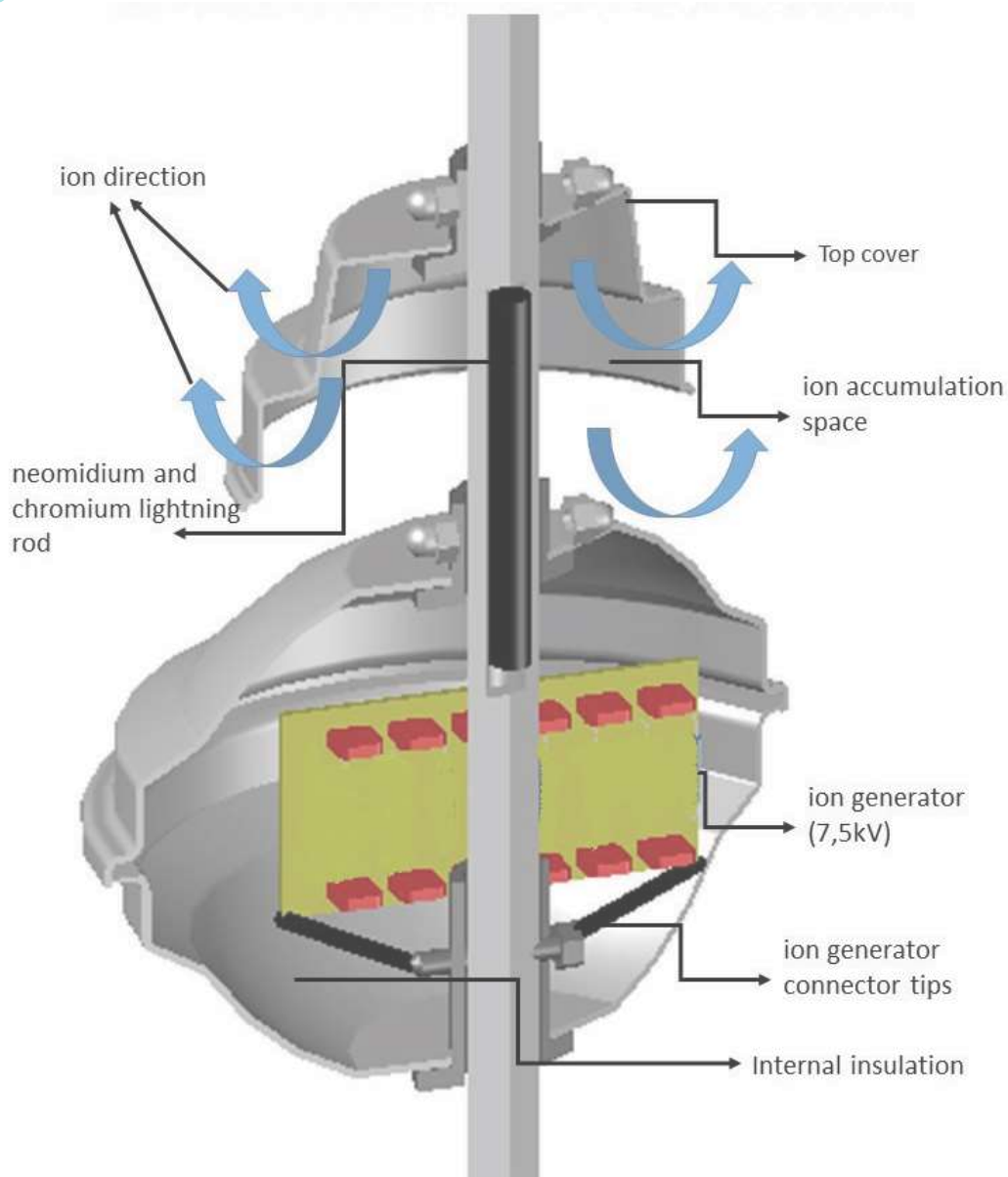


KALRE
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BUILDING INSTALATION DROWING



KALRE ACTIVE LIGHTNING RODS



Working principle: E.S.E (Early Streamer Emission) Our product works with the electrical field intensity of the atmosphere. It transmits the electric currents formed under charged, electric atmosphere conditions to the interior and ensures that the ion generator located inside is charged with these electrical currents. The ion generator ionizes its surroundings with fast charge and discharges in these conditions, making the atmosphere more conductive. In this way, it receives the possible lightning discharge and transmits it to the ground safely.



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ALR - VT01

Outer Material	Stainless Chrome -304 L
Product height	600 mm
Product weight	2.950 gr
Ion cell height	116 mm
Ion cell diameter	Ø 120 mm
Diameter of catching tip	Ø 22 mm
Trigger	Neomidium
Working principle	PDC / PDA (E.S.E)
Standart	N FC 17-102 ANNEX C (2011) Latest version
ΔT	30 μs
RP (Radius protection)	71 meter



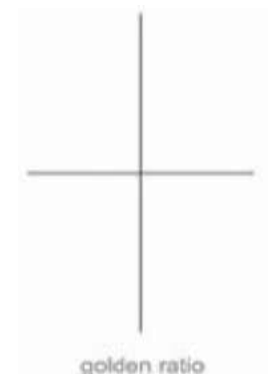
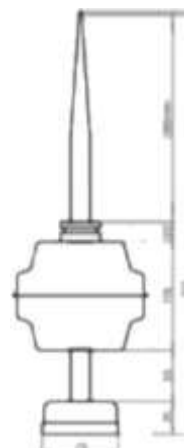
NFC-17-102 Annex C STANDART

1. Protection level	20 m	Level - 1	48
2. Protection level	30 m	Level - 2	54
3. Protection level	45 m	Level - 3	63
4. Protection level	60 m	Level - 4	71

NFC 17-102 ANNEX C
Protection Area (Radius) (m)

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
48	54	63	71

TECHNICAL DRAWING





Material is chrome 304

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ALR - 06

■ Outer Material	Stainless Chrome -304 L
■ Product height	610 mm
■ Product weight	4.200 gr
■ Ion cell heihgt	123 mm
■ Ion cell diatemer	0 195 mm
■ Diameter of catching tip	0 20 mm
	Stainless chrome 304
■ Trigger	Neomidium
■ Working principle	PDC / PDA (E.S.E)
■ Standart	N FC 17-102 ANNEX C (2011) Latest version

■ ΔT	145 μs
■ RP (Radius protection)	197 meter

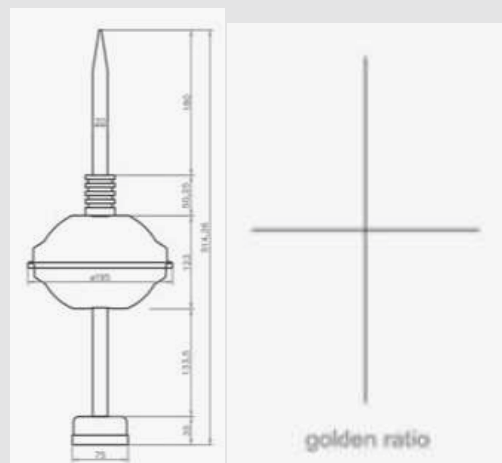
NFC-17-102 Annex C STANDART

1. Protection level	20 m	Level - 1	164
2. Protection level	30 m	Level - 2	173
3. Protection level	45 m	Level - 3	186
4. Protection level	60 m	Level - 4	197

NFC 17-102 ANNEX C
Protection Area (Radius) (m)

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
164	173	186	197

TECHNICAL DRAWING





Material is chrome 304

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ALR - 07

■ Outer Material	Stainless Chrome -340 L
■ Product height	400 mm
■ Product weight	2.200 gr
■ Ion cell height	150 mm
■ Ion cell diameter	Ø 180 mm
■ Diameter of catching tip	Ø 30 mm
	Stainless chrome 304-L
■ Trigger	Neomidium
■ Working principle	PDC / PDA (E.S.E)
■ Standart	N FC 17-102 ANNEX C (2011) Latest version
■ ΔT	71 μ s
■ RP (Radius protection)	120 meter

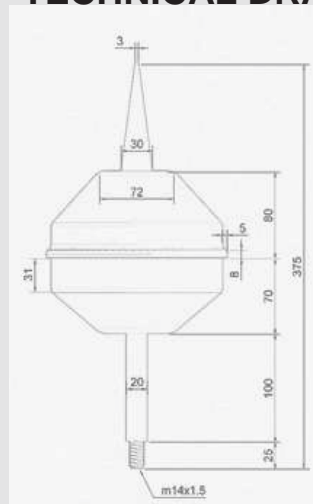
NFC-17-102 Annex C STANDART

1. Protection level	20 m	Level - 1	90
2. Protection level	30 m	Level - 2	98
3. Protection level	45 m	Level - 3	109
4. Protection level	60 m	Level - 4	120

NFC 17-102 ANNEX C
Protection Area (Radius) (m)

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
90	98	109	120

TECHNICAL DRAWING





KLR 01

LIGHTNING COUNTER

Striker X Lightning Event Counter

Display Model Electromechanical display (non re-settable)

Current Tested (10/350 μ s) 100 kA

Start Sensitivity (8/20 μ s) 1500 A

Current Sample Mode Inductive Probe (Built-in)

Indicator 6 digits

Operating temperature (oC) -20 - +85

Enclosure material Plastic

Degree of protection IP 67 (IEC 529)

Dimension of counter (cm) 16 (L) x 9 (W) x 6 (H)

FEATURES

- IP 67 rated enclosure suitable for external application.
- Ease of installation, Striker X can be retro-fitted to any lightning protection system.
- Non-intrusive and fast acting proximity circuit detects lightning transient currents.
- Non resettable electro-mechanical counter.
- Can be mounted at any location along the down conductor.

Size : 170 x 82 x 60 mm

Material : Stainless chrome (304) / PVC

Discharge measurement Power : 150 kA

Installation location : Lightning Protection Systems.

Testability : Mechanical

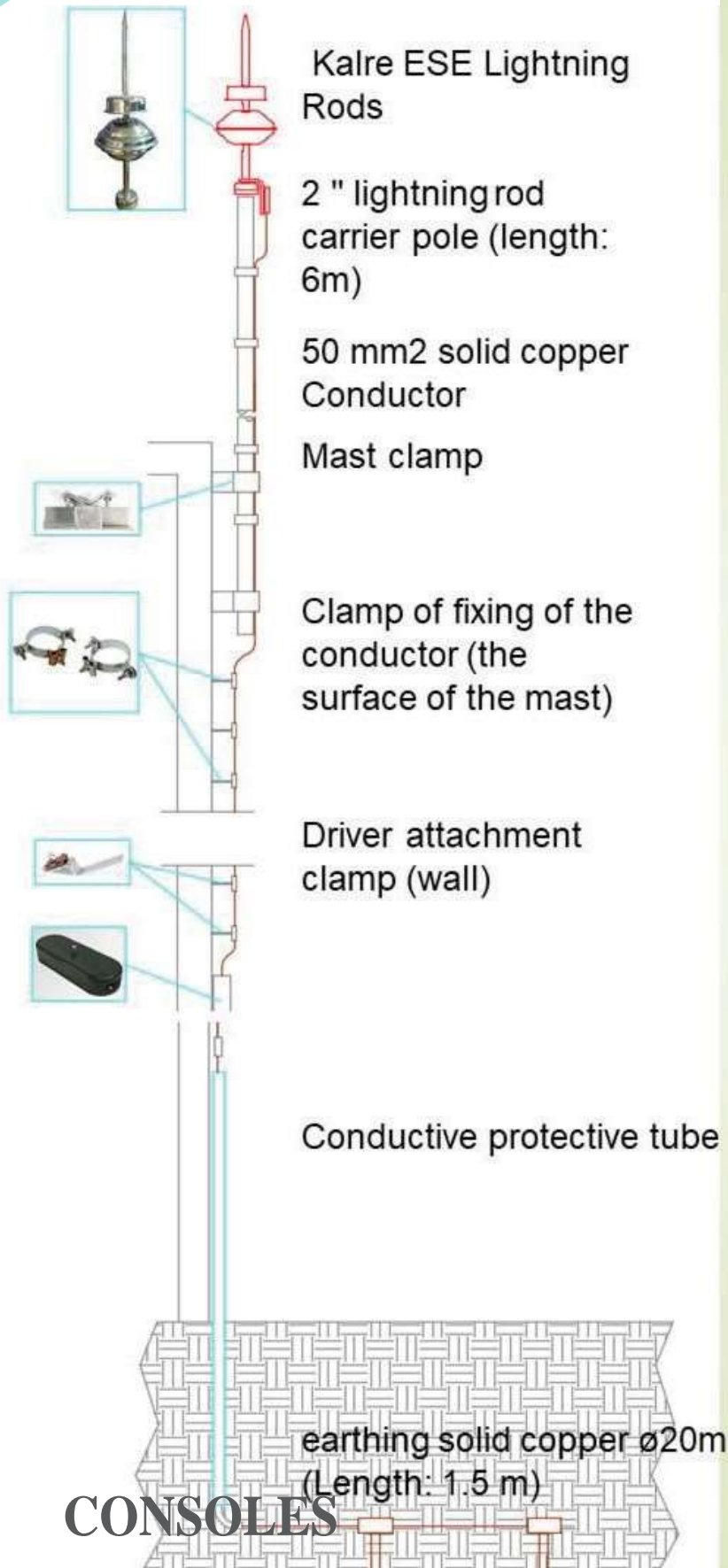
Standard : NF C 17-102 (2011) latest version

TESTER



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CONSOLES

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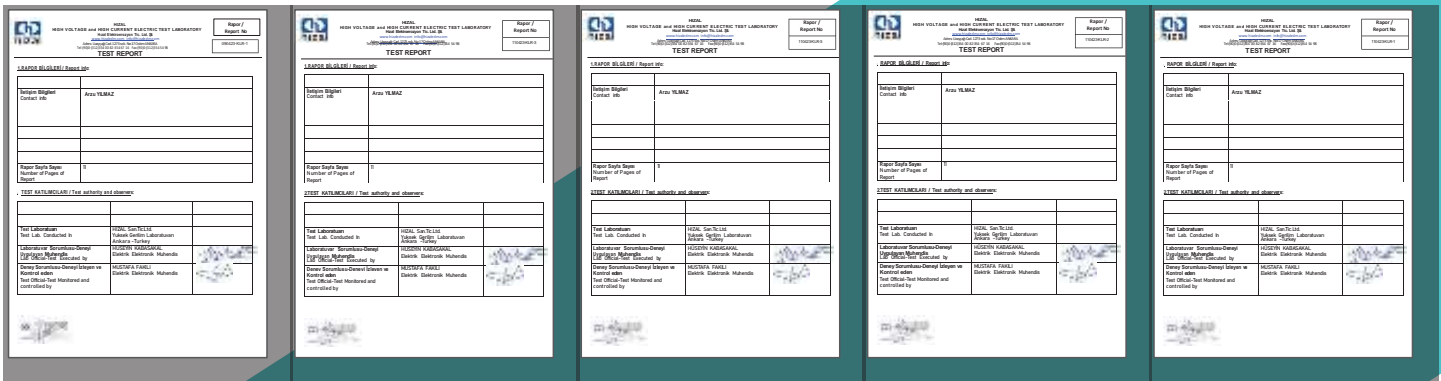
KALRE
ACTIVE LIGHTNING RODS

FIXTRUE CONSOLES



OUR DOCUMENTS

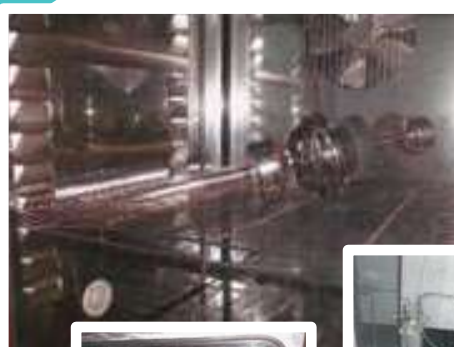
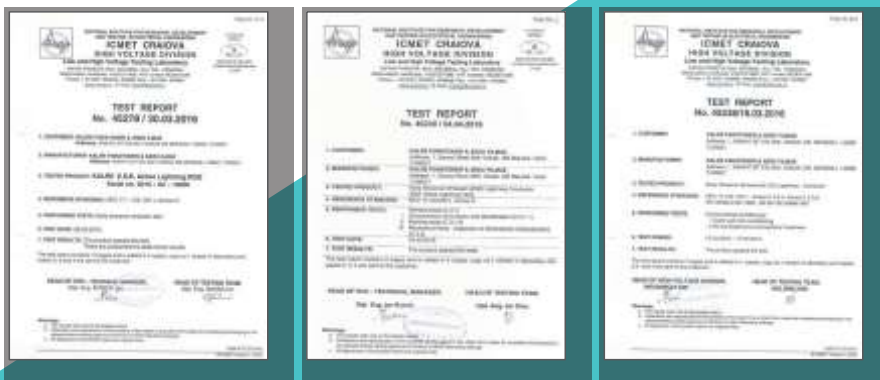
- METU Lightning Catching Head Impulse Voltage Streamer Time Lag. Gain Measurements
- METU Current Impulse Stand test 200kA current level





OUR DOCUMENTS

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- ICMET NFC 17-102: 2011 ANNEX C GENERAL MECHANICAL TEST
- ICMET NFC 17-102: 2011 ANNEX C ESE TEST





KALRE
ACTIVE LIGHTNING RODS

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