BAKIR AL®

ESE LIGHTNING ROD PROTECTION SYSTEMS

ISO 9001 | OHSAS 18001 | ISO 14001 | WARRANTY | CE | NFC 17 102

ALFA - S

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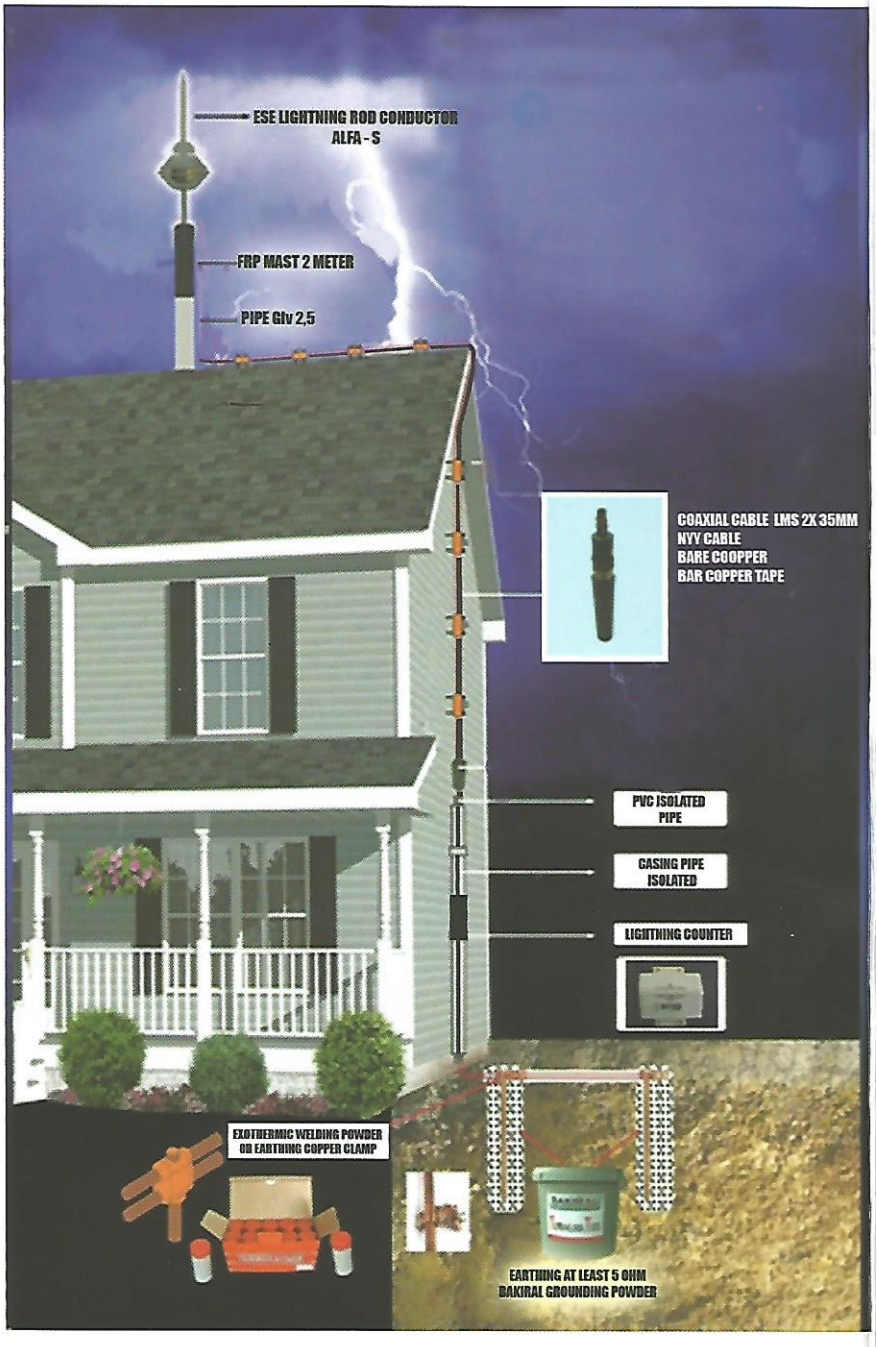
ESE LIGHTNING ROD PROTECTION SYSTEMS

Bakiral Elektrik Ltd Sti. Manufacturing Company has been Producing ESE Lightning Rod Conductors (Early Streamer Emission Lightning Rod Protection) since 2007. Our manufacturing range in becoming main our production that ESE Lightning rod Conductor Exothermic welding powder. Lightning rod air terminal and clips accessories.
Bakiral ESE Air Terminal comply with NFC 17 102 and certified ISO 9001-2008, ISO 14001-2004, OHSAS 18001-2007 and CE Declaration of Conformity

All Bakiral ESE Air Terminal can used all Industry such as :

* Petrochemical, Oil and Gas
* High rise Buildings and Hotels
* Mining
* Telecommunication and Broadcasting
* Sporting Centre – Golf Course, Stadiums
* Aviation
* Industrial Facilities
* Defense
* Power Generation and distribution
* Rail /Transportation



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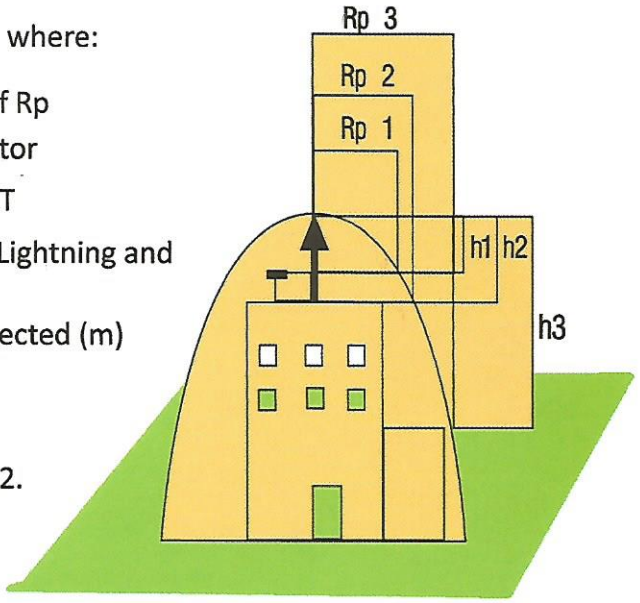
PROTECTED AREA

The Protection radius (Rp) of a Bakiral ESE Air terminal is calculated using the Following formula as defined by the France National Standard NFC 17-102 (July 1995)

$$Rp=\sqrt{h(2D-h)+\Delta L(2D+\Delta L)} \text{ for } h\geq 5m \text{ where:}$$



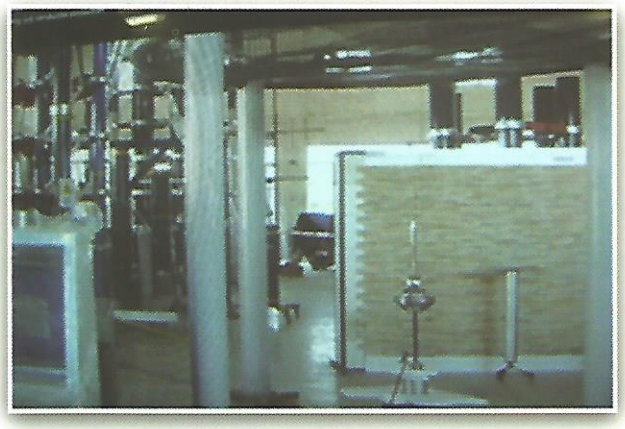
The following key parameters determine the calculation of Rp

* ΔT is the triggering advance of the ESE Lightning conductor
* ΔL is the upward leader length gain defined by $\Delta L = V.\Delta T$
* V : the moving velocity of ions occur around Air Terminal to Lightning and in Standard V=1M/μ
* h=actual height of Air terminal above the area to be protected (m)
* D(in m) depends on the selected level of protection, protection

Level area specified in annex B of the standard NFC 17-102.
D=20m for protection level I (High Protection)
D=45m for protection level II (Medium Protection)
D=60m for protection level III (standard Protection)

NFC 17- 102 STANDARD PROTECTION

h(m)	(Rp) Half Protection Radius (m) (ΔL = 60m) Protection Level		
	I	II	III
5	79	97	107
10	79	99	109
20	80	102	113
30	80	104	116
60	80	105	120



TESTED IN NFC 17-102 LABORATORY

* BAKIRAL THOR ESE AIR TERMINAL : ΔT = 66 μS
* BAKIRAL THOR – S ESE AIR TERMINAL : ΔT = 76 μS
* BAKIRAL ALFA ESE AIR TERMINAL : ΔT = 66 μS
* BAKIRAL ALFA - S ESE AIR TERMINAL : ΔT = 76 μS
* BAKIRAL BETA ESE AIR TERMINAL : ΔT = 66 μS

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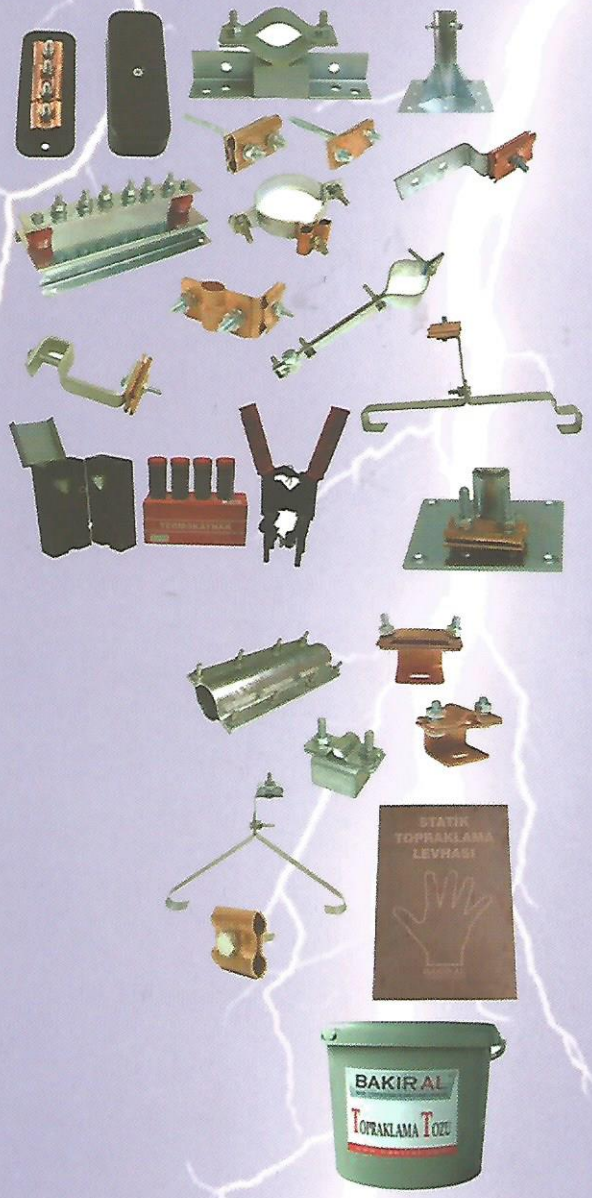
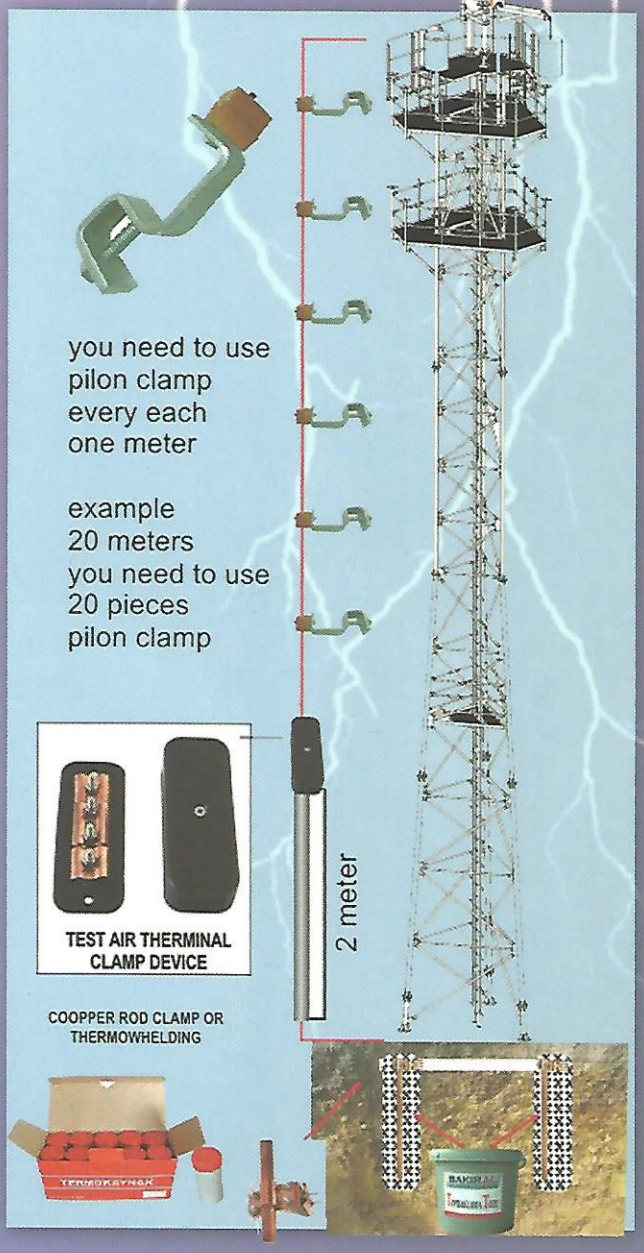
NFC 17 102 CERTIFICATE

CE

ESE LIGHTNING ROD CONDUCTOR - GROUND MOUNTS





Distributed by

BAKIRAL ELEKTRIK LTD STI
FACTORY ADDRESS
1204/6 Sk. No:30 Omer Atli Makz.
Yenisehir-IZMIR-TURKEY
TEL: + 90 232 458 98 69
FAX: + 90 232 458 98 79
INFO@BAKIRAL.COM
WWW.BAKIRAL.COM