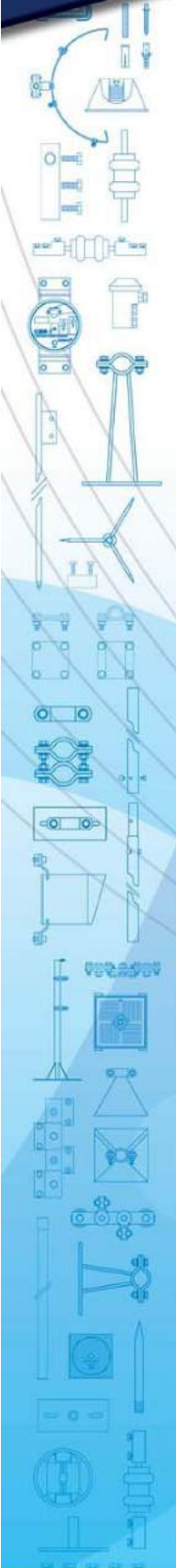


**LIGHTNING RODS**

**& ACCESSORY MATERIAL**



# catalogue 36.1

**INGESCO**  
LIGHTNING SOLUTIONS



## 1. ¿WHO ARE WE?



The **INGESCO**<sup>®</sup> brand has been distinguished since 1973 for quality and leadership in **design, manufacture and installation of lightning protection systems** (lightning rods, meshes and surge protectors) and the **devices for lightning and storm prevention** and early warning.

Our manufacturing division relies on the reinforcement of the **LABELEC Electrotechnical Laboratory** in order to carry out the research and tests which permit our R&D department to advance the design of more efficient lightning rods and prevention devices.

In addition, **LABELEC** verifies the quality of all our products by submitting them to rigorous and severe electrical tests, including the most extreme environmental and corrosive conditions.



Our group is guaranteed by **36 years of experience**, with the execution of almost **40,000 lightning protection facilities** in Spain in all types of construction, and by a clear wager of the **research and development of new technological solutions** to the challenges faced by lightning protection.



From this permanent effort for the technical renovation and the quality, appear products such as **INGESCO**<sup>®</sup> **PDC, PDC-E** and **Stream** Lightning Rods, in regards to prevention we offer the **Lightning Location System**, in real time, or the **IPSO** series of lightning detectors in their different applications.

The quality of our lightning rods has been recognised by their corresponding product certificates, granted by the **Bureau Veritas International** certification organisation, which also guarantees the **ISO 9001:2008** quality certificate given to our production and marketing processes.

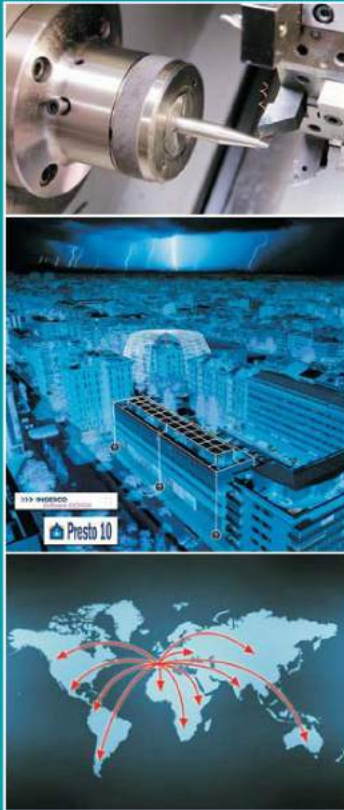


### INSPECTION ENTITY :

The **QUIBAC** Inspection Entity is a conformity assessment agency (Type C), accredited by **ENAC** (Accreditation n°41/EI069) for lightning rod facilities. **QUIBAC**, accredited as an Inspection Entity, performs an unbiased and objective evaluation of any protection system at all required stages: **Design and Engineering Management, Installation, Periodic Inspections.**



## 2. ¿WHAT DO WE OFFER?



### PERSONALISED ATTENTION :

INGESCO® offers immediate replies to your consultations. We offer for your disposition our qualified technical and personnel infrastructure which will provide the best assessment of lightning and surge protection and prevention.



### DESIGN, MANUFACTURING & INSTALLATION :

INGESCO® offers an integral lightning and surge protection and prevention service. Our offers encompass **the initial protection and prevention systems design** to the **manufacture, installation and start up** of the equipment. This allows us to provide concrete solutions to the specific needs of our clients.

Our Technical Office know in depth the national and international application norms and regulations (norms **UNE 21186, NFC 17102, EN 50164** and **EN 62305**) and the latest available technology, and can advise and design the protection project most adequate for your needs.

INGESCO® makes available to his clients the following tools:

- **INGESCO SOFTWARE DESIGN.** An online program for calculating the protection level required according to the needs of the project. Also, the program can be used to aid in the elaboration of the study on blueprints through the use of tools such as: Installation guide, protection volume in CAD format... ([www.ingesco.com/estudios](http://www.ingesco.com/estudios))
- **Product Catalog in PRESTO/FIEBDC format.** This catalog contains the necessary information to elaborate calculation logs and estimates through expenditure items, price schedule and technical information, among others. ([www.ingesco.com/estudios](http://www.ingesco.com/estudios))

**Investment products and solutions to made to fit** are the currency which paves our way.

### QUALITY SYSTEMS :

All the **INGESCO®** products are submitted to strict quality checks before entering the market. This effort has been recognised with, already in 2004, **ISO 9001:2000 certification**, a guarantee of quality in the processes of our products and services.

### AREAS COVERED :

- **LIGHTNING PROTECTION**
  - Air terminals
  - Grounding systems
  - Meshed systems (Faraday's cage)
- **PREVENTION**
  - Lightning detectors of the IPSO series
  - Lightning location systems (SLR)
- **INTERNAL PROTECTION**
  - Transient voltage protector devices



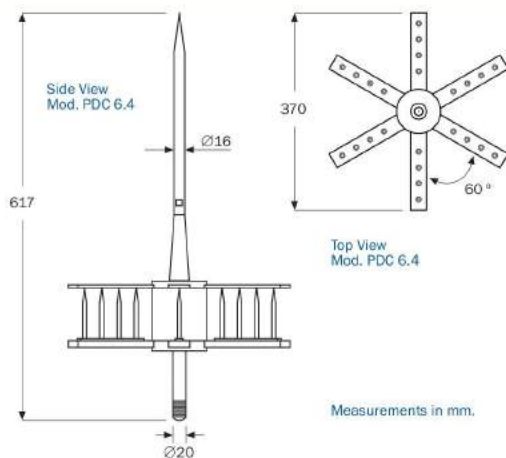


## 3. PROTECTION LINE: 3.1 AIR TERMINALS

### INGESCO® PDC LIGHTNING RODS



Photo Mod. PDC 6.4  
(Ref. 101009)



#### DESCRIPTION :

- Lightning rod with non-electronic **ESE** (Early Streamer Emission) system, standardized according norms UNE 21.186 and NFC 17.102.
- Adaptable to all types of buildings.
- Complies with the requirements set forth in the standards:
  - UNE 21.186
  - NFC 17.102
  - EN 50.164/1
  - EN 62.305
- Product certification num. ES020609 issued by the certification entity Bureau Veritas International.
- Made of AISI 316 stainless steel and epoxy resin.
- 100 % EFFICIENCY, maximum durability.
- Does not need an external power supply.
- Guarantee of electrical continuity and operation after lightning strike, in any atmospheric conditions.



#### MODELS / PROTECTION LEVELS :

	PDC 3.1	PDC 3.3	PDC 4.3	PDC 5.3	PDC 6.3	PDC 6.4
<b>INGESCO Lightning Rod Model</b>						<b>NEW!</b>
<b>Reference</b>	101000	101001	101003	101005	101008	101009
<b>Weight</b>	1.950	2.900	3.100	3.200	3.500	3.900
<b>Δt</b>	15 μs	25 μs	34 μs	43 μs	54 μs	60 μs
<b>LEVEL I</b>	35 m	45 m	54 m	63 m	74 m	80 m
<b>LEVEL II</b>	43 m	54 m	63 m	72 m	83 m	89 m
<b>LEVEL III</b>	54 m	65 m	74 m	84 m	95 m	102 m
<b>LEVEL IV</b>	63 m	75 m	85 m	95 m	106 m	113 m

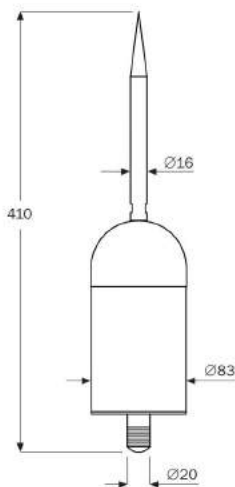
Protection radii calculated according to: Norm UNE 21.186:1996/1M:2009 & NFC 17.102 rectificatif Janvier 2009. (These radii of protection have been calculated according to an altitude difference of 20 m between the end of the lightning rods and the considered horizontal plane).

## 3.1 AIR TERMINALS

### INGESCO® PDC-E LIGHTNING RODS



Photo Mod. PDC-E



#### DESCRIPTION :

- Lightning rod with electronic **ESE** (Early Streamer Emission) system, standardized according norms UNE 21.186 and NFC 17.102.
- Adaptable to all types of buildings.
- Complies with the requirements set forth in the standards:
  - UNE 21.186
  - NFC 17.102
  - EN 50.164/1
  - EN 62.305
- Product certification num. ES020609 issued by the certification entity Bureau Veritas International.
- Made of AISI 316 stainless steel.
- 100 % EFFICIENCY, maximum durability.
- Does not need an external power supply.
- Guarantee of electrical continuity and operation after lightning strike, in any atmospheric conditions.



#### MODELS / PROTECTION LEVELS :

MODEL	PDC-E 15	PDC-E 30	PDC-E 45	PDC-E 60
Reference	102000	102001	102002	102003
Weight	3.850 g	3.840 g	3.830 g	3.820 g
$\Delta t$	15 $\mu s$	30 $\mu s$	45 $\mu s$	60 $\mu s$
LEVEL I	35 m	50 m	65 m	80 m
LEVEL II	43 m	59 m	74 m	89 m
LEVEL III	54 m	70 m	86 m	102 m
LEVEL IV	63 m	81 m	97 m	113 m

Protection radii calculated according to: Norm UNE 21.186 & NFC 17.102 (These radii of protection have been calculated according to an altitude difference of 20 m between the end of the lightning rods and the considered horizontal plane).