



NATIONAL INSTITUTE FOR RESEARCH, DEVELOPMENT
AND TESTING IN ELECTRICAL ENGINEERING

ICMET CRAIOVA
HIGH VOLTAGE DIVISION

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accredited for
TESTING



SR EN ISO/CEI 17025:2005
ACCREDITATION CERTIFICATE
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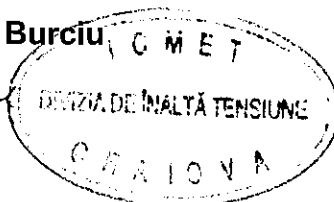
TEST REPORT
No. 45800 / 14.03.2017

1. CUSTOMER:	TS Lightning Protection Co., Ltd No. 9 Dongyingxiang, Dongping Village, Baiyun District, Guangzhou China
2. MANUFACTURER:	TS Lightning Protection Co., Ltd No. 9 Dongyingxiang, Dongping Village, Baiyun District, Guangzhou China
3. TESTED PRODUCT:	Early Streamer Emission (ESE) Lightning Conductor Model SMT-ESE60
4. REFERENCE STANDARD:	NF C 17-102:2011, Annex C
5. PERFORMED TESTS:	General tests (C.3.1) I Documentary information and identification (C.3.1.1) II Marking tests (C.3.1.2) III Mechanical tests - Inspection of dimensional characteristics (C.3.2)
6. TEST DATE:	10.03.2017
7. TEST RESULTS:	The product passed the tests

The test report contains 6 pages and is edited in 4 copies, copy no.1 remain in laboratory and copies 2, 3, 4 are sent to the customer.

HEAD OF HVD – TECHNICAL MANAGER,

Dipl. Eng. Ion Burciu



HEAD OF TESTING TEAM,

Dipl. Eng. Ion Dinu

Warnings:

- The results refer only to the tested product.
- Publication and reproduction of the contents of this report in any other form unless its complete photocopying is not allowed without writing approval of Division to which laboratory belongs.
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**1. IDENTIFICATION OF THE TEST PRODUCT**

Type:	SMT-ESE60
Serial / year:	SN: TS 60001387
Technical Specification / Drawing:	Drawing (Annex)
Contract / Test order:	No. 705.2/828/02.02.2017
Internal test order:	23248/03.02.2017
Product receiving date:	09.03.2017
Product condition at receiving:	New

2. TECHNICAL CHARACTERISTICS ESTABLISHED BY MANUFACTURER

Current Capacity	≥ 200 kA (10/350 μ s)
Capacity against wind speed:	≥ 40 m/s
Early streamer emission efficiency, ΔT	60 μ s
ΔL	60M
Dimension (Length)	408 mm
Weight	4,5 kg

3. TESTS PROGRAM

1		General tests	C.3.1
1.1	I	Documentary information and identification	C.3.1.1
1.2	II	Marking tests	C.3.1.2
2	III	Mechanical tests - Inspection of dimensional characteristics	C.3.2

4. RESPONSIBLE FOR TEST

I, II, III	Dipl. Eng. Luminita Tascau
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5. PRESENT AT THE TEST

6. TESTS DESCRIPTION AND TEST RESULTS PRESENTATION

6.1 DOCUMENTARY INFORMATION AND IDENTIFICATION (I)

Test date:	10.03.2017
Test standard:	NF C 17-102:2011, Annex C, clause C.3.1.1
Atmospheric conditions:	t = 23 °C; RH = 40%
Equipment used:	–
Test procedure:	<p>The ESE Lightning Conductor was identified by the following information indicated on the product (marking), Photo 1:</p> <ul style="list-style-type: none">• Trade mark of the manufacturer TSTLP• Product reference NF C 17-102:2011• Early streamer emission efficiency ΔT: 60 μs• Serial number TS 60001387• Model SMT-ESE60 <p>The checking of the identification of marking was carried out by visual inspection.</p>
Test results:	The product passed the test

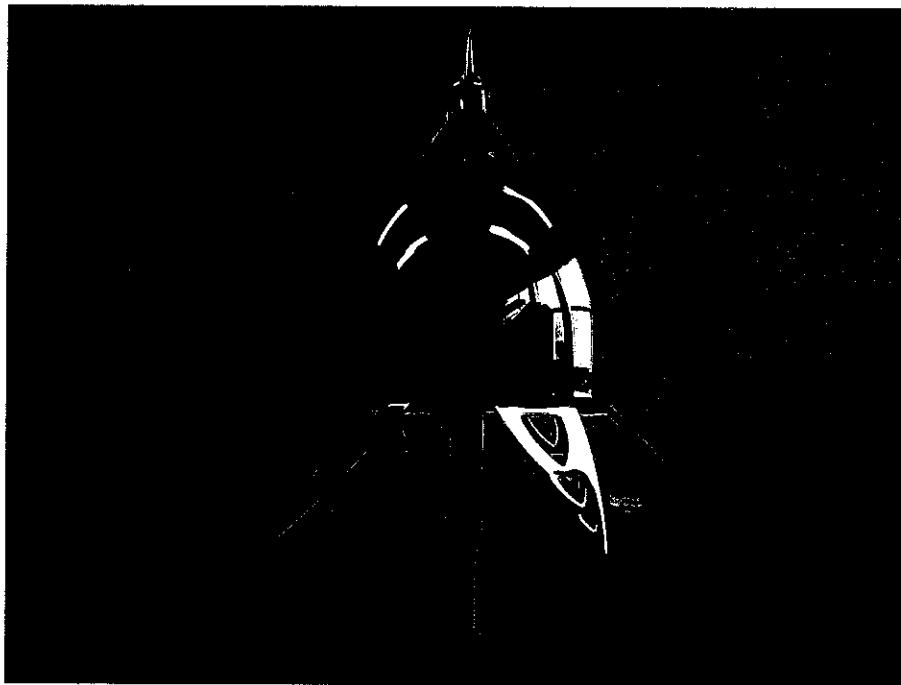


Photo 1

6.2 MARKING TESTS (II)

Test date:	10.03.2017
Test standard:	NF C 17-102:2011, Annex C, clause C.3.1.2
Atmospheric conditions:	t = 23 °C; RH = 40%
Equipment used:	–
Test procedure:	The test is not carried out, for marking carried out via engraving, according to the NF C 17-102:2011 (except from C.3.1.2).
Test results:	–

6.3 MECHANICAL TESTS. Inspection of dimensional characteristics (III)**Test date:** 10.03.2017**Test standard:** N FC 17-102:2011, Annex C, clause C.3.2**Atmospheric conditions:** $t = 23^{\circ}\text{C}$; RH = 40%**Equipment used:**

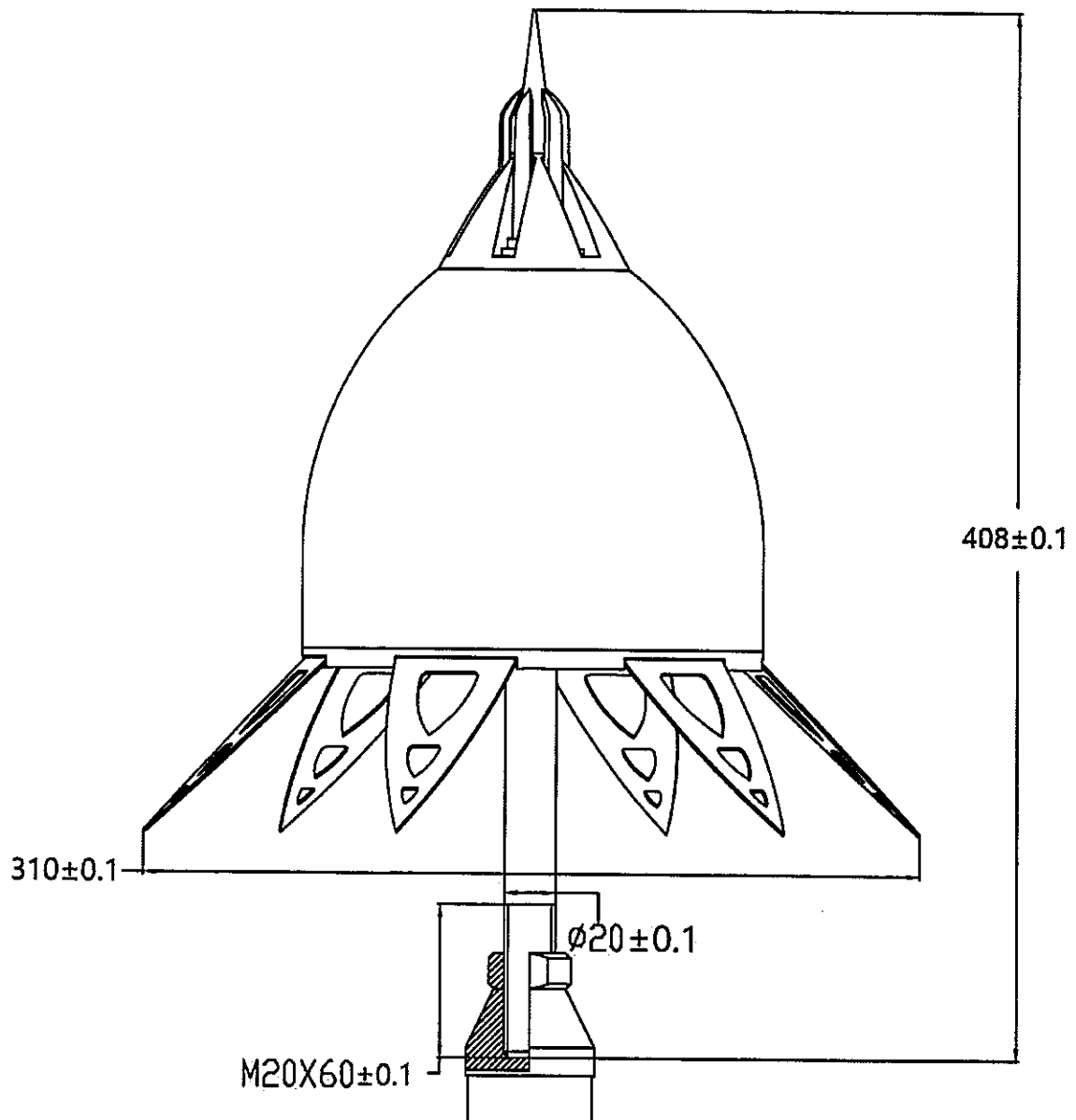
- Digital calliper, serial no. 5V0064501, manufacturer TESA Switzerland, CC no. DJ-017-162-833/2013, DRML Craiova
- Vernier calliper, serial no. D18051, manufacturer China, CC no. 01.01-128/2017/2017, INM Bucharest

Test procedure: The checking of the dimensional characteristics with their tolerances was carried out according to manufacturer drawing (see Annex)

Dimension (mm)	$\varnothing 20$ ± 0.1	M20	60 ± 0.1	310 ± 0.1	408 ± 0.1
Measured value (mm)	$\varnothing 19.9$	M20	60.1	310	408

Test results: The difference between the measured values and the rated dimensions has complied with the specified deviations (tolerances). The product passed the test.

Annex



– End of test report –