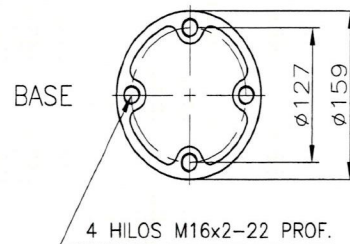
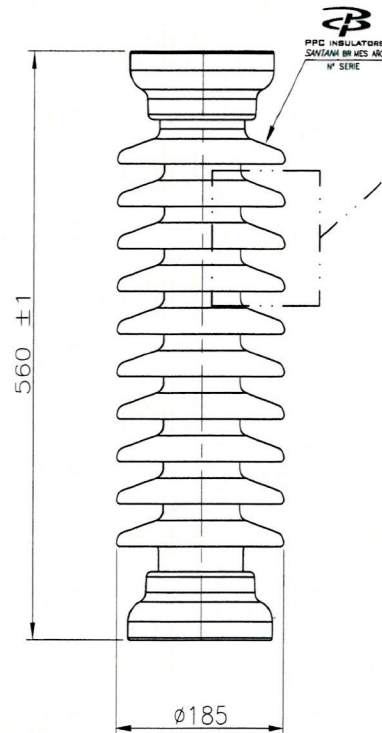
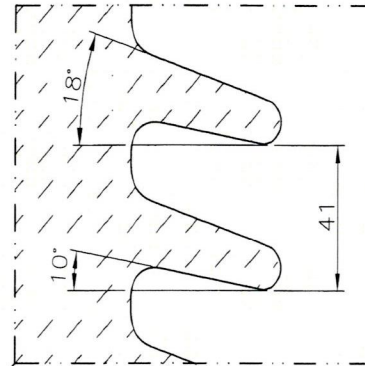
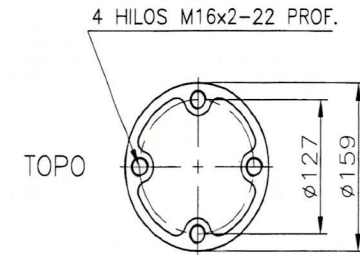


N.º	REVISIÓN	FECHA	AUT.



CARACTERÍSTICAS DIMENSIONALES

DISTANCIA NOMINAL DE FUGA	mm	1200
DISTANCIA DE FLAMEO EN SECO	mm	460

CARACTERÍSTICAS MECÁNICAS

RESISTENCIA A LA FLEXIÓN (NORMAL/INVERTIDO)	N	8000
RESISTENCIA A LA TORSIÓN	N.m	2500

CARACTERÍSTICAS ELÉCTRICAS

TENSIÓN SOPORTABLE BAJO LLUVIA	kV	95
TENSIÓN SOPORTABLE DE MANIOBRA	kV	-
TENSIÓN SOPORTABLE DE IMPULSO	kV	250

PESO NETO	kg	25
-----------	----	----

NOTAS :

- 1-TOLERANCIA Y PRUEBAS DE ACUERDO CON LA NORMA IEC 60168/273.
- 2-NÚMERO DE ALETAS : 10
- 3-ACABAMIENTO PARTES METÁLICAS : GALVANIZADO A CALIENTE, DE ACUERDO CON LA NORMA ASTM A-153.
- 4-DIMENSIONES EN MILÍMETROS.
- 5-COLOR : MARRÓN Ó GRIS.
- 6-EMPAQUE, EMBALAJE, EMBARQUE, TRANSPORTE, DESCARGA, RECEPCIÓN Y ALMACENAMIENTO DE BIENES MUEBLES ADQUIRIDOS POR CFE, DE ACUERDO A LA ESPECIFICACIÓN CFE-L1000-11.



TÍTULO: AISLADOR SOPORTE PORCELANA NBAI 250 kV				IDENTIFICACIÓN	
				REFERENCIA -	
ORIGEN: PROYECTO SANTANA (CFE 52810-32-CORTA CPB-200-III Y CPB-250-III)	ELAB./FECHA	VER./FECHA	APROV./FECHA	REVISIÓN	
	16/06/16	16/06/16	16/06/16	-	
	CÓD. CAD: G:PROJ\UNI-02\STATION\A037	CÓD.	8.8252.65	FOLHA	ESCALA
			TIPO- CAED	-	-

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REVISIÓN
N.º

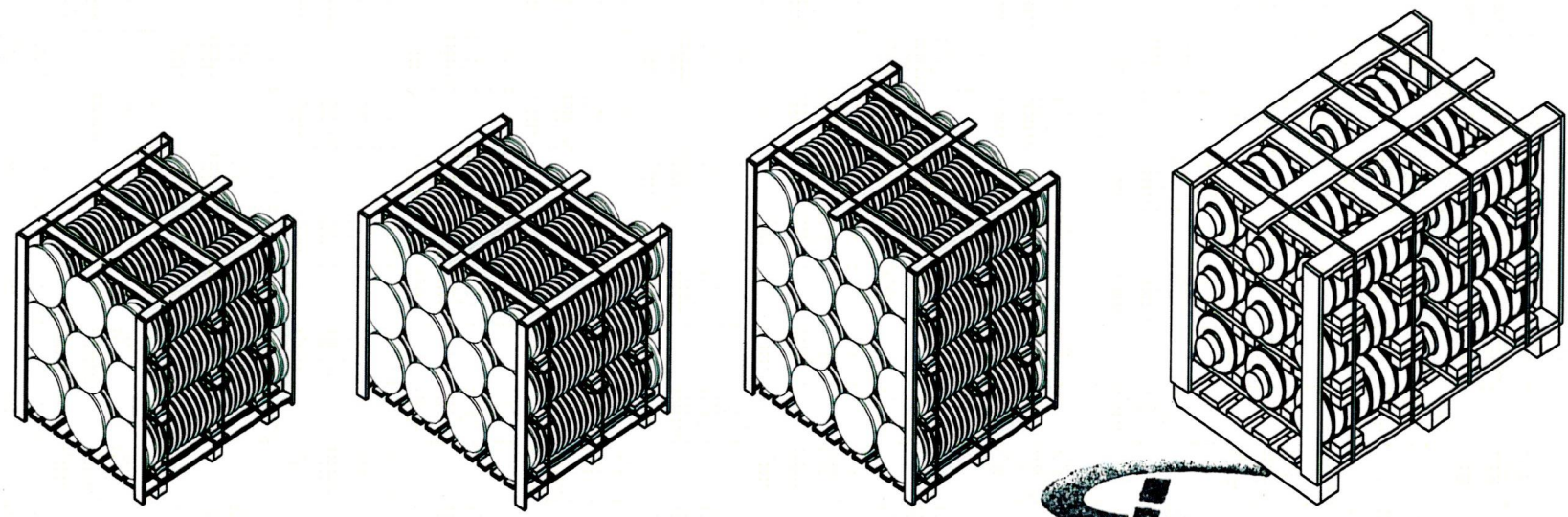
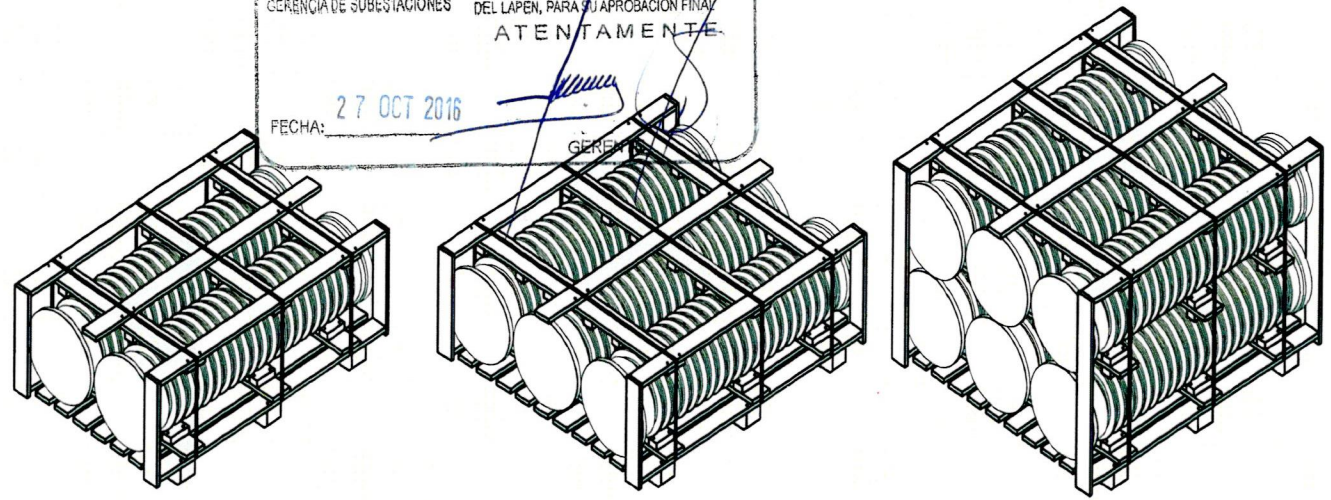
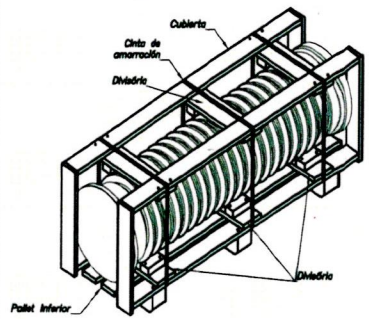
CFE
 GERENCIA DE SUBESTACIONES

SE REVISÓ EN CUANTO A CARACTERÍSTICAS ELÉCTRICAS Y DIMENSIONES, SIN QUE ESTO EXIMA QUE DEBE CUMPLIR SATISFACTORIAMENTE CON LAS PRUEBAS DEL LAPEN, PARA SU APROBACIÓN FINAL.

ATENTAMENTE.

FECHA: 27 OCT 2016

GERE



NOTAS:

- 1- PLANOS MERAMENTE ILUSTRATIVOS.
- 2- LA COMPOSICIÓN DE LOS BULTOS PUEDEN VARIAR DE ACUERDO CON LAS DIMENSIONES DE LOS AISLADORES.
- 3- PLANOS MERAMENTE ILUSTRATIVOS.
- 4- UTILIZACIÓN PARA LOS AISLADORES MACIZOS.
- 5- EMPAQUE, EMBALAJE, EMBARQUE, TRANSPORTE, DESCARGA, RECEPCIÓN Y ALMACENAMIENTO DE BIENES MUEBLES ADQUIRIDOS POR CFE, DE ACUERDO A LA ESPECIFICACIÓN CFE-L1000-11.



PPC SANTANA

TÍTULO: EMBALAJE HORIZONTAL	PPC SANTANA			IDENTIFICACIÓN	
				REFERENCIA X212	
ORIGEN: PROYECTO SANTANA	ELAB./FECHA	VER./FECHA	APROB./FECHA	REVISIÓN	
	28/10/16	28/10/16	28/10/16	-	
CÓD. CAD: G-PROJ DIVERSOS D00VX210			FOLHA	ESCALA	
CÓD. -			-	-	
			TIPO- DVDV		



The logo graphic consists of a white, stylized, swirling line that forms a partial circle around the text. A small yellow star is positioned above the letter 'A'.
LACTEC



INSTITUTO DE TECNOLOGIA
PARA O DESENVOLVIMENTO

REPORT

DOCUMENT N°

UTAT - 043 / 2004

ADDRESS:

Centro Politécnico UFPR - P.O. Box 19067 - CEP 81531-980 - Curitiba - PR - Brazil
Phone: +55 41 361-6200 Fax: +55 41 266-3582 E-mail: lactec@lactec.org.br

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PAGE

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TITLE:
DRY LIGHTNING IMPULSE FLASHOVER VOLTAGE TEST
DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE TEST
DRY POWER FREQUENCY FLASHOVER VOLTAGE TEST
DRY POWER FREQUENCY WITHSTAND VOLTAGE TEST
WET POWER FREQUENCY FLASHOVER VOLTAGE TEST
WET POWER FREQUENCY WITHSTAND VOLTAGE TEST
RADIO INFLUENCE VOLTAGE TEST
CORONA EXTINCTION VOLTAGE TEST
MECHANICAL STRENGTH TEST

SCOPE:
STATION POST INSULATOR - SOLID CORE
MANUFACTURER: SANTANA
TYPE: IEC 168 / 273 - CLASS C10 - 200 -II
BIL: 200 KV
DRAWING NUMBER: CODE 8.1022.65
NUMBER OF TEST SPECIMEN:
ELECTRICAL TESTS: 01
MECHANICAL TEST: 03



SERVICE ORDER:

CUSTOMER:
ISOLADORES SANTANA S. A.
RUA ANTONIO PEDRO, 645
13920-000 - PEDREIRA - SP - BRAZIL

NUMBER OF ANNEXES: 06

REPORT BY:

Carlos Y. Nakaguishi
Electrical Engineer - CREA 8547-D(PR)

CHECKED BY:

Carlos Y. Nakaguishi
Electrical Engineer - CREA 8547-D(PR)

APPROVED BY:

High Voltage Unit

"The results of this test report apply only to the items tested/analysed"

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PAGE

2 of 5

1. INTRODUCTION

1.1- Test(s) / Analysis(es) performed:

- DRY LIGHTNING IMPULSE FLASHOVER VOLTAGE TEST
- DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE TEST
- DRY POWER FREQUENCY FLASHOVER VOLTAGE TEST
- DRY POWER FREQUENCY WITHSTAND VOLTAGE TEST
- WET POWER FREQUENCY FLASHOVER VOLTAGE TEST
- WET POWER FREQUENCY WITHSTAND VOLTAGE TEST
- RADIO INFLUENCE VOLTAGE TEST
- CORONA EXTINCTION VOLTAGE TEST
- MECHANICAL STRENGTH TEST

1.2- Test Equipment:

- VOLTAGE IMPULSE GENERATOR, HAEFELY, TYPE V3200/160
- DAMPED CAPACITIVE VOLTAGE DIVIDER, HAEFELY, TYPE CR 3200
- PEAK VOLTMETER, HAEFELY, TYPE SV64M, N° 080255-31-80
- DIGITAL OSCILLOSCOPE, TEKTRONIX, MODEL 744A, N° B040680
- MOTOR GENERATOR, 60 HZ, 6900 V, N° 57222
- TEST TRANSFORMER, ASEA, TYPE TMZ-17, N° 7219634
- SERIES RESONANT SYSTEM, HIPOTRONICS, TYPE 7300-750SR
- PEAK VOLTMETER, HAEFELY, TYPE SV64M, N° 080255-31-80
- ARTIFICIAL RAIN EQUIPMENT, MWB, TYPE R200, N° 772797
- COUPLING CAPACITOR, MICALFIL, 1000 PF, N° 0026119
- FIELD INTENSITY METER, SINGER, TYPE NM 17/27, N° 04072

1.3- Date of Test:

- November, 24-26, 2003
- December 15, 2003
- February, 10-11, 2004 (Mechanical Strength Test)

1.4- Place:

- LACTEC/DPEL -High Voltage Laboratory
- ISOLADORES SANTANA S/A - PEDREIRA - SP

1.5- Tested by:

- Celso Luis de Lima Martins
- Edson Pasqualim
- Carlos Eduardo Ribas
- Michel Lucio Garcia
- Nilson de Oliveira

1.6- Witnessed / Inspected by:

- Marcelo Acorsi (SANTANA)



2. REFERENCES

IEC 60168, "Tests on Indoor and Outdoor Post Insulators of Ceramic Material or Glass for Systems with Nominal Voltages Greater than 1000 V", IEC, Geneve

IEC 60273, "Characteristics of Indoor and Outdoor Post Insulators for Systems with Nominal Voltages Greater than 1000 V", IEC, Geneve

AS 1137, Part 3 - 1981, "Insulators - Porcelain and Glass Indoor and Outdoor Station Post Insulators (for voltages greater than 1000 Vac)", SAA, Sidney - Australia

3. TEST DESCRIPTION

3.1- Dry Lightning Impulse Flashover Voltage Test

In the test specimen, the voltage corresponding to a 50 percent disruptive discharge probability V50%, both polarity, was determined by the up-and-down method, with 30 applications.

The following results were obtained:

Test Specimen	V50% (+)	V50% (-)
# 01	248.3 kV	452.4 kV

A complete set of test results is enclosed in Annex 01.



3.2- Dry Lightning Impulse Withstand Voltage Test

Fifteen consecutive impulses of both polarity and peak voltage of 230 kV, with appropriate atmospheric corrections were applied to the test specimen.

No puncture or flashover was observed during the test.

A complete set of test results is enclosed in Annex 02.

3.3- Dry Power Frequency Flashover Voltage Test

In the test specimen, the dry power frequency flashover voltage was determined by averaging five flashover voltages.

The average flashover voltage was corrected to standard atmospheric conditions.

The following results were obtained:

Test Specimen	Average
# 01	157 kV

A complete set of test results is enclosed in Annex 03.

No puncture was observed during the test.

3.4- Dry Power Frequency Withstand Voltage Test

The rated dry power frequency withstand voltage of 135 kV, with appropriate atmospheric corrections was applied to the test specimen during 60 seconds.

A complete set of test results is enclosed in Annex 03.

No puncture or flashover was observed during the test.

3.5- Wet Power Frequency Flashover Voltage Test

In the test specimen, the wet power frequency flashover voltage was determined by averaging five flashover voltages.

The average flashover voltage was corrected to standard atmospheric conditions.

The following results were obtained:

Test Specimen	Average
# 01	85 kV

A complete set of test results is enclosed in Annex 04.

No puncture was observed during the test.



3.6- Wet Power Frequency Withstand Voltage Test

The rated dry power frequency withstand voltage of 75 kV, with appropriate atmospheric corrections was applied to the test specimen during 60 seconds.

A complete set of test results is enclosed in Annex 04.

No puncture or flashover was observed during the test.

3.7- Radio Influence Voltage Test

The test specimen was tested using a Field Intensity Meter at 1000 kHz, with a measuring impedance of 150 Ω .

The radio interference voltage measured at 28.6 kV (phase-ground) test voltage was the following:

Test Specimen	RIV @ 28.6 kV (Zm=150 Ω , fm= 1000 kHz)
# 01	11.2 μ V

A complete set of test results is enclosed in Annex 05.

ADDRESS:

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3.8- Corona-Extinction Voltage Test

The corona-extinction voltage of the test specimen was determined.

Test Specimen	Corona-Inception Voltage	Corona-Extinction Voltage
# 01	88 kV	82 kV

3.9- Mechanical Strength Test

Three test specimens were subjected to the mechanical strength test, comprising bending and torsion tests.

The following results were obtained:

A) Bending Test

Test Specimen	Bending Strength	Test	Result
# 01	10000 N	14800 N	Porcelain breakage
# 02	10000 N	13330 N	Porcelain breakage
# 03	10000 N	12940 N	Porcelain breakage

B) Torsion Test

Test Specimen	Torsional Strength	Test	Result
# 01	2500 N.m	2770 N.m	No breakage
# 02	2500 N.m	2810 N.m	No breakage
# 03	2500 N.m	2600 N.m	No breakage

4. DRAWING

Drawing number CODE 8.1022.65, furnished by the customer, is enclosed in this report as Annex 06.



INSTITUTO DE TECNOLOGIA
PARA O DESENVOLVIMENTO

REPORT

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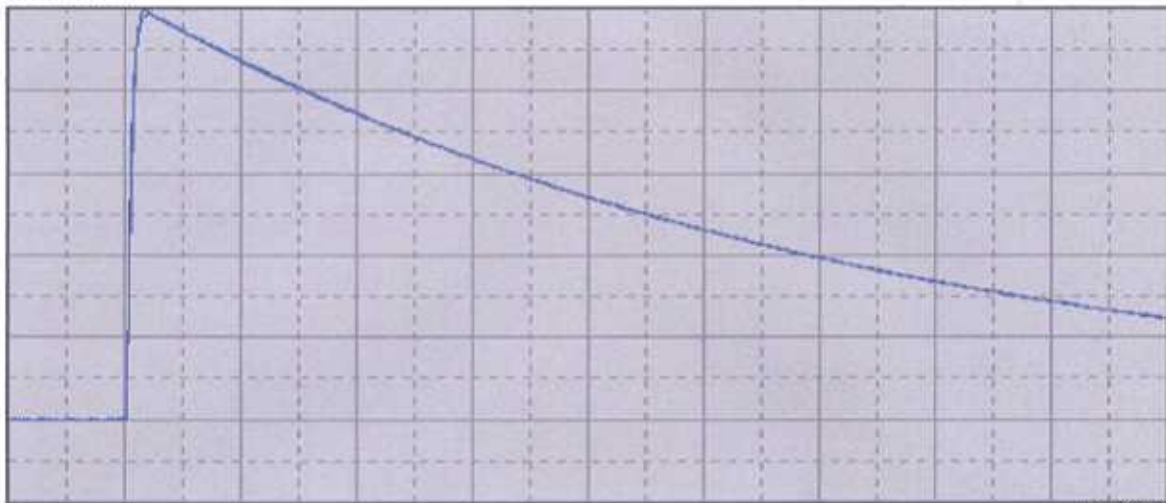
ANNEX / PAGE

Annex 01 / Page 01 of 02

DRY LIGHTNING IMPULSE FLASHOVER VOLTAGE TEST

CUSTOMER SANTANA	MANUFACTURER SANTANA	TYPE 8.1022.65	NOMINAL VOLTAGE kV
SPECIMEN # 01	POLARITY (+)	TEST TYPE <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET	DRY ARCING DISTANCE 0.370 m
NUMBER OF STAGES (IMP. GEN.) 4s/1p	VOLTAGE DIVIDER CR 3200	SCALE FACTOR 528.1	WAVE FORM 1.04 / 46.0
DRY-BULB THERMOMETER 22.1 °C	WET-BULB THERMOMETER 19.6 °C	ATMOSPHERIC PRESSURE 681.2 mmHg	CORRECTION FACTOR 0.930

VOLTAGE WAVE FORM



HORIZONTAL: 10 µs/div

APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)	APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)
1	62.0	232.3	232.3	249.8	9.9	21	62.0	232.0	232.0	249.5	9.1
2	60.1	224.7	224.7	241.6	-	22	60.1	224.8	224.8	241.7	9.8
3	62.0	231.9	231.9	249.4	-	23	58.2	217.4	217.4	233.8	-
4	63.9	239.5	239.5	257.5	7.4	24	60.1	225.1	225.1	242.0	-
5	62.0	231.8	231.8	249.2	-	25	62.0	232.3	232.3	249.8	8.5
6	63.9	239.5	239.5	257.5	-	26	60.1	224.8	224.8	241.7	10.4
7	65.8	246.2	246.2	264.7	6.6	27	58.2	218.0	218.0	234.4	-
8	63.9	239.5	239.5	257.5	8.0	28	60.1	225.0	225.0	241.9	-
9	62.0	231.8	231.8	249.2	-	29	62.0	232.5	232.5	250.0	-
10	63.9	239.5	239.5	257.5	7.8	30	63.9	239.6	239.6	257.6	8.6
11	62.0	231.9	231.9	249.4	7.9						
12	60.1	225.0	225.0	241.9	-						
13	62.0	232.3	232.3	249.8	9.8						
14	60.1	225.0	225.0	241.9	-						
15	62.0	232.2	232.2	249.7	9.8						
16	60.1	225.0	225.0	241.9	-						
17	62.0	232.3	232.3	249.8	-						
18	63.9	239.4	239.4	257.4	7.7						
19	62.0	232.4	232.4	249.9	7.9						
20	60.1	224.9	224.9	241.8	-						



50% DISRUPTIVE DISCHARGE VOLTAGE (V50%)

248.3 kV

WITHSTAND VOLTAGE EVALUATED FROM V50%

238.6 kV

REMARKS

Curitiba, December 15, 2003

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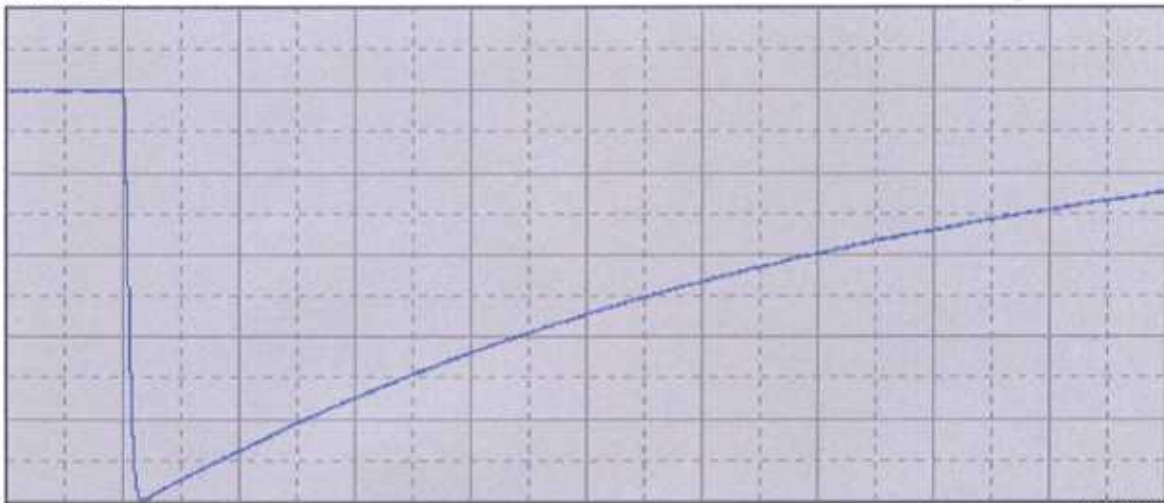
ANNEX / PAGE

Annex 01 / Page 02 of 02

DRY LIGHTNING IMPULSE FLASHOVER VOLTAGE TEST

CUSTOMER SANTANA	MANUFACTURER SANTANA	TYPE 8.1022.65	NOMINAL VOLTAGE kV
SPECIMEN # 01	POLARITY (-)	TEST TYPE <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET	DRY ARCING DISTANCE 0.370 m
NUMBER OF STAGES (IMP. GEN.) 4s/1p	VOLTAGE DIVIDER CR 3200	SCALE FACTOR 528.1	WAVE FORM 1.03 / 45.5
DRY-BULB THERMOMETER 22.1 °C	WET-BULB THERMOMETER 19.7 °C	ATMOSPHERIC PRESSURE 681.6 mmHg	CORRECTION FACTOR 0.890

VOLTAGE WAVE FORM



HORIZONTAL: 10 µs/div

APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)	APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)
1	107.6	402.5	402.5	452.2	5.0	21	107.6	401.9	401.9	451.6	2.9
2	104.4	390.5	390.5	438.8	-	22	104.4	390.5	390.5	438.8	-
3	107.6	401.7	401.7	451.3	2.6	23	107.6	401.4	401.4	451.0	2.5
4	104.4	389.5	389.5	437.6	-	24	104.4	390.5	390.5	438.8	-
5	107.6	402.6	402.6	452.4	4.1	25	107.6	401.7	401.7	451.3	-
6	104.4	390.7	390.7	439.0	-	26	110.8	414.3	414.3	465.5	4.8
7	107.6	402.3	402.3	452.0	2.9	27	107.6	401.8	401.8	451.5	-
8	104.4	391.0	391.0	439.3	2.8	28	110.8	414.5	414.5	465.7	4.7
9	101.2	378.7	378.7	425.5	-	29	107.6	401.5	401.5	451.1	-
10	104.4	390.4	390.4	438.7	-	30	110.8	414.1	414.1	465.3	2.7
11	107.6	402.1	402.1	451.8	-						
12	110.8	414.5	414.5	465.7	3.3						
13	107.6	401.4	401.4	451.0	-						
14	110.8	414.5	414.5	465.7	3.1						
15	107.6	402.1	402.1	451.8	-						
16	110.8	414.9	414.9	466.2	-						
17	114.0	426.1	426.1	478.8	2.8						
18	110.8	414.4	414.4	465.6	3.4						
19	107.6	402.1	402.1	451.8	-						
20	110.8	414.7	414.7	466.0	3.9						



50% DISRUPTIVE DISCHARGE VOLTAGE (V50%)

452.4 kV

WITHSTAND VOLTAGE EVALUATED FROM V50%

434.8 kV

REMARKS

Curitiba, December 15, 2003

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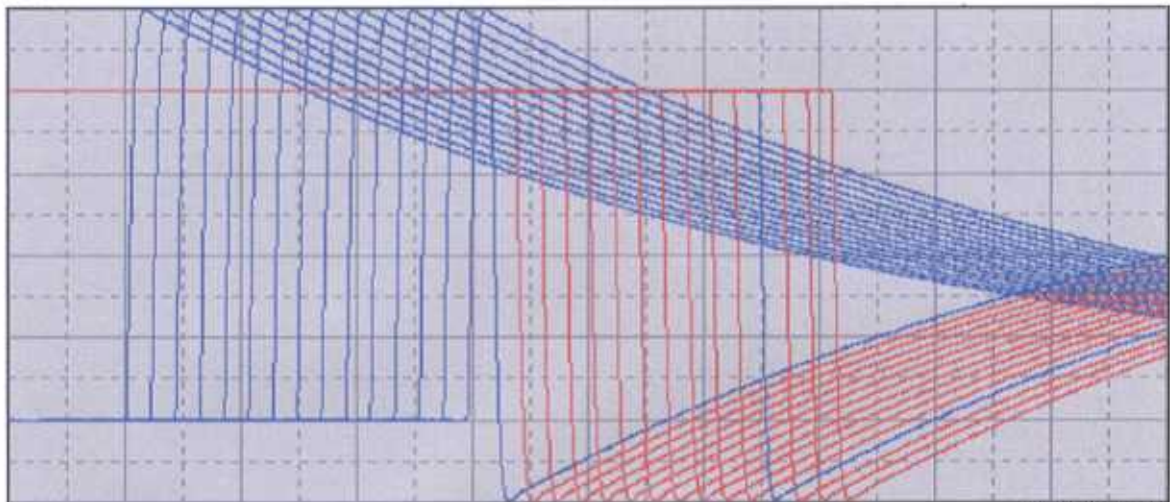
ANNEX / PAGE

Annex 02 / Page 01 of 01

DRY LIGHTNING IMPULSE WITHSTAND VOLTAGE TEST

CUSTOMER SANTANA	MANUFACTURER SANTANA	TYPE 8.1022.65	NOMINAL VOLTAGE kV
SPECIMEN # 01	WITHSTAND VOLTAGE 230 kV	TEST TYPE <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET	DRY ARCING DISTANCE 0.370 m
NUMBER OF STAGES (IMP. GEN.) 4s/1p	VOLTAGE DIVIDER CR 3200	SCALE FACTOR 528.1	WAVE FORM 1.06 / 46.0
DRY-BULB THERMOMETER 22.0 °C	WET-BULB THERMOMETER 19.7 °C	ATMOSPHERIC PRESSURE 680.6 mmHg	CORRECTION FACTOR 0.917

VOLTAGE WAVE FORM



HORIZONTAL: 10 µs/div

POSITIVE POLARITY						NEGATIVE POLARITY					
APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)	APPLIC.	CHARGING VOLTAGE (kV)	CREST VOLTAGE (kV)	PROSPEC. VOLTAGE (kV)	CORRECTED VOLTAGE (kV)	TIME TO CHOPPING (µs)
1	57.0	213.5	213.5	232.8	-	1	57.0	211.0	211.0	230.1	-
2	57.0	211.0	211.0	230.1	-	2	57.0	211.4	211.4	230.5	-
3	57.0	211.2	211.2	230.3	-	3	57.0	211.5	211.5	230.6	-
4	57.0	213.9	213.9	233.3	-	4	57.0	211.0	211.0	230.1	-
5	57.0	211.2	211.2	230.3	-	5	57.0	211.1	211.1	230.2	-
6	57.0	210.9	210.9	230.0	-	6	57.0	211.1	211.1	230.2	-
7	57.0	211.0	211.0	230.1	-	7	57.0	211.5	211.5	230.6	-
8	57.0	210.9	210.9	230.0	-	8	57.0	214.2	214.2	233.6	-
9	57.0	211.1	211.1	230.2	-	9	57.0	211.6	211.6	230.8	-
10	57.0	211.0	211.0	230.1	-	10	57.0	214.9	214.9	234.4	-
11	57.0	214.1	214.1	233.5	-	11	57.0	214.9	214.9	234.4	-
12	57.0	210.8	210.8	229.9	-	12	57.0	215.0	215.0	234.5	-
13	57.0	214.1	214.1	233.5	-	13	57.0	214.4	214.4	233.8	-
14	57.0	213.9	213.9	233.3	-	14	57.0	215.0	215.0	234.5	-
15	57.0	214.1	214.1	233.5	-	15	57.0	214.6	214.6	234.0	-



REMARKS

Curitiba, December 15, 2003

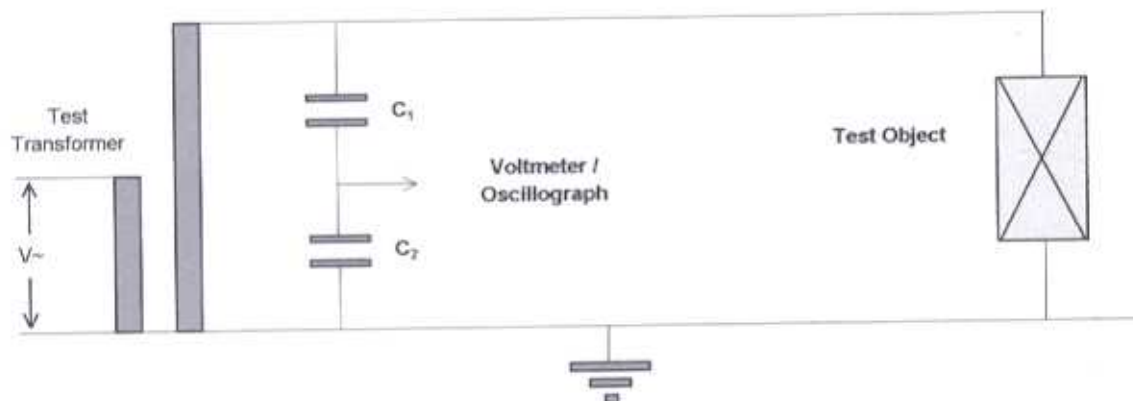
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DRY POWER FREQUENCY VOLTAGE TEST

CUSTOMER SANTANA		MANUFACTURER SANTANA		TYPE 8.1022.65	
DRY-BULB THERMOMETER 25.4 °C	WET-BULB THERMOMETER 17.5 °C	ATMOSPHERIC PRESSURE 678.4 mmHg		ARCING DISTANCE 0.370 m	
CORRECTION FACTOR 0.914					

TEST CIRCUIT



Specimen	DISRUPTIVE DISCHARGE (kV)					WITHSTAND VOLTAGE (kV)					RESULT
	Application 1	Application 2	Application 3	Application 4	Application 5	AVERAGE	CORRECTED VOLTAGE	NOMINAL VOLTAGE	CORRECTED VOLTAGE	TIME (S)	
# 01	147	143	143	141	144	144	157	135	123	60	OK



REMARKS

Curitiba, November 24, 2003

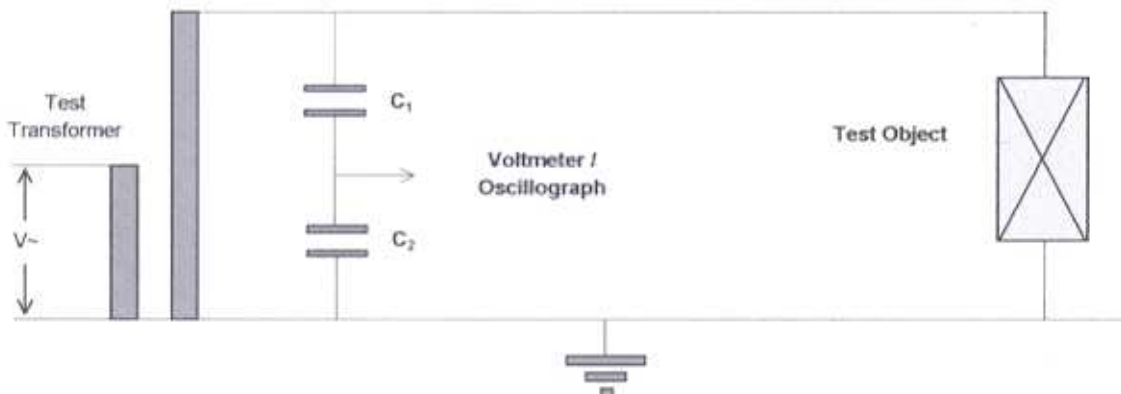
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WET POWER FREQUENCY VOLTAGE TEST

CUSTOMER SANTANA		MANUFACTURER SANTANA		TYPE 8.1022.65	
PRECIPITATION RATE (VERT. COMP.) 3 mm/min	WATER RESISTIVITY 105 $\Omega m @ 20^\circ C$	DRY-BULB THERMOMETER 22.1 $^\circ C$	WET-BULB THERMOMETER 18.5 $^\circ C$		
ARCING DISTANCE 0.370 m	ATMOSPHERIC PRESSURE 681.4 mmHg	CORRECTION FACTOR 0.991			

TEST CIRCUIT



Specimen	DISRUPTIVE DISCHARGE (kV)							WITHSTAND VOLTAGE (kV)			
	Application 1	Application 2	Application 3	Application 4	Application 5	AVERAGE	CORRECTED VOLTAGE	NOMINAL VOLTAGE	CORRECTED VOLTAGE	TIME (S)	RESULT
# 01	83	85	84	82	88	84	85	75	74	60	OK



REMARKS

Curitiba, November 26, 2003
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RADIO INFLUENCE VOLTAGE TEST

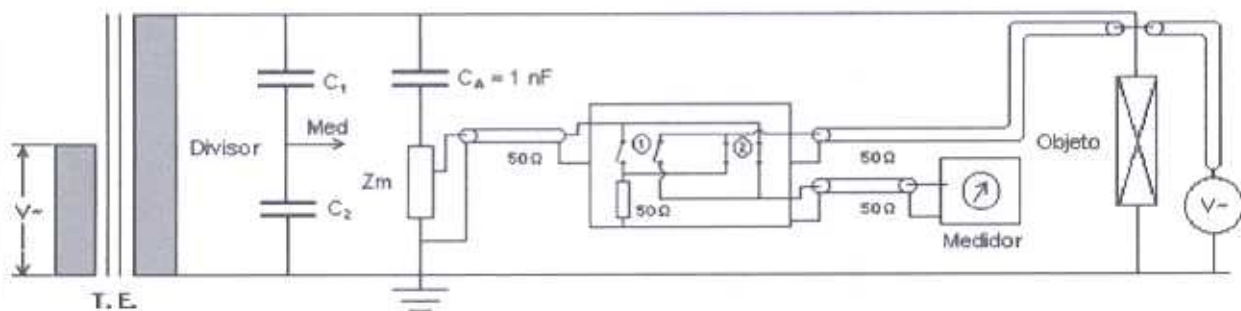
CUSTOMER SANTANA	TEST OBJECT INSULATOR	TYPE 8.1022.65	MANUFACTURER SANTANA
REFERENCE	MEASUREMENT FREQUENCY 1000 kHz	DRY-BULB THERMOMETER 25.4 °C	RELATIVE HUMIDITY 46.9 %
		MEASUREMENT IMPEDANCE - Zm 150 Ω	ATMOSPHERIC PRESSURE 678.4 mmHg

CHARACTERISTICS OF THE RIV METER

MANUFACTURER: SINGER STODDART
 TYPE: NM-17/27 N° 0146-04072
 FREQUENCY RANGE: FROM 10 KHz TO 32 MHz
 INSTRUMENT FACTOR 0dB = 1 μV
 MEASUR. RANGE: FROM 0 TO 160 dB ABOVE 1μV
 PRECISION: 3 dB (IMPULSIVE SIGNALS)
 BANDWIDTH (6 dB): 10 KHz
 INTERNAL IMPEDANCE: 50 Ω
 QUASI-PEAK DETECTOR (tc = 1 ms and td = 600 ms)

DETERMINATION OF THE CORRECTION FACTOR

DIAGRAM



ARRANGEMENT	APPLIED V (A)		MEASURED V (B)		CORRECTION FACTOR dB (A - B)	REMARKS
	Sw1- clos	Sw2- open	Sw1-open	Sw2- closed		
	120		109		11	
	110		100		10	Average = 10 dB @ 1 MHz
	100		90		10	



REMARKS

Curitiba, November 24, 2003

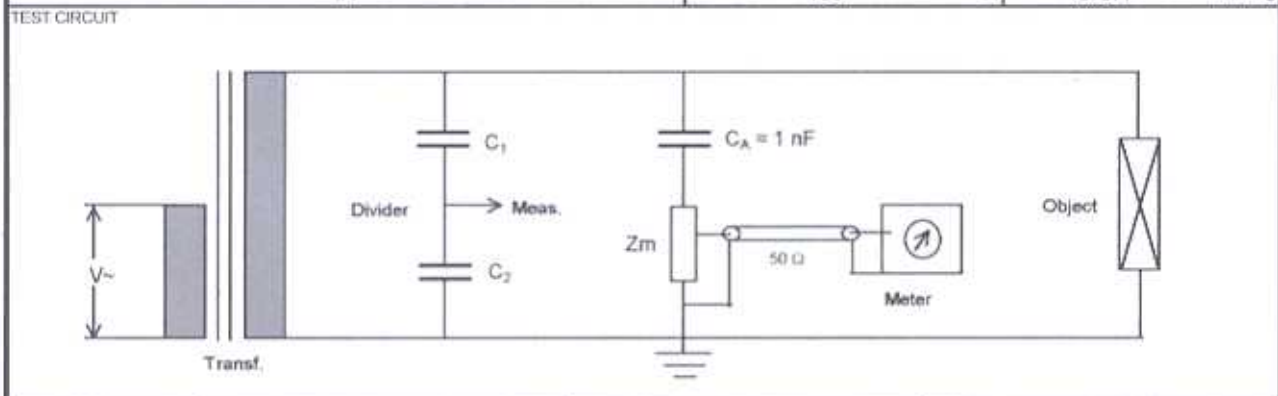
CHECKED BY

[Signature]



RADIO INTERFERENCE VOLTAGE TEST

CUSTOMER SANTANA	TEST OBJECT INSULATOR	TYPE 8.1022.65	MANUFACTURER SANTANA
DRAWING	MEASUREMENT FREQUENCY 1000 kHz	DRY-BULB THERMOMETER 25.4 °C	RELATIVE HUMIDITY 46.9 %
TEST SPECIMEN #1	MEASUREMENT IMPEDANCE - Z_m 150 Ω	ATMOSPHERIC PRESSURE 678.4 mmHg	

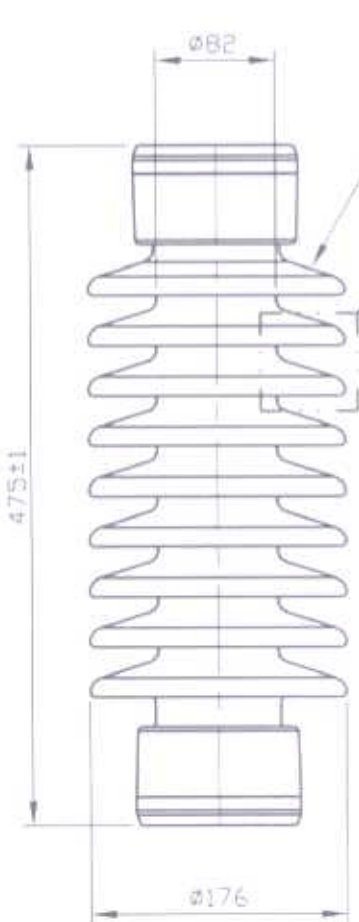
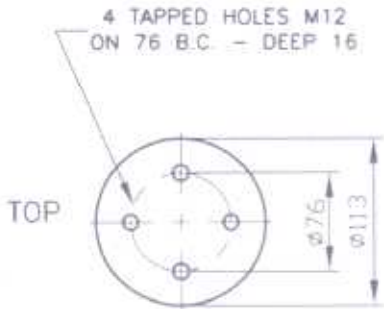


VOLTAGE (kV)	TEST SPECIMEN #1				II				III			
	MEAS dB	C.F	COR dB	μV	MEAS dB	C.F	COR dB	μV	MEAS. dB	C.F	COR dB	μV
28.6	11	10	21	11.2								
26.0	11	10	21	11.2								
23.4	11	10	21	11.2								
20.8	11	10	21	11.2								
18.2	11	10	21	11.2								
15.6	11	10	21	11.2								
18.2	11	10	21	11.2								
20.8	11	10	21	11.2								
23.4	11	10	21	11.2								
26.0	11	10	21	11.2								
28.6	11	10	21	11.2								
26.0	11	10	21	11.2								
23.4	11	10	21	11.2								
20.8	11	10	21	11.2								
18.2	11	10	21	11.2								
15.6	11	10	21	11.2								
0.0	11	10	21	11.2								



REMARKS	Curitiba, November 24, 2003	
	CHECKED BY	

GENERAL	REVISION	DATE	AUT.
1		28-09-99	LUS
N.º			



YEAR / MONTH / SERIAL No.

DIMENSIONAL CHARACTERISTICS

LEAKAGE DISTANCE	mm	950
PROTECTED DISTANCE 90°	mm	400
DRY ARCING DISTANCE	mm	370

MECHANICAL CHARACTERISTICS

CANTILEVER STRENGTH	N	10000
TORSIONAL STRENGTH	N.m	2500

ELECTRICAL CHARACTERISTICS

POWER FREQUENCY WITHSTAND (WET)	kV	70
SWITCHING IMPULSE WITHSTAND (WET)	kV	-

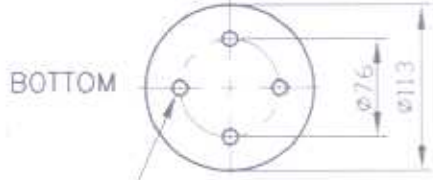
PACKING CHARACTERISTICS

UNIT NET WEIGHT	kg	18
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NOTES

- 01 - TOLERANCES ACCORDING TO ORIGIN STANDARD
- 02 - NUMBER OF SHEDS : 9
- 03 - ALL FERROUS PARTS ARE HOT DIP GALV. PER ASTM A-153
- 04 - DIMENSIONS IN MILLIMETERS
- 05 - FOR ORDERING INFORMATION SEE TABLE BELOW.



PART No.	GLAZED COLOR
8.1022.65-70	ANSI GRAY 70
8.1022.65	BROWN



TITLE : STATION POST INSULATOR SOLID CORE - 200 kV (BIL)				IDENTIFICATION
				DRAWING -
ORIGIN: SANTANA DESIGN IEC 168/273-CLASS C10-200-II	ELAB./DATE	VERIF./DATE	APPROV./DATE	TYPE-CAID
	LUS 28-09-99	EVANDRO 28-09-99	ALDO 28-09-99	
CODE CAD: G:\PROJ\UNI-02\STATION\			REVISION	
CODE: 8.1022.65	SCALE	-	1	