

TEST RECORD

NO. 2315.2091375.0956

THS Industria e Comercio Ltda.
Rua Ernesto Biester, 59
CEP 04777-120 - Sao Paulo
BRAZIL

CLIENT

THS Industria e Comercio Ltda.

MANUFACTURER

Fuse links

TEST OBJECT

Traction fuse 6001000

TYPE

Test samples

SERIAL NO.

Rated voltage

1000 V DC

RATED
CHARACTERISTICS
GIVEN BY THE
CLIENT

Rated current

600 A

Following to
ESPECIFICAÇÃO TÉCNICA DOS FUSÍVELS DE 600A-1000Vcc
EC-9.86.01.41/700-037 Rev. 0: 29.09.09
Sub-clause 5.7

NORMATIVE
DOCUMENT

Verification of the breaking capacity at 1150 V DC and 100 kA

TEST PERFORMED

11 January 2010

DATE OF TEST

See Sub-clause 3

TEST RESULT

This test document comprises 11 sheets.



RONALD BORCHERT
Test engineer in charge
Berlin, 19 January 2010



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Independent test laboratory, accredited by Deutsche Akkreditierungsstelle Technik (DATech) e.V. in the fields of h.v. apparatus and switchgear, power cable and power cable accessories, l.v. apparatus and switchgear, installation equipment and switching and control equipment with DAR Record No. DAT-P-019/92.
Institut „Prüffeld für elektrische Hochleistungstechnik“ GmbH (IPH Berlin) is a subsidiary of CESI S.p.A, Milan.

Contents	Sheet
1. Participants in the test.....	3
2. Test performed.....	3
3. Test results.....	4
4. Photographs	5
5. Oscillograms	8

1. Participants in the test

Mr. Borchert, Ronald IPH test engineer in charge

2. Test performed

Verification of the breaking capacity at 1150 V DC and 100 kA

3. Test results

Oscillogram No.		208 3812	210 0199	210 0200	210 0201
No. of test object		-	4	8	12
Rated current of fuse-link	A	-	600	600	600
Test voltage	V	1158	1158	1158	1158
Prospective peak current	kA	-	-	-	-
Prospective test current I_p	kA	101	101	101	101
Time constant	ms	17.7	17.7	17.7	17.7
Rate of current rise	kA/ms	5.71	5.71	5.71	5.71
Melting current i_s	A	-	21.7	22.2	22.1
Cut-off current	A	-	22.1	22.6	22.5
Melting time	ms	-	4.40	4.46	4.40
Arcing time	ms	-	7.88	7.90	7.84
Break time	ms	-	12.3	12.4	12.2
Melting integral	$10^3 \text{ A}^2\text{s}$	-	791	833	811
Arcing integral	$10^3 \text{ A}^2\text{s}$	-	980	991	990
Breaking integral	$10^3 \text{ A}^2\text{s}$	-	1761	1814	1792
Arc energy	kVA \cdot s	-	100	102	101
Switching voltage	V	-	1781	1799	1800
Recovery voltage	V	-	1158	1157	1158
Resistance after test ¹⁾	M Ω		3.4	3.6	4.1
Notes		Setting	-	-	-
Evaluation		-	OK	OK	OK

Notes:

- 1) Resistance was measured 10 minutes after the test.
- OK - The test object was able to break properly.

4. Photographs



Photo 1: Test object No. 4 after test



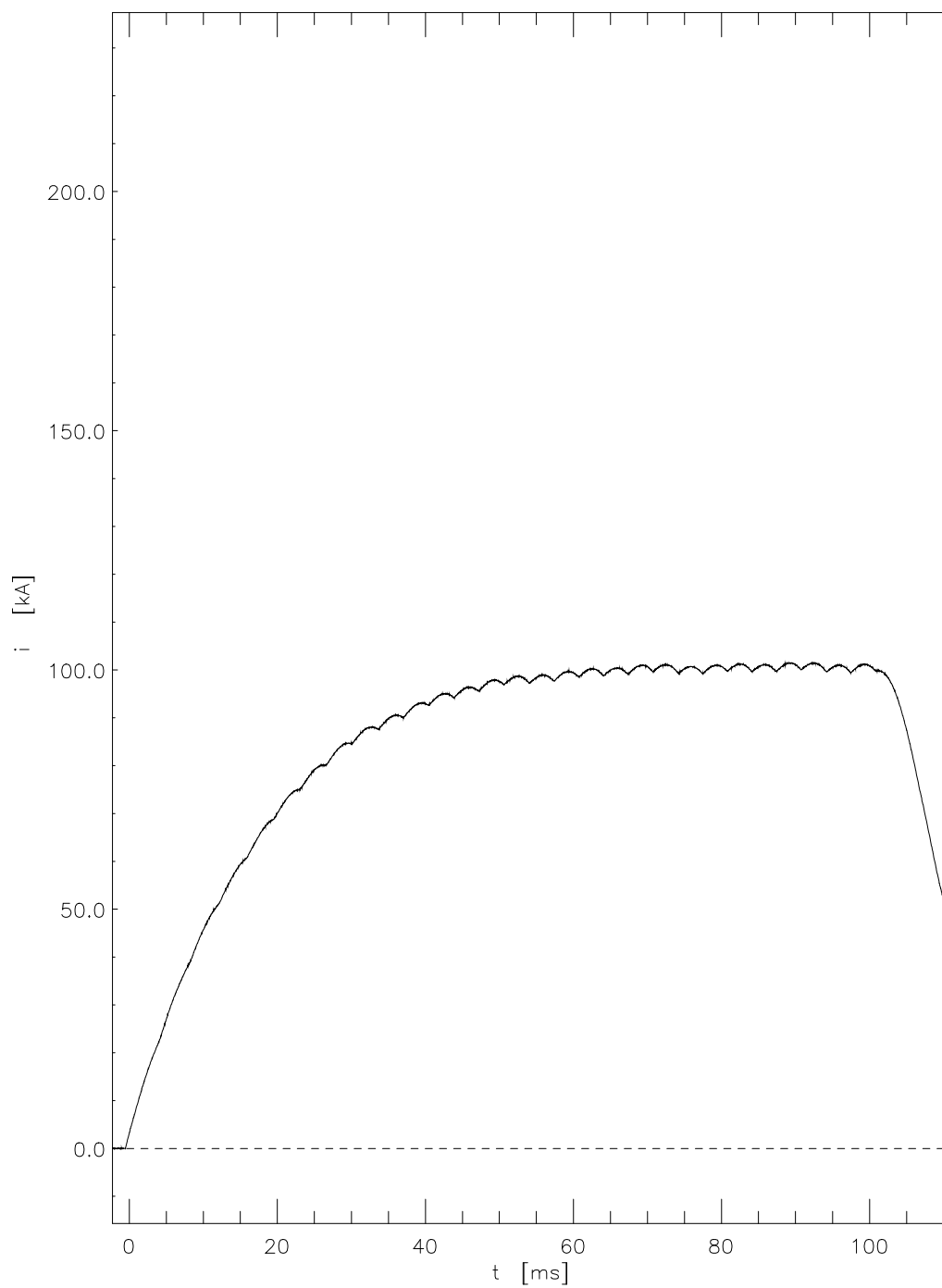
Photo 2: Test object No. 8 after test



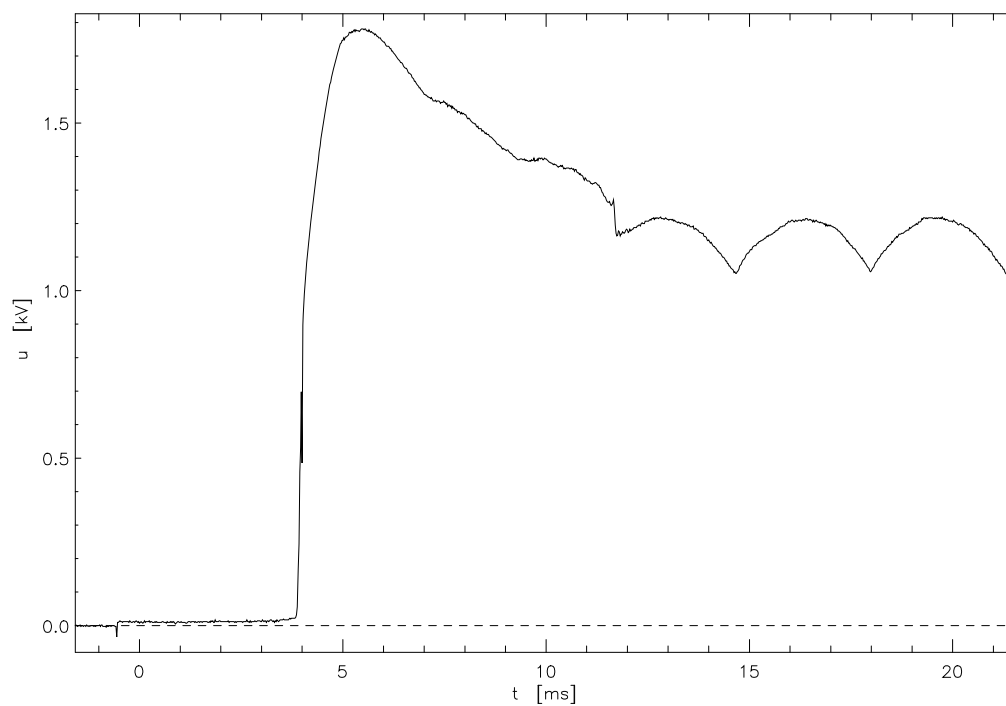
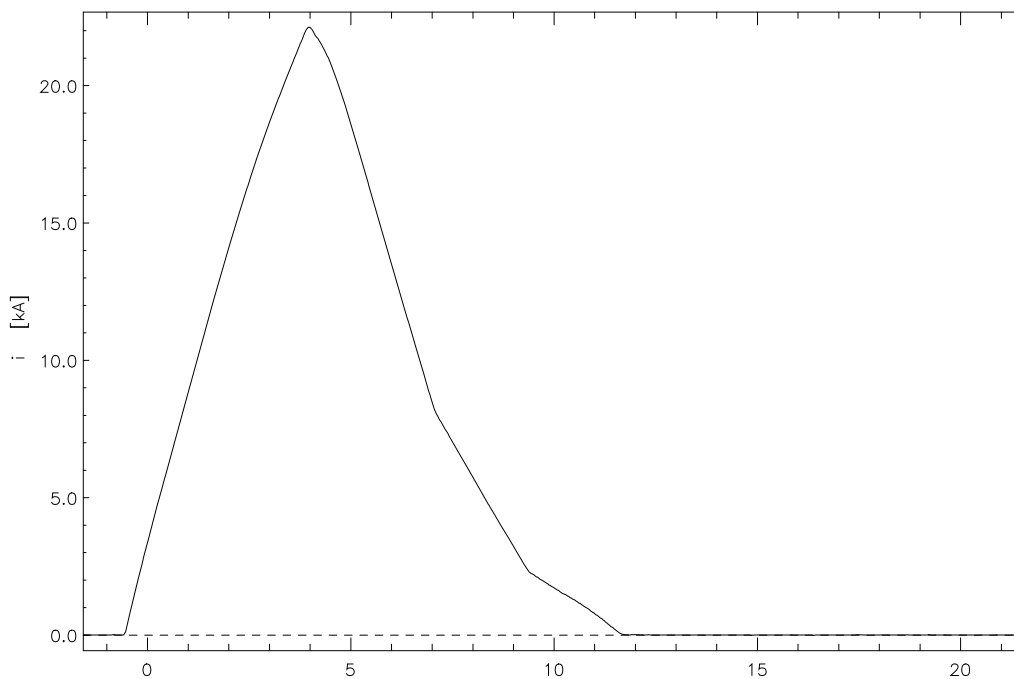
Photo 3: Test object No. 12 after test

5. Oscillograms

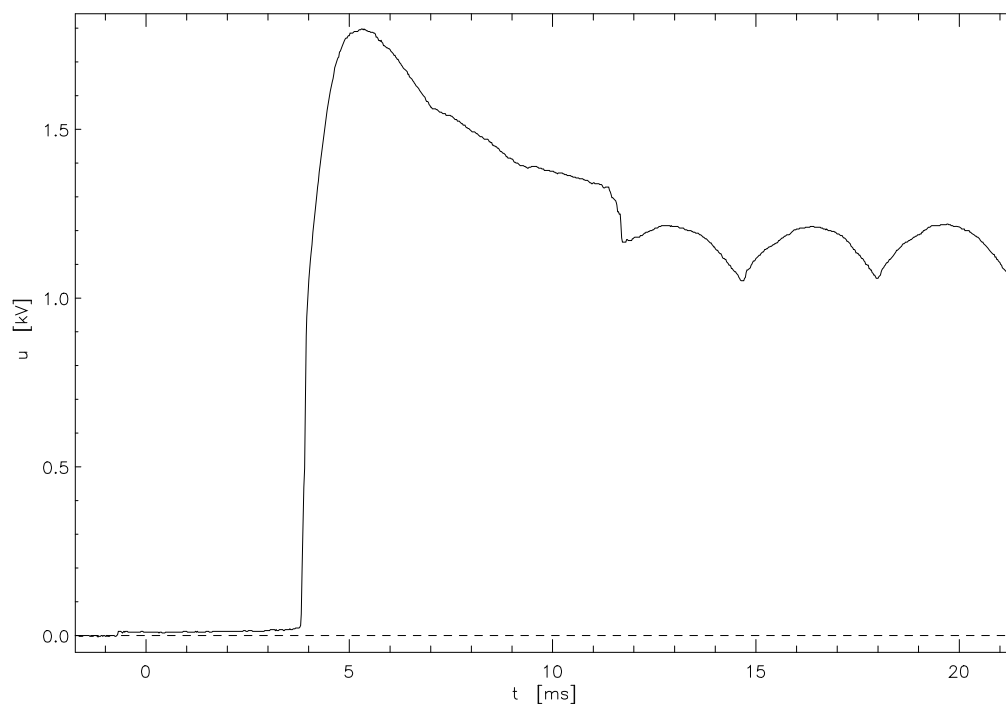
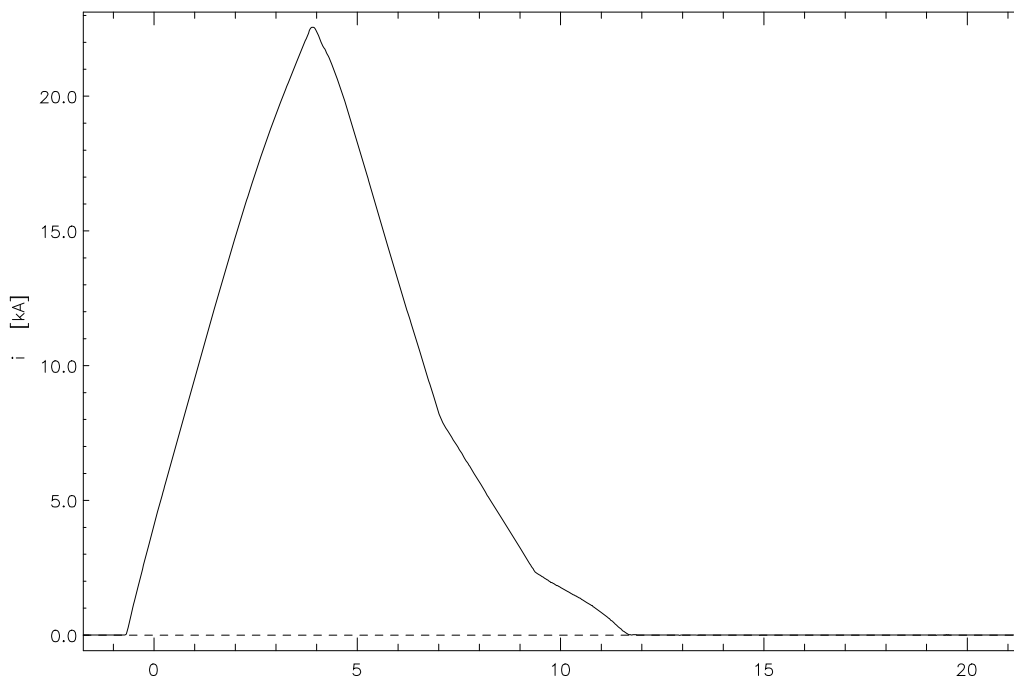
Test-No. 2083812



Test-No. 2100199



Test-No. 2100200



Test-No. 2100201

