

REPORT OF PERFORMANCE

OFFICIEL

CLIENT GEC ALSTHOM T&D Baiteau S.A.,
Beyne-Heusay, Belgium
MANUFACTURER GEC ALSTHOM T&D Baiteau S.A.,
Beyne-Heusay, Belgium
APPARATUS Current transformer

DESIGNATION CTH550
SERIAL No. 1994/56488

RATINGS ASSIGNED BY THE MANUFACTURER

Voltage		550		kV		
Frequency		50		Hz		
Short-time withstand current		70		kA		
Peak withstand current		175		kA		
Duration of short-circuit		1		s		
Secondary terminals		1S1-1S5	2S1-2S5	3S1-3S5	4S1-4S5	5S1-5S5
Primary current	A	3000	3000	3000	3000	3000
Secondary current	A	1	1	1	1	1
Burden	VA	30	30	30	-	-
Accuracy class		-	-	0.5	-	-
Instrument security factor		5P20	5P20	$F_s \leq 15$	$V_{kp} \geq 2000 \text{ V}$ $R_{ct} (75^\circ \text{C}) \leq 6 \Omega$	$V_{kp} \geq 2000 \text{ V}$ $R_{ct} (75^\circ \text{C}) \leq 6 \Omega$

The tests have been carried out in accordance with the client's instructions.
Test procedure and test parameters were based on IEC 185.

Date of tests 10th October 1994

The performance of the apparatus tested and the observations made during the tests have been recorded in the tables with test results and the oscillograms.

THIS REPORT CONSISTS OF:

Sheets	5
Circuit diagrams	1
Electromagnetic oscillograms	1
Drawings	3
Photographs	3
Information sheet	B70E

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KEMA Nederland B.V.

H.W. Kempen

Arnhem, 1st December 1994

TYPE OF TEST	SHEET
Short-time current test	4

*The test was witnessed by:***Name**

G.N. Qureshi

CompanyNESPAK,
Lahore, Pakistan

O. Rulz

COGELEX,
Levallois-Perret, France

E. Debougoux

J. Preudhomme

GEC ALSTHOM T&D Baiteau S.A.,
Beyne-Heusay, Belgium*The test was observed by:***Name**

te Paske, L.H.

CompanyKEMA,
Arnhem, The Netherlands*Drawings*

The following drawings have been included on request of the client.
KEMA has not verified these drawings.

5351264 Rev. 0

7-56488:AA Rev. 1

7-56488:BB Rev. 1

Photographs

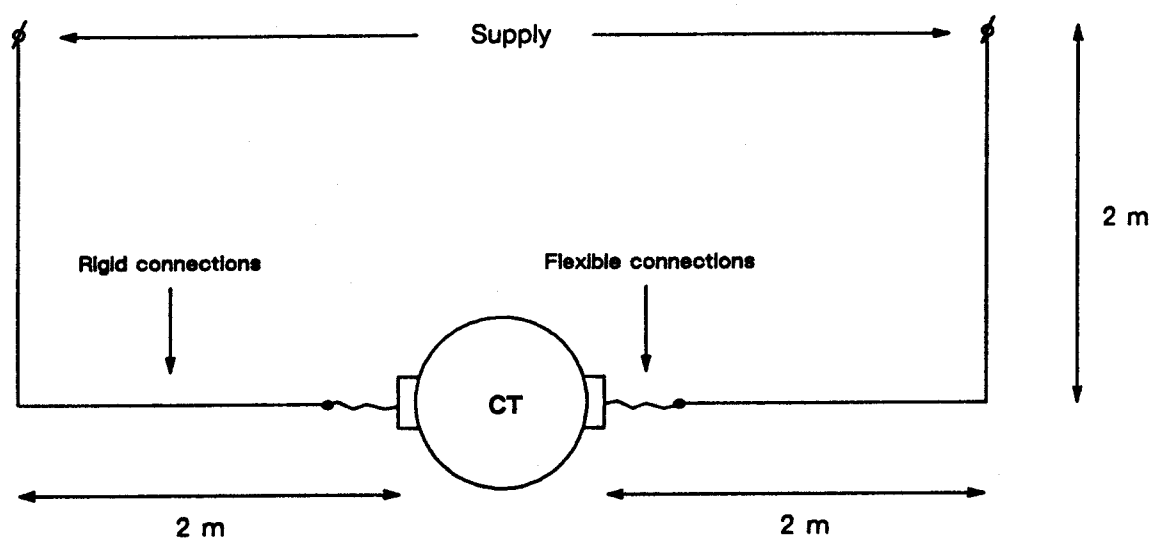
447502

447503

447504

SCHEMATIC PRESENTATION OF TEST ARRANGEMENT

Top view:



[illegible]

TYPE OF TESTS REQUESTED: Short-time current test

Condition before tests: Current transformer new. Photographs 447502, 447503. Connections by means of short flexible connectors. For schematic presentation of test arrangement see sheet 2. Primary setting 3000 A. Core 2S1-2S5 short-circuited through shunt for recording (no burden). All other cores short-circuited.

[illegible]

Condition after tests: Externally no visible damage.
Photograph 447504.

REPORT 471-94		CALIBRATION OF ELECTROMAGNETIC OSCILLOGRAM				SHEET 5	
Time marking ▶		100 ms	ms	ms	ms	ms	
		Test	Test	Test	Test	Test	
Trace ▼	Phase ▼	941010 4027					
CURRENT CLOSING COIL momentary A/mm							
CURRENT OPENING COIL momentary A/mm							
VOLTAGE momentary kV/mm							
CURRENT momentary							
2		4.32 kA/mm					
3		1.63 A/mm					
AMPLIFIED VOLTAGE momentary V/mm							
AMPLIFIED CURRENT momentary A/mm							
$I^2t \quad 10^3 \times A^2 \text{ s/mm}$							
POWER MW/mm							
ENERGY MJ/mm							
PRESSURE bar/mm							

☐ Trace No. 1 is indicated on each oscillogram. Traces are numbered from top to bottom except for travel recorders. ☐
For practical reasons travel recorder traces bear no number.

TEST-CIRCUIT DIAGRAM

REPORT No. 471-94

TEST CIRCUIT No. S01

CIRCUIT COMPONENTS

G = GENERATOR
 MB = MASTER BREAKER
 MS = MAKE SWITCH
 PT = POWER TRANSFORMER
 R = RESISTOR
 C = CAPACITOR
 L = INDUCTANCE

TO = TEST OBJECT
 AL = ARTIFICIAL LINE
 AB = AUXILIARY BREAKER
 OP = OVERVOLTAGE PROTECTION

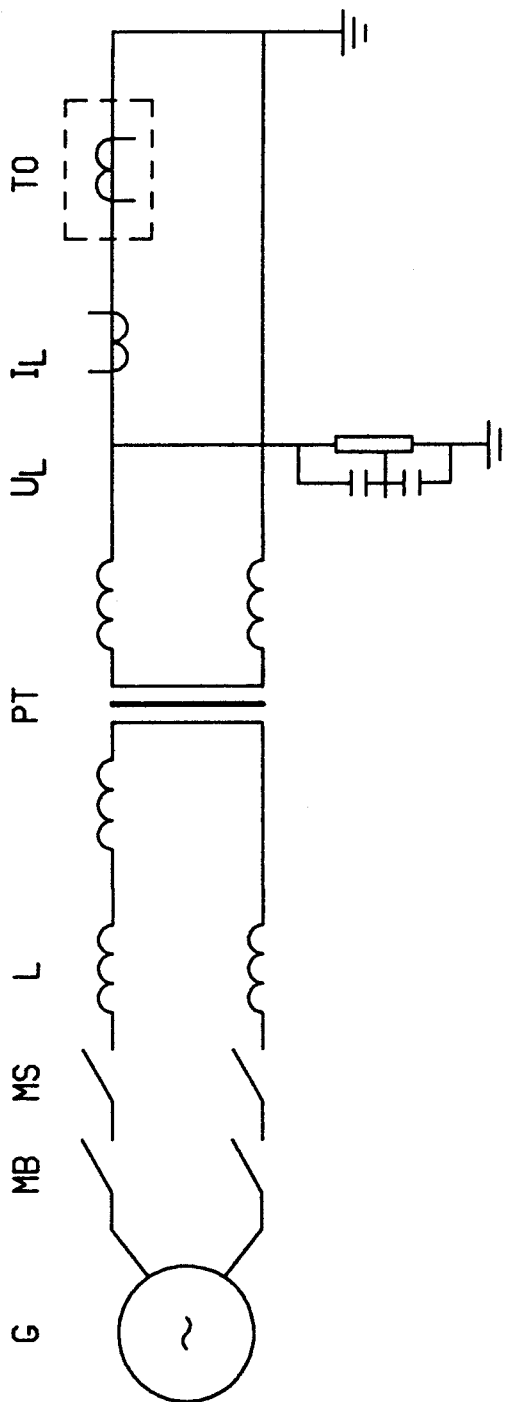
MEASUREMENTS

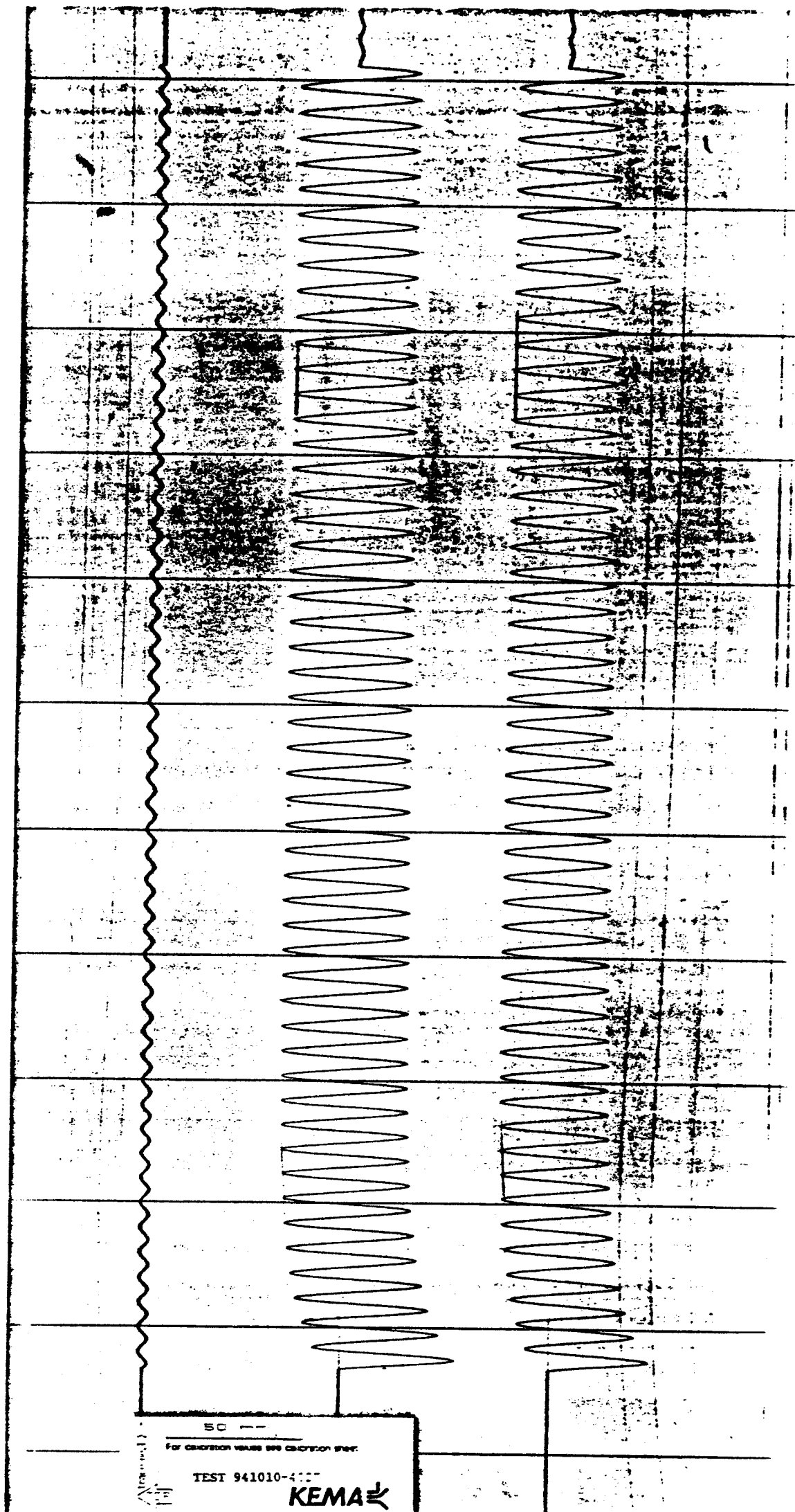
U = VOLTAGE MEASUREMENT
 I = CURRENT MEASUREMENT

SUFFIX OF U AND I

L = LOW-FREQUENCY RECORDING INSTRUMENT
 H = HIGH-FREQUENCY RECORDING INSTRUMENT

LD = DIFFERENTIAL MEASUREMENT WITH L
 HD = DIFFERENTIAL MEASUREMENT WITH H





SC --

For condition values see condition sheet.

TEST 941010-4000

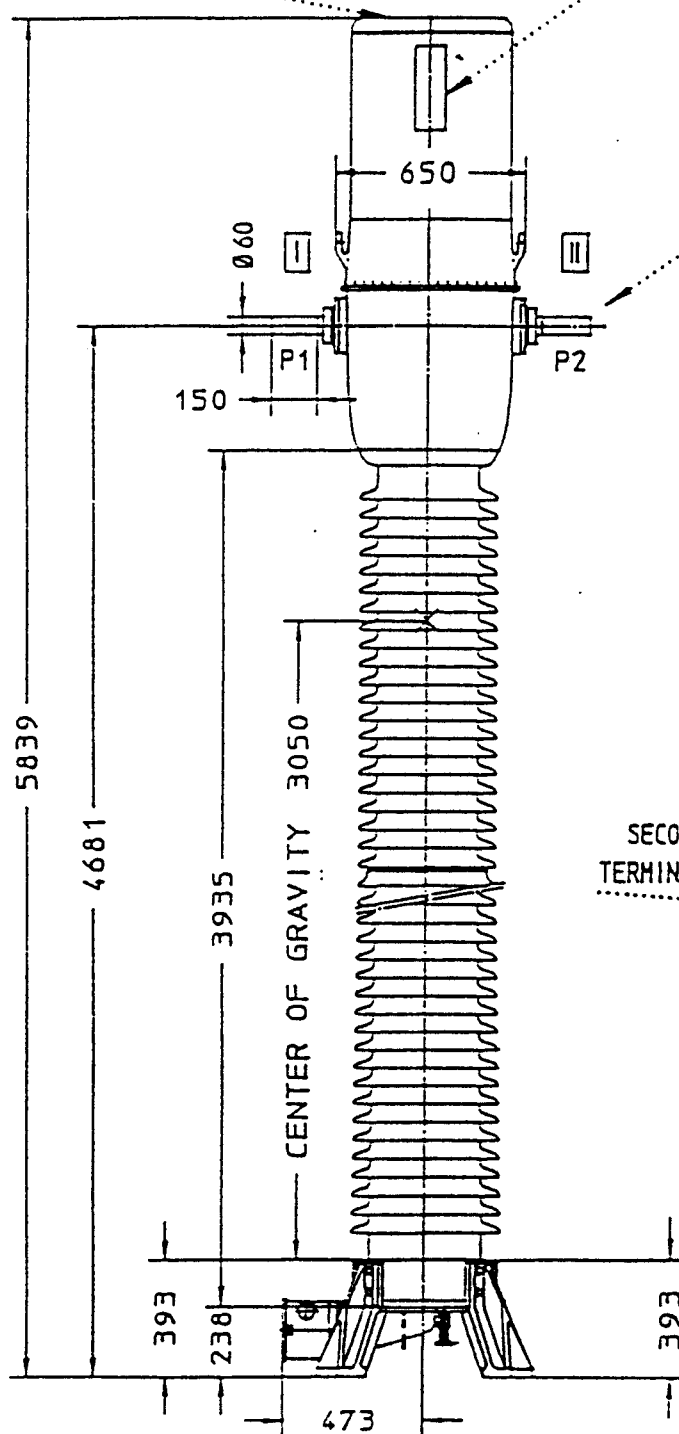
KEMA

I	P1	H1	K	
II	P2	H2	L	

STRIKE DISTANCE : > 3728 MM ±1%
 CREEPAGE DISTANCE : > 15574 MM ±4%
 TOTAL WEIGHT : 1930 Kg
 OIL : 520 KG.

TOP COVER ALUMINIUM

LEVEL INDICATOR

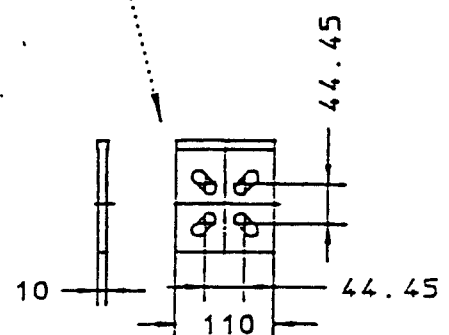


VIEW BELOW BASE

OIL SAMPLING VALVE

SECONDARY TERMINAL BOX

EARTHING PAD



TU 393 470 GS

CURRENT TRANSFORMER CTH 550/2
GENERAL DIMENSIONS

GEC ALSTHOM

TD

Beyne-Heusay
BELGIQUE

ECHELLE
1/25

DESSINE
CP

VU

REPLACE PAR

DATE 15/6/94
25.1.94

PLAN
N°

5351264

REP. CTH/ENCOB
NOM

B A L T E A U		CURRENT TRANSFORMER		CTH550	
B E L G I U M		550/680-3/1550/1175 kV		1994/56488	
STAND. IEC 185 - 1987					
+0		PRIM.	I.th = 70 kA-1 s.	I.dyn = 175 kA	
P1	P2	P1- P2	I.n = 3000 A	EXT = 105 %	
POSITION OF CORES					
P1					P2
+0					0
=====					
+0	0	0	0	0	0
1S1..	2S1..	3S1..	4S1..	5S1..	
UNUSED SECONDARIES MUST BE SHORT-CIRCUITED AND GROUNDED					
F = 50 HZ		SERIAL Nr =		OIL TYPE A = 520 Kg	
(56488:AA)				TOTAL WEIGHT= 1930 Kg	
HERMETICALLY SEALED		- OPENING FORBIDDEN		- POSITION 1	

RATING PLATE MADE IN ANODISED ALUMINIUM - ALPHOT PROCESS
 FASTENED WITH 4 HOLES AT 8 mm FROM EACH SIDE
 DIMENSIONS = 148 mm X 74 mm X 0.8 mm
 SCALE = 1/1
 LIGHT BACKGROUND - BLACK WRITING

RATING PLATE					
DATE	REV	ORDER	QTY	TYPE	DRAWING
21-03-94 (Dec. '93)	1	56488	11	CTH550	7 - 56488:AA

B A L T E A U		CURRENT TRANSFORMER				CTH550					
B E L G I U M		550/680-3/1550/1175 kV				1994/56488					
STAND. IEC 185 - 1987		TERMIN.		RATIOS		VA		CLASS		Fs ≤	
SCHEMAT. DIAGRAMS		1S1-1S2		800/1		30		5P20			
+0		1S2-1S4		1200/1		30		5P20			
1S1-1S2-1S3-1S4-1S5		1S1-1S3		1500/1		30		5P20			
		1S1-1S4		2000/1		30		5P20			
		1S1-1S5		3000/1		30		5P20			
2S1-2S2-2S3-2S4-2S5		2S1-2S5		3000/1		SAME AS CORE Nr 1					
+0		3S1-3S2		800/1		30		0.5		5	
3S1-3S2-3S3-3S4-3S5		3S2-3S4		1200/1		30		0.5		5	
		3S1-3S3		1500/1		30		0.5		10	
		3S1-3S4		2000/1		30		0.5		10	
		3S1-3S5		3000/1		30		0.5		15	
+0		4S1-4S5		3000/1		VKP ≥ 2000 V - Rct 75 ≤ 6Ω					
4S1-4S2-4S3-4S4-4S5		5S1-5S5		3000/1		VKP ≥ 2000 V - Rct 75 ≤ 6Ω					
5S1-5S2-5S3-5S4-5S5		UNUSED SECONDARIES MUST BE SHORT-CIRCUITED AND GROUNDED									
F = 50 HZ		SERIAL Nr =				OIL TYPE A = 520 Kg					
(56488:BB)						TOTAL WEIGHT = 1930 Kg					
HERMETICALLY SEALED -		OPENING FORBIDDEN -				POSITION 1					

RATING PLATE MADE IN ANODISED ALUMINIUM - ALPHOT PROCESS
FASTENED WITH 4 HOLES AT 8 mm FROM EACH SIDE
DIMENSIONS = 148 mm X 74 mm X 0.8 mm
SCALE = 1/1
LIGHT BACKGROUND - BLACK WRITING

RATING PLATE					
DATE	REV	ORDER	QTY	TYPE	DRAWING
21-03-94 (Dec. '93)	1	56488	11	CTH550	7 - 56488:BB

1 Certificate

A Certificate contains a record of a series of type tests carried out strictly in accordance with a recognized standard. The equipment tested has fulfilled the requirements of this standard and the relevant ratings assigned by the manufacturer are endorsed by KEMA. The Certificate is applicable only to the equipment tested. KEMA is responsible for the validity and the contents of the Certificate.

The responsibility for conformity of any apparatus having the same designation as the one tested rests with the manufacturer. The Certificate contains the essential drawings and a description of the equipment tested.

Detailed rules are given in KEMA's Certification procedure.

2 Report of Performance

A Report of Performance contains a record of one or more tests which have been carried out according to the client's instructions. These tests are not necessarily in accordance with a recognized standard. The test results do not verify ratings of the test object.

KEMA issues three types of Reports of Performance:

2.1 *The tests have been carried out strictly in accordance with The apparatus has complied with the relevant requirements.*

This sentence will appear on the front page of a Report of Performance if the tests have been performed in accordance with a recognized standard, but the series of tests does not completely fulfill the requirements for a Certificate of Compliance (for example, if the number of test duties is not a complete series of type tests).

The Report contains verified drawings and a description of the equipment tested. Detailed rules are given in KEMA's Certification procedure. The condition of the test object after the tests is assessed and recorded in the Report.

2.2 *The tests have been carried out in accordance with the client's instructions. Test procedure and test parameters were based on*

This sentence will appear on the front page of a Report of Performance if the number of tests, the test procedure and the test parameters are based on a recognized standard and related to the ratings assigned by the manufacturer. If the apparatus does not pass the tests such behaviour will be mentioned on the front sheet. Verification of the drawings (if submitted) and assessment of the condition after the tests is only done on the client's request.

2.3 *The tests have been carried out according to the client's instructions.*

This sentence will appear on the front page of a Report of Performance if the tests, test procedure and/or test parameters are not in accordance with a recognized standard.

3 Standards

When reference is made to a standard, and the date of issue is not stated, this applies to the latest issue, including amendments which have been officially published prior to the date of the tests.

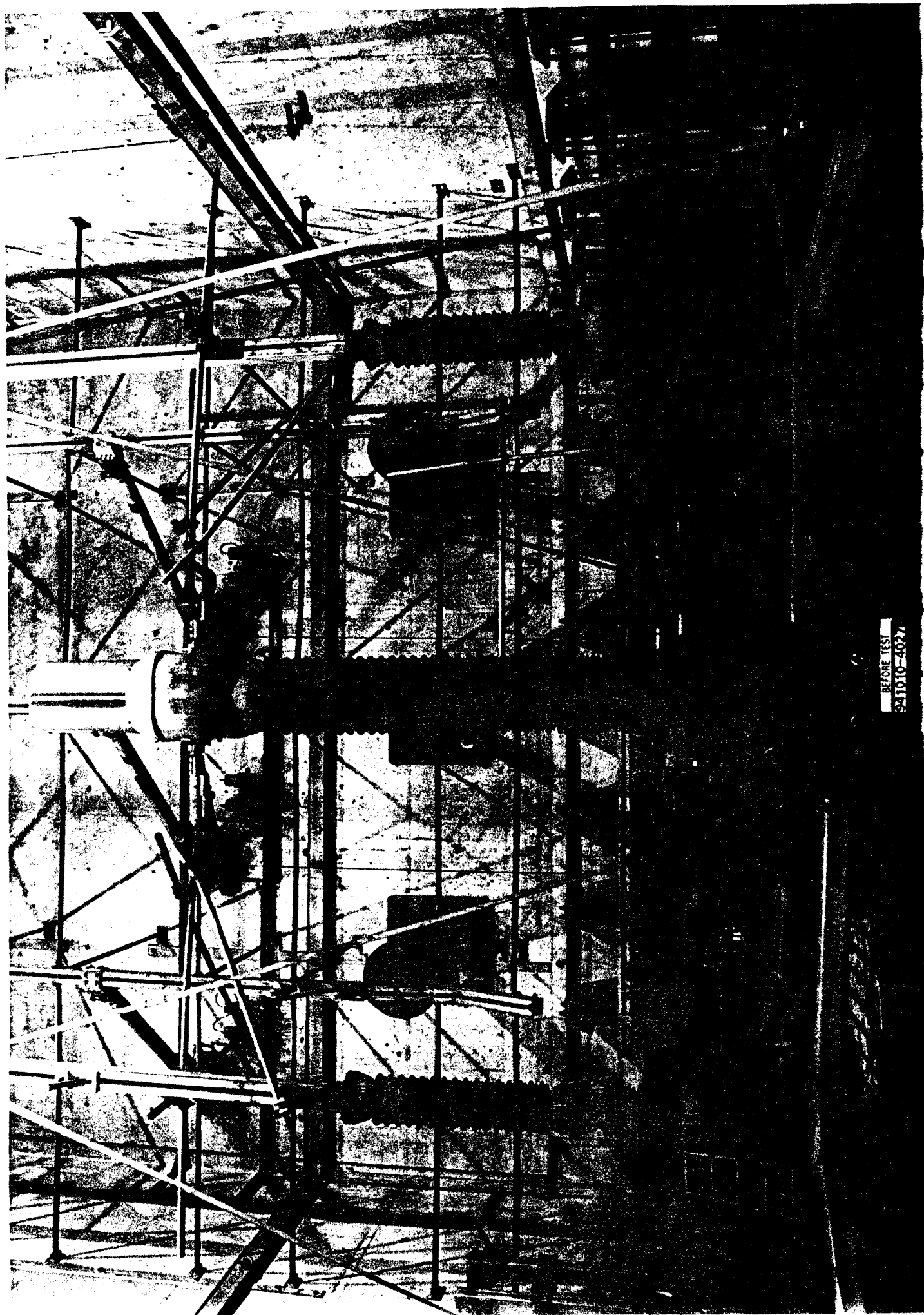
4 Accuracy of measurement

In the table of test results the measured quantities are given in three digits. This method of presentation does not indicate an accuracy. The guaranteed uncertainty in the figures mentioned, taking into account the total measuring system, is less than 5%, unless mentioned otherwise.

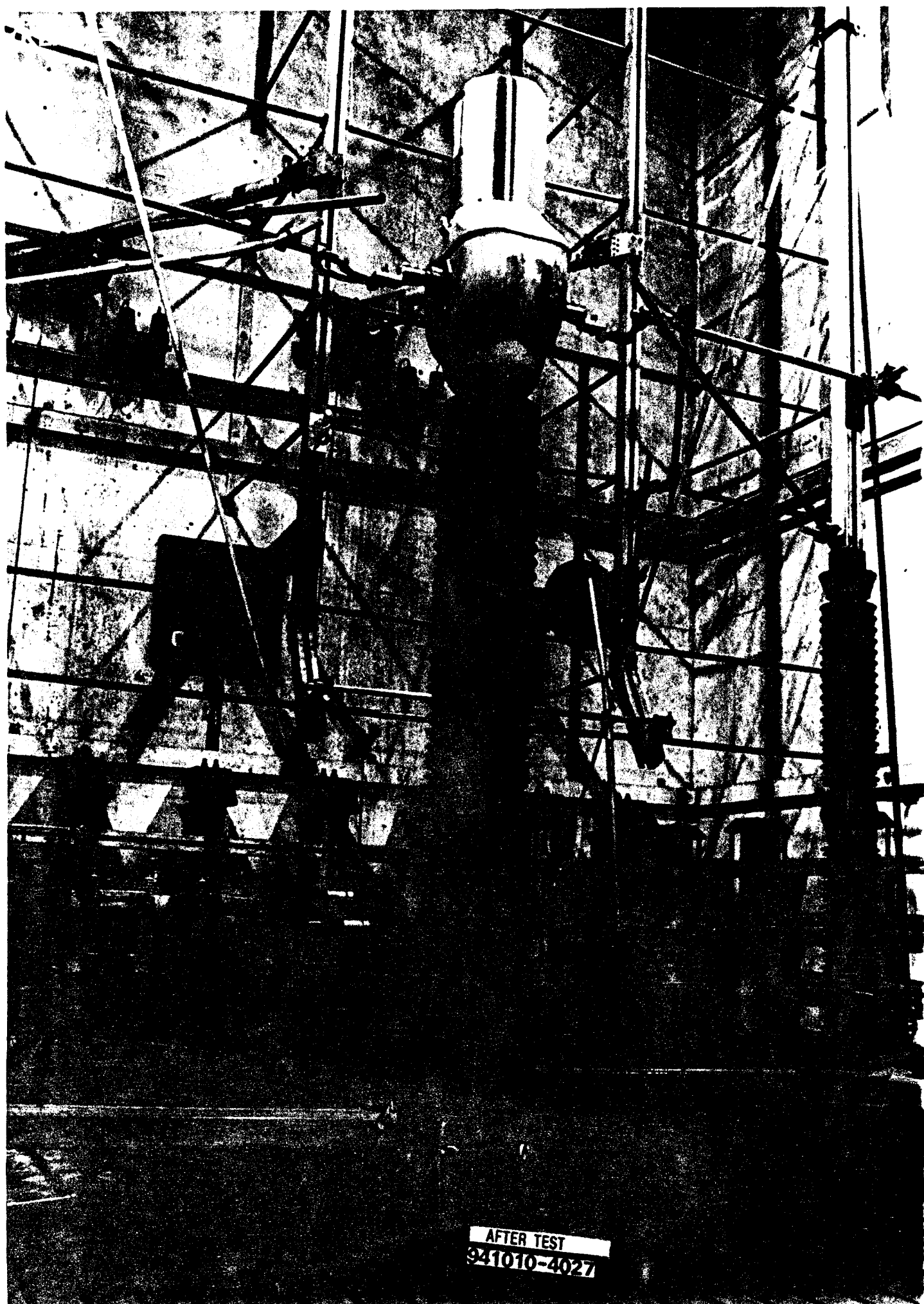
5 Qualified by STERLAB

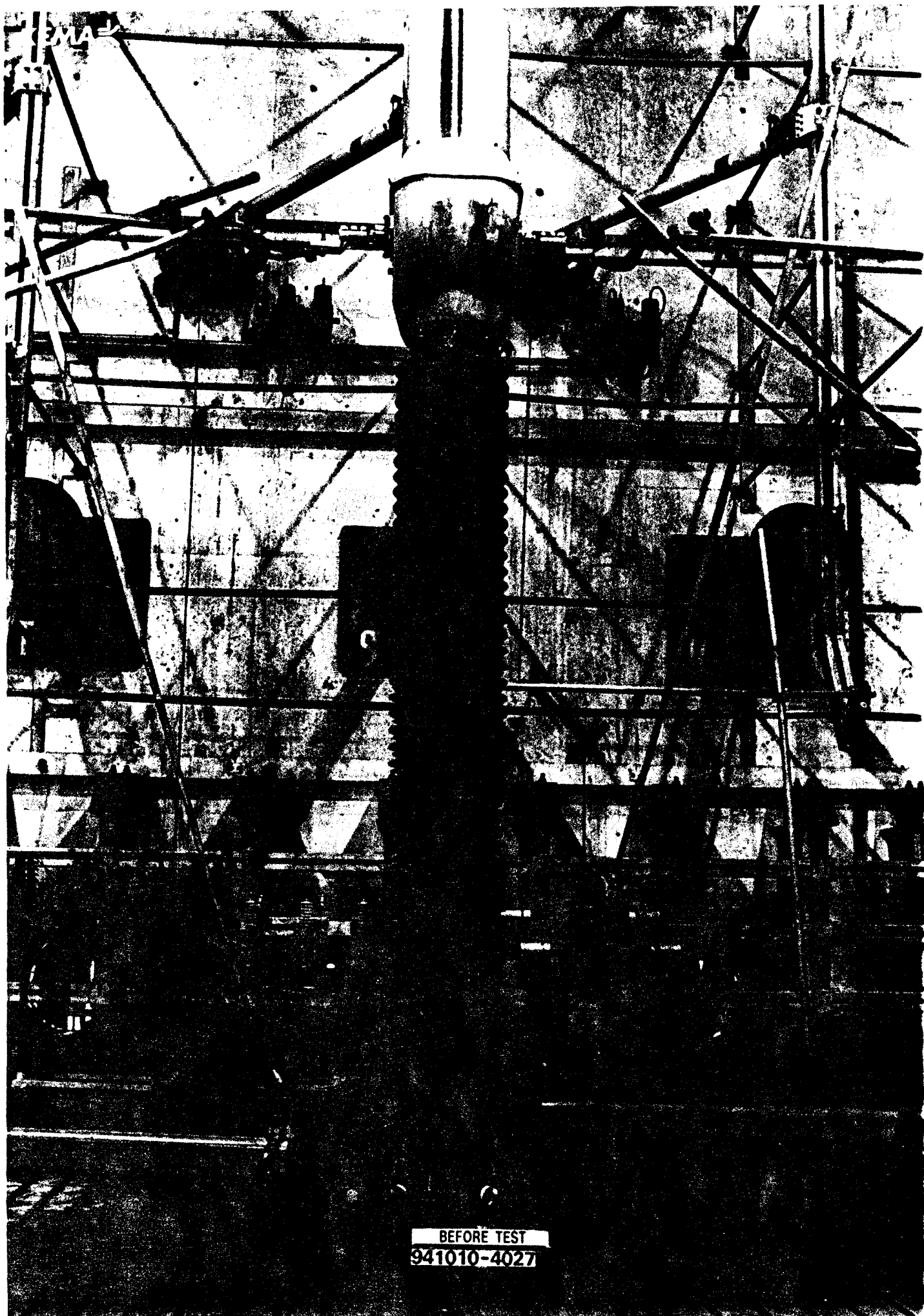
The High-Power Laboratory (De Zoeten Laboratorium) has been entered in the STERLAB register for laboratories under Nr. L 020 for the testing services as defined in the Field of Accreditation. The accreditation is applicable to tests performed in accordance with IEC, ANSI and European standards, recorded in test documents items 1 and 2.1 above. The accreditation is carried out in accordance with European Standard 45001, based on ISO/IEC Guides 25 and 38.

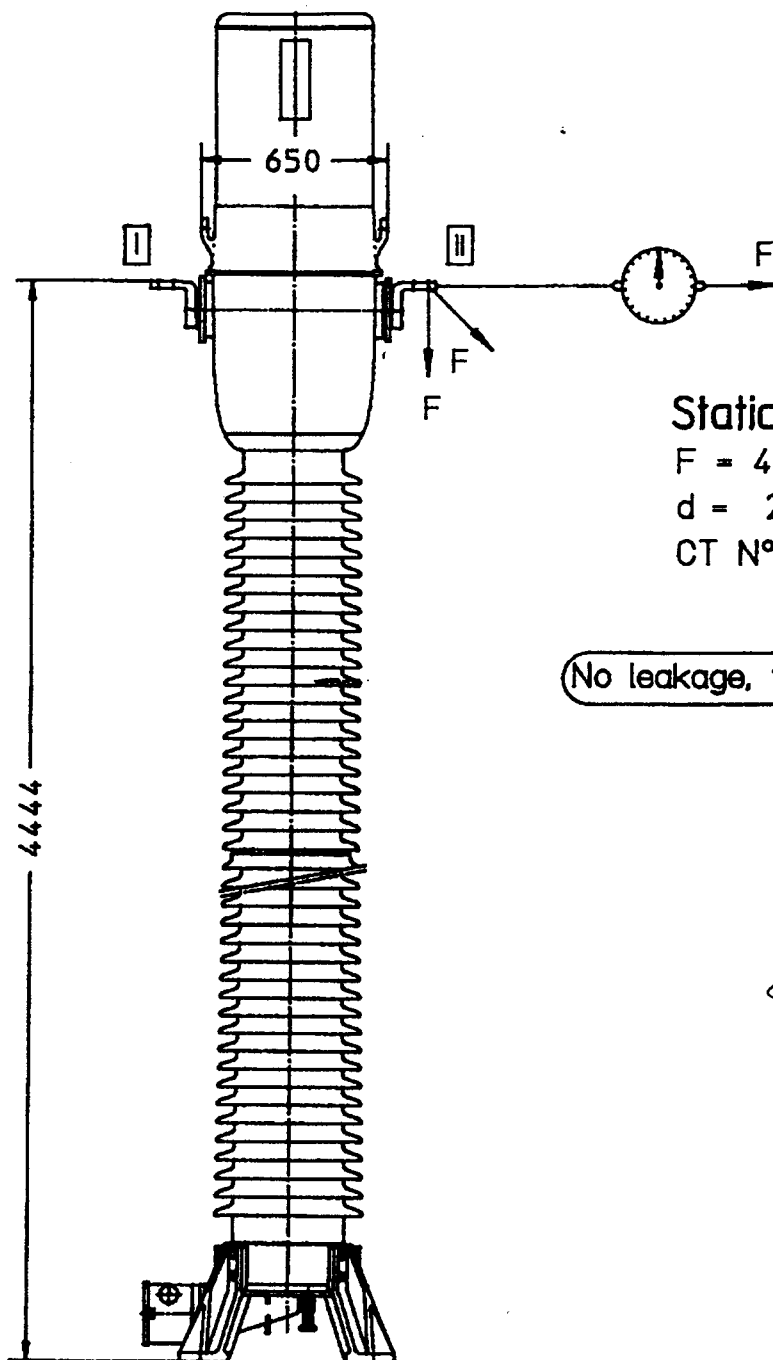




BEFORE TEST
941010-4027







Static withstand test loads

F = 400 da N - 60 sec

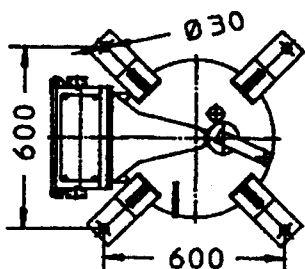
d = 20 mm

CT N° 96/50060/05

(No leakage, the CTH passed the test)

Standard IEC 185

Signature



Drawing n° 5351619

Poids total	
Total weight	1630 kg
Gewicht	
Peso total	
Huile	
Oil	375 kg
Oil	
Aceite	

E 365 GS/6	Transformateur de courant Current transformer Stromwandler Transformador de corriente				REVISION	
					1	
GEC ALSTHOM	CTH 550				2	
					3	
T&D	/disk2/Huile/CTH3_4/Encombrement				4	
ECHELLE 1/20	DESSINE A.E.	VU	DATE	PLAN N°		