

DESIGNATION/RATINGS: TYPE 150 VCP-W 1000

Maximum Voltage: 15.0 kV

60 Hz 1 min Withstand: 36 kV

Impulse Withstand: 95 kV

Voltage Range Factor K: 1.3 MVA: 1000

Continuous Current: 1200 A

Short Circuit Current: 37 kA

Short Time (2 s) Current: 48 kA

Momentary Current Crest: 130 kA

(RMS Total Current): 77 kA

TESTS PERFORMED

All tests were performed to applicable ANSI Standards, and followed procedures of ANSI C37.09 (1979), and C37.20.2 (1987). The applicable standards are: ANSI: C37.04, C37.06, C37.07, C37.09, C37.010, C37.11, C37.20.2, C37.24, C37.100 NEMA: SG-4, SG-5

[A] Momentary and Short-Time Tests

Rated Maximum Voltage / Short-Circuit Current 15.0 kV / 37 kA

(Rated Maximum Voltage/K) / (K x Short-Circuit Current) 11.5 kV / 48 kA

Momentary Current Capability (kA Crest / kA RMS Asymmetric) 130 kA / 77 kA

Short-Time (2 second) Current Carrying Capability (kA RMS symmetric) 48 kA

Momentary current tests were performed in accordance with Section 5.2.4 of ANSI C37.20.2. The Type VacClad-W switchgear withstood a three phase momentary current averaging more than 48 kA RMS symmetric, with a crest value of more than 130 kA (total current more than 77 kA RMS asymmetric) for more than 10 cycles (167 ms). The Type VacClad-W switchgear also carried a three phase current averaging more than 48 kA RMS symmetric for more than two seconds.

[B] BIL/Dielectric Tests

BIL Impulse Test Voltage (1.2/50 micro-sec wave) to ANSI 3 x 3 Test: 95 kV

Rated Power Frequency (60 Hz) Withstand Voltage (ac RMS 1 minute): 36 kV

Tests were performed successfully for all 26 terminal test conditions.

[C] Mechanical Endurance Tests

Number of Levering Operations: 100

No-load Mechanical Operations (of circuit breaker): 5,000

Number of Operations Between Servicing: 1,000

[D] Continuous Current Thermal Tests

With 1200 Amperes 60 Hz ac current flowing, the maximum hot spot temperature is less than 105 C. The maximum hot spot temperature rise is less than 65 C.

CERTIFICATION:

The above is a true and correct summary of data obtained from tests performed by Westinghouse Electric Corporation. The test results demonstrate the capability of the 1200 Ampere, Type 150 VacClad-W 1000 switchgear to operate properly under normal and short-circuit conditions when applied within its rating.

THIS CERTIFICATE IS VALID for a 1200 A, Westinghouse Type VAC-CLAD-W Switchgear Vertical Section with A 1200 A, Type 150 VCP-W 1000 Circuit Breaker.

DATE: March 21, 1989

SIGNED: 

DESIGNATION/RATINGS: TYPE 150 VCP-W 1000	Continuous Current: 2000 A
Maximum Voltage: 15.0 kV	Short Circuit Current: 37 kA
60 Hz 1 min Withstand: 36 kV	Short Time (2 s) Current: 48 kA
Impulse Withstand: 95 kV	Momentary Current Crest: 130 kA
Voltage Range Factor K: 1.3	(RMS Total Current): 77 kA
MVA: 1000	

TESTS PERFORMED

All tests were performed to applicable ANSI Standards, and followed procedures of ANSI C37.09 (1979), and C37.20.2 (1987). The applicable standards are: ANSI: C37.04, C37.06, C37.07, C37.09, C37.010, C37.11, C37.20.2, C37.24, C37.100 NEMA: SG-4, SG-5

[A] Momentary and Short-Time Tests

Rated Maximum Voltage / Short-Circuit Current	15.0 kV / 37 kA
(Rated Maximum Voltage/K) / (K x Short-Circuit Current)	11.5 kV / 48 kA
Momentary Current Capability (kA Crest / kA RMS Asymmetric)	130 kA / 77 kA
Short-Time (2 second) Current Carrying Capability (kA RMS symmetric)	48 kA

Momentary current tests were performed in accordance with Section 5.2.4 of ANSI C37.20.2. The Type VacClad-W switchgear withstood a three phase momentary current averaging more than 48 kA RMS symmetric, with a crest value of more than 130 kA (total current more than 77 kA RMS asymmetric) for more than 10 cycles (167 ms). The Type VacClad-W switchgear also carried a three phase current averaging more than 48 kA RMS symmetric for more than two seconds.

[B] BIL/Dielectric Tests

BIL Impulse Test Voltage (1.2/50 micro-sec wave) to ANSI 3 x 3 Test:	95 kV
Rated Power Frequency (60 Hz) Withstand Voltage (ac RMS 1 minute):	36 kV

Tests were performed successfully for all 26 terminal test conditions.

[C] Mechanical Endurance Tests

Number of Levering Operations:	100
No-load Mechanical Operations (of circuit breaker):	5,000
Number of Operations Between Servicing:	1,000

[D] Continuous Current Thermal Tests

With 2000 Amperes 60 Hz ac current flowing, the maximum hot spot temperature is less than 105 C. The maximum hot spot temperature rise is less than 65 C.

CERTIFICATION:

The above is a true and correct summary of data obtained from tests performed by Westinghouse Electric Corporation. The test results demonstrate the capability of the 2000 Ampere, Type 150 VacClad-W 1000 switchgear to operate properly under normal and short-circuit conditions when applied within its rating.

THIS CERTIFICATE IS VALID for a 2000 A, Westinghouse Type VAC-CLAD-W Switchgear Vertical Section with A 2000 A, Type 150 VCP-W 1000 Circuit Breaker.

DATE: March 21, 1989

SIGNED: Bob Long

DESIGNATION/RATINGS: TYPE 150 VCP-W 1000	Continuous Current:	3000 A
Maximum Voltage: 15.0 kV	Short Circuit Current:	37 kA
60 Hz 1 min Withstand: 36 kV	Short Time (2 s) Current:	48 kA
Impulse Withstand: 95 kV	Momentary Current Crest:	130 kA
Voltage Range Factor K: 1.3	(RMS Total Current):	77 kA
MVA: 1000		

TESTS PERFORMED

All tests were performed to applicable ANSI Standards, and followed procedures of ANSI C37.09 (1979), and C37.20.2 (1987). The applicable standards are: ANSI: C37.04, C37.06, C37.07, C37.09, C37.010, C37.11, C37.20.2, C37.24, C37.100 NEMA: SG-4, SG-5

[A] Momentary and Short-Time Tests

Rated Maximum Voltage / Short-Circuit Current	15.0 kV / 37 kA
(Rated Maximum Voltage/K) / (K x Short-Circuit Current)	11.5 kV / 48 kA
Momentary Current Capability (kA Crest / kA RMS Asymmetric)	130 kA / 77 kA
Short-Time (2 second) Current Carrying Capability (kA RMS symmetric)	48 kA

Momentary current tests were performed in accordance with Section 5.2.4 of ANSI C37.20.2. The Type VacClad-W switchgear withstood a three phase momentary current averaging more than 48 kA RMS symmetric, with a crest value of more than 130 kA (total current more than 77 kA RMS asymmetric) for more than 10 cycles (167 ms). The Type VacClad-W switchgear also carried a three phase current averaging more than 48 kA RMS symmetric for more than two seconds.

[B] BIL/Dielectric Tests

BIL Impulse Test Voltage (1.2/50 micro-sec wave) to ANSI 3 x 3 Test:	95 kV
Rated Power Frequency (60 Hz) Withstand Voltage (ac RMS 1 minute):	36 kV

Tests were performed successfully for all 26 terminal test conditions.

[C] Mechanical Endurance Tests

Number of Levering Operations:	100
No-load Mechanical Operations (of circuit breaker):	5,000
Number of Operations Between Servicing:	1,000

[D] Continuous Current Thermal Tests

With 3000 Amperes 60 Hz ac current flowing, the maximum hot spot temperature is less than 105 C. The maximum hot spot temperature rise is less than 65 C.

CERTIFICATION:

The above is a true and correct summary of data obtained from tests performed by Westinghouse Electric Corporation. The test results demonstrate the capability of the 3000 Ampere, Type 150 VacClad-W 1000 switchgear to operate properly under normal and short-circuit conditions when applied within its rating.

THIS CERTIFICATE IS VALID for a 3000 A, Westinghouse Type VAC-CLAD-W Switchgear Vertical Section with A 3000 A, Type 150 VCP-W 1000 Circuit Breaker.

DATE: March 21, 1989

SIGNED: 