

Test Record

Laboratory Reference No: 100551



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APPARATUS TESTED

The apparatus tested consisted of non-tension fittings made up of the following components:

Tests No. 7380.004, 006 and 007 Type SC01 clamp fitted with a 19/15/0.4 mm bare copper tail cable and clamped to a 19/2.0 mm bare copper line cable

Tests No. 7380.009, 010 and 011 Type SCHD clamp fitted with 2 x 19/15/0.4 mm bare copper tail cables and clamped to a 19/2.0 mm bare copper line cable

CLIENT

Bervic Engineering Co. Pty. Ltd
258 Boundary Road
Braeside
Victoria 3195 Australia

DATE OF RECEIPT OF TEST ITEMS

28 August 1997

ORDER NUMBER

4440 dated 18 August 1997

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MANUFACTURER

The manufacturer has declared that the apparatus was assembled at the following location :

Bervic Engineering Co. Pty. Ltd
258 Boundary Road
Braeside
Victoria 3195 Australia

LABORATORY

The apparatus was tested at:



Testing & Certification Australia
Lane Cove Testing Station
18 Mars Road
Lane Cove NSW 2066 Australia
Telephone 61 (0)2 9410 5202, Facsimile 61 (0)2 9428 2645

The laboratory accreditation details are:



This laboratory is registered by the National Association of Testing Authorities, Australia, Registration No. 62. The tests reported herein have been performed in accordance with its terms of registration.



QUALITY
MANAGEMENT
SYSTEM
ISO 9002 NATA CERTIFIED

Quality System Certified by NATA to AS/NZS ISO 9002
Registration No. 6702.

ASTA

ASTA Accredited Laboratory to BS 7501 / EN 45001 / ASTA Publication 31
Registration No. 5118.

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TEST CONDITIONS

1. The tests were conducted in generally in accordance with Clause 5.4.3 of Australian Standard 1154.1 : 1985, except that the Client specified test currents higher than required by Appendix A of Australian Standard 1154.1 : 1985.
2. The non-tension fittings were tested with two phases of a three-phase, 50 Hz supply in the circuit shown in Figure 1.
3. The test supply was adjusted to the nominal current specified by the Client. The test supply was maintained for the duration specified in the Standard.
4. For each test the clamp under test was attached to the line cable and tightened using an operating stick with two hands. The tail cable clamping devices were tightened with spanners.

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Short-time Current Test at 6.93 kA rms for 2 s

Condition Before Test

Clamp : Type SC01, Sample No. 1 in new condition,
Tail cable : 2.2 m of 19/15/0.4 mm bare copper cable in new condition.
Line cable : 19/2.0 mm bare copper cable in new condition.

Test Circuit Diagram
Figure 1

See Photographs No. 22507 / A and B

Test No.	Applied Voltage	Current				Duration s	Average Symmetrical kA rms
		Asymmetrical kA peak	Symmetrical kA rms measured on oscillogram at				
7380.	V		0.14 s	1.10 s	2.06 s		
004	440	10.72	7.221	7.096	6.941	2.02	7.086

Observations During Test

Movement of cables. Tail cable glowed red hot.

Condition After Test

No damage to clamp and line cable. Clamp complied with the requirements of Clause 5.4.3.4

Tail cable discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / C, D and E

Date of Test : 3 September 1997

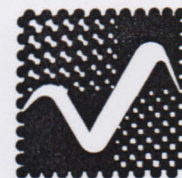
Note : Current initiated at 0.1 s

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Short-time Current Test at 6.93 kA rms for 2 s

Condition Before Test

Clamp : Type SC01, Sample No. 2 in new condition,
Tail cable : 1.1 m of 19/15/0.4 mm bare copper cable in new condition.
Line cable : 19/2.0 mm bare copper cable as after Test No. 7380.004

Test Circuit Diagram
Figure 1

Test No.	Applied Voltage	Current				Duration s	Average Symmetrical kA rms
		Asymmetrical kA peak	Symmetrical kA rms measured on oscillogram at				
			0.16 s	1.10 s	2.04 s		
7380.006	V	10.50	7.108	7.072	6.986	2.01	7.055

Observations During Test

Movement of cables. Tail cable glowed red hot.

Condition After Test

No damage to clamp and line cable. Clamp complied with the requirements of Clause 5.4.3.4

Tail cable discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / I

Date of Test : 3 September 1997

Note : Current initiated at 0.1 s

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Short-time Current Test at 6.93 kA rms for 2 s

Condition Before Test

Clamp : Type SC01, Sample No. 3 in new condition,
Tail cable : 1.1 m of 19/15/0.4 mm bare copper cable in new condition.
Line cable : 19/2.0 mm bare copper cable as after Test No. 7380.006

Test Circuit Diagram
Figure 1

Test No.	Applied Voltage	Current				Duration s	Average Symmetrical kA rms
		Asymmetrical kA peak	Symmetrical kA rms measured on oscillogram at				
			0.16 s	1.10 s	2.04 s		
7380.007	V 429	10.47	7.104	7.085	7.012	2.01	7.067

Observations During Test

Movement of cables. Tail cable glowed red hot.

Condition After Test

No damage to clamp and line cable. Clamp complied with the requirements of Clause 5.4.3.4

Tail cable discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / K

Date of Test : 3 September 1997

Note : Current initiated at 0.1 s

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Short-time Current Test at 13.85 kA rms for 2 s

Condition Before Test

Clamp : Type SCHED, Sample No. 4 in new condition,
Tail cable : 0.9 m of 2 x 19/15/0.4 mm bare copper cables in new condition.
Line cable : 19/2.0 mm bare copper cable as after Test No. 7380.007

See Photograph No. 22507 L

Test Circuit Diagram
Figure 1

Test No.	Applied Voltage	Current			Duration s	Average Symmetrical kA rms		
		Asymmetrical kA peak	Symmetrical kA rms measured on oscillogram at					
			0.2 s	1.14 s	2.10 s			
7380.009	V	421	20.75	14.11	14.04	13.87	2.02	14.01

Observations During Test

Movement of cables. Line and tail cables glowed red hot.

Condition After Test

No damage to clamp. Clamp complied with the requirements of Clause 5.4.3.4

Line and tail cables discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / M and N

Date of Test : 6 September 1997

Note : Current initiated at 0.14 s

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Short-time Current Test at 13.85 kA rms for 2 s

Condition Before Test

Clamp : Type SCHED, Sample No. 5 in new condition,
Tail cable : 0.9 m of 2 x 19/15/0.4 mm bare copper cables in new condition.
Line cable : 19/2.0 mm bare copper cable in new condition

Test Circuit Diagram
Figure 1

Test No.	Applied Voltage	Current				Duration	Average Symmetrical kA rms
		Asymmetrical	Symmetrical kA rms measured on oscillogram at				
7380.	V	kA peak	0.18 s	1.14 s	2.10 s	s	
010	422	20.73	14.19	14.11	13.89	2.02	14.06

Observations During Test

Movement of cables. Line and tail cables glowed red hot.

Condition After Test

No damage to clamp. Clamp complied with the requirements of Clause 5.4.3.4

Line and tail cables discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / P

Date of Test : 6 September 1997

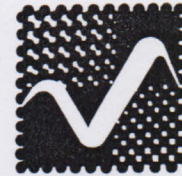
Note : Current initiated at 0.14 s

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Short-time Current Test at 13.85 kA rms for 2 s

Condition Before Test

Clamp : Type SCHED, Sample No. 6 in new condition,
Tail cable : 0.9 m of 2 x 19/15/0.4 mm bare copper cables in new condition.
Line cable : 19/2.0 mm bare copper cable in new condition

Test Circuit Diagram
Figure 1

Test No.	Applied Voltage	Current				Duration s	Average Symmetrical kA rms
		Asymmetrical kA peak	Symmetrical kA rms measured on oscillogram at				
	V		0.2 s	1.14 s	2.10 s		
011	420	20.85	14.15	14.06	13.91	2.02	14.04

Observations During Test

Movement of cables. Line and clamp cables glowed red hot.

Condition After Test

No damage to clamp. Clamp complied with the requirements of Clause 5.4.3.4

Line and tail cables discoloured and annealed. No signs of local heating, burning or fusing of any part of the clamp or cables where they attach to the clamp.

See Photographs No. 22507 / Q and R

Date of Test : 6 September 1997

Note : Current initiated at 0.14 s

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PHOTOGRAPHS

Number	Caption
22507 A	Test arrangement before Test No. 7380.004
B	SC01 clamp, sample 1 before Test No. 7380.004
C	Test arrangement after Test No. 7380.004
D	SC01 clamp, sample 1 after Test No. 7380.004
E	SC01 clamp, sample 1 after Test No. 7380.004
I	SC01 clamp, sample 2 after Test No. 7380.006
K	SC01 clamp, sample 3 after Test No. 7380.007
L	SCHD clamp, sample 4 before Test No. 7380.009
M	Test arrangement after Test No. 7380.009
N	SCHD clamp, sample 4 after Test No. 7380.009
P	SCHD clamp, sample 5 after Test No. 7380.010
Q	Test arrangement after Test No. 7380.011
R	SCHD clamp, sample 6 after Test No. 7380.011

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