TEST REPORT

Western Power
Standards Laboratory
2/46 Collingwood Street
Osborne Park WA 6017
Tel. 08 9445 0520
Fax. 08 9445 0500

Return To Test Results

Requested By

Brian Snell
Proprietor
Safetac Welding Products
Unit 6/7 Coolibah Way
BIBRA LAKE WA 6163

Date of Test:	10/06/2003
Temperature:	22.5°C
Rel. Humidity:	43%
Customer Ref:	227053,lm017492
Workbook No:	WB20030658

Instrument Details

Test Item:	Voltage Reduction Device (for welders)
Maker:	Safetac Welding Products
Model/Type:	LPHS
Serial No.:	LS086

Preamble

The Test item is a device that reduces the No-LOAD output voltage of an ARC welder from the unreduced no-load voltage to a level deemed safe according to AS3195-1995. For compliance to AS3195-1995 the device must automatically reduce the welder's no-load voltage to a safe level when the resistance of the output exceeds 200 Ω.

The client requested the device be tested to show the resistance level at which the output relay, which controls a welder's output voltage, operates. In addition, the transition time of the relay and the correct operation of the devices' 'OUTPUT STATE' indication were requested.

Method Employed

The Test item's 'OUTPUT STATE' detection leads were connected to the Leeds & Northrup, AC/DC Decade Resistor box (ID1.2.6). The 'WELDER TURN-ON' leads (relay output) were connected across a Yokogawa Digital Oscilloscope (ID9.1.9) via a 6-volt battery in series with a 105 Ω resistor. *The CRO was set to a 500ms time-base.* Supply (12 Vdc) to the Test item was from a variable DC Voltage Source (ID11.2.3).

The transition time of the relay's operation was measured on the oscilloscope as the time for the contact to operate. Measurements were carried out for the relay's NO and NC contacts. The mean of five measurements for each state is given in the result table.

The 'open circuit' voltage of the sense output was measured using a high-resolution digital multimeter.

All measurements are carried out using equipment that holds calibration traceable to national standards held by the National Measurement Laboratory.

Uncertainties
At the time of testing the uncertainty of measurement at the 95% confidence level is:

Resistance measurement	**±2.0 Ω**
Time Measurements	***±0.001 seconds***

Results

Transition State from LOAD to NO LOAD condition (Indication RED to GREEN state)

Resistance Value at Transition	(Ω)
	109.6

Transition State from NO LOAD to LOAD condition (Indication GREEN to RED state)

Resistance Value at Transition	(Ω)
	106.8

TEST REPORT

Measured RISE-TIME of Transition
State from LOAD to NO LOAD condition
Normally open contact

(External Resistance 105.0 Ω)	(ms)
	1.3

Measured RISE-TIME of Transition
State from LOAD to NO LOAD condition
Normally closed contact

(External Resistance 105.0 Ω)	(ms)
	1.2

'OUTPUT SHORT DETECT' Voltage
@ 10 GΩ Load

Supply voltage 12 Vdc	(Vdc)
Measured Value (Vdc)	**9.17**

Approved Signatory **Date:** 10 June, 2003

Testing Officer: Derek Ball