



**TEST
REPORT**

CERTIFIED ENGINEERING TEST REPORT

HUBBELL®

PROBELOCK®

Project No. DVL9712

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NOTE:

Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.



LABORATORY TESTING RESULTS

Project Name: ProbeLok® **Project Number:** DVL9712 **Test Date:** 2-14-97 to 3-24-97

Applicable Patent: Patent No. 5,116,265 **Applicable Standard(s):** ANSI C119.4-1991

**Temperature Readings
(Degrees C.)**

CYCLE	CONTROL	AMBIENT	CONN 3	CONN 4	CONN 5	CONN 10
25	123.4	23.4	79.2	80.3	80.2	81.5
50	124.8	22.5	79.5	80.8	81.0	82.7
75	122.5	23.3	80.1	82.0	82.0	82.3
100	124.9	22.7	80.8	81.0	82.2	83.0
125	123.9	23.6	78.5	79.9	80.6	81.7
165	124.5	23.2	78.6	80.3	80.3	82.3
205	124.8	22.3	78.8	79.4	81.1	82.2
245	120.9	22.5	76.7	78.9	78.7	80.3
325	125.2	22.0	78.7	80.2	81.8	82.4
405	127.8	23.1	77.5	79.1	80.2	82.1
485	118.3	22.5	76.4	78.3	78.9	80.4
500	122.6	22.2	79.1	81.0	82.2	83.1

**Temperature Difference
(Control - Connector)**

CYCLE	CONN 3	CONN 4	CONN 5	CONN 10
25	44.2	43.1	43.2	41.9
50	45.3	44.0	43.8	42.1
75	42.4	40.5	40.5	40.2
100	44.1	43.9	42.7	41.9
125	45.4	44.0	43.3	42.2
165	45.9	44.2	44.2	42.2
205	46.0	45.4	45.4	42.6
245	44.2	42.0	42.2	40.6
325	46.5	45.0	43.4	42.8
405	50.3	48.7	47.6	45.7
485	41.9	40.0	39.4	37.9
500	43.5	41.6	40.4	39.5
AVG. TEMP. DIFFERENCE	44.9	43.5	43.0	41.6
MIN. ALLOWED DIFF.	35.0	34.0	33.0	32.0
MIN. TESTED DIFF.	41.9	40.0	39.4	37.9

Tested By: *Heuman Decker*

Date: 6-6-97

Approved By: *Roy Jayneski*



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Resistance Readings
Readings corrected to 20 degrees C.
(Measurements in milliohms)

CYCLE	CONN 3	CONN 4	CONN 5	CONN 10
25	0.023	0.027	0.024	0.023
50	0.024	0.027	0.026	0.022
75	0.023	0.027	0.026	0.023
100	0.024	0.028	0.027	0.024
125	0.024	0.028	0.027	0.023
165	0.024	0.028	0.028	0.024
205	0.024	0.028	0.029	0.024
245	0.025	0.029	0.03	0.024
325	0.024	0.028	0.029	0.024
405	0.024	0.028	0.032	0.025
485	0.025	0.028	0.033	0.025
500	0.024	0.028	0.034	0.025
AVG. RESISTANCE	0.024	0.028	0.029	0.024
MIN. ALLOWED	0.014	0.018	0.019	0.014
MIN. TESTED	0.023	0.027	0.024	0.022
MAX. ALLOWED	0.034	0.038	0.039	0.034
MAX. TESTED	0.025	0.029	0.034	0.025

Tested By: *Heuman Decker*

Date: 6-6-97

Approved By:



LABORATORY TESTING RESULTS

Project No. DVL9712

Test Date: 2-14-97 to 3-24-97

Applicable Patent: Patent No. 5,116,265

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Purpose of Test:

The purpose of this test is to determine if a nylon pellet inserted into a standard bimetal connector at a specific location in relation to the threads can maintain proper conductivity even when the probe is backed off one complete turn.

Description of Test:

Four standard bimetal connectors, randomly selected from a dimensional sample base of connectors, were drilled and tapped and a nylon pellet was inserted into the drilled hole. Uninsulated 1/0 stranded aluminum cable was wire brushed and the connectors filled with anti-oxidant. Each connector was crimped with a Burndy U243 die and assembled in series with a 25 kV probe. Each probe was fully threaded into the bimetal connector and then backed off one complete turn. Thermocouples were then inserted into the connectors, probes, busbar, and control to monitor temperature. A current of 270 amperes was induced into the test loop to raise the temperature of the control 100 degrees C. above ambient. One complete cycle consisted of one hour on and fifteen minutes off with fans blowing on the loop to bring the temperature down to ambient. This was repeated for 500 cycles. Temperature readings were recorded at the end of the "on" cycle. Resistance measurements were recorded initially and at the end of the 25th, 50th, 75th, 100th, 125th, 165th, 205th, 245th, 325th, 405th, 485th, and the 500th cycle with a VALHALLA Digital Micro - ohmmeter (model #4250 ATC). All temperature measurements were recorded with a Kaye data recorder (model # D4PS).

Test Results:

The temperature differences between the control conductor and the connector showed a condition of stability as required by the standard. (Refer to charts for actual data.)

The dc resistance was stable over the period of measurement required by the standard. (Refer to charts for actual data.)

The ProbeLok™ connector met the requirements of the applicable standard.

Tested By: *Humam Dicker*

Date: 6-6-97

Approved By: *Poy Jayawadi*



MODIFIED CONN.
.24 SPACING

DVL9712

TEST DATE: 2-14 TO 3-24-97

