

Product Test/Assessment Report for UV Radiation

Client: Schneider-Electric
Address: 33-37 Port Wakefield Road, Gepps Cross 5094, Australia
Report Number: 0417SCH_ ACT4P6UPEJ3RBK _UVR
Dates of Testing: 20 February to 14 April 2014
File Number: SCH131120

Equipment Name: Cat6 outdoor cable
Equipment Model No's: ACT4P6UPEJ3RBK
Equipment Description: Cat6 outdoor cable

Tested by: Chris La


C.N.L.A.

Checked by: Martin Garwood



Date of Issue 17 April 2014

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REPORT SUMMARY, XENON ARC UV RADIATION

The EUT (Equipment Under Test) was Cat6 outdoor cable, Model No: ACT4P6UPEJ3RBK, and was supplied for testing by Schneider-Electric of Gepps Cross 5094, Australia.

The purpose of the test was to subject the supplied EUT to 960 hours (40 days) of continuous UV radiation simulating 5000 hours (208 days) of actual UV irradiance using an average* annual UV dosage for Australia of 450MJ/m².

* Based on an average dosage of annual dosage data of major centres from ARPANSA (Australian Radiation Protection and Nuclear Safety Agency)

Refer to Appendix 1 for the test plan and procedure.

Test results are listed in Appendix 2.

A photographic record of the sample provided for testing is found within Appendix 3.

A photographic record of the sample following testing is found within Appendix 4.

A pass/fail set of criteria was not applied or applicable to this test or report.

Appendix 1- Test Procedure

1. Description of EUT:

The EUT was Cat6 outdoor cable:

- The cable had diameter of 6.7 ± 0.3 mm.
- The sheath was in black colour.

The EUT was cut into 5 pieces for testing:

- Two long samples of length 205 ± 5 mm.
- Three short samples of length 90 ± 5 mm.

Two long samples and two short samples were subjected to UV radiation. The remaining short sample was kept not radiated for final comparison.

2. Condition of the samples prior test:

- The samples were clean with no signs of burning.
- No prior treatment of the samples.
- See appendix 3 for photographic record of the samples.

3. Equipment /materials used with Austest Laboratories Master Equipment (ME) number.

- Calibrated Q-Sun Xenon Arc radiation chamber, #ACL271.
- See appendix 3 for sample arrangement inside chamber.

4. Condition of testing:

a. Duration of the test : 960 hours.

b. Calibration set point at 340nm : 0.61 ± 0.02 W/m².

Xenon Arc light duration and intensity simulated 5000 hours (208 days) of actual UV irradiance using an average annual UV dosage of 450MJ/m².

c. Filter type : Extended UV – Q/B.

d. Chamber air temperature : 45 ± 3 °C.

e. Relative humidity : 25 ± 5 %.

f. Angle of the tested samples : Samples were lying flat and received radiation from above.

Appendix 2- Test results

Evaluation of results:

Only visual assessments were performed and the observations were as follows:

- Observations were the same for all radiated samples.
- The sheath did not show any recognisable change in colour.
- The sheath retracted at the cable ends, and exposed 2 ± 1 mm of the core.
- The sheath lost its gloss and smoothness.

Overall, there was no visually recognisable sign of damage to the sample.

See appendix 4 for photographic record of test results at various stages of the test.

Appendix 3- Photographic Record of Samples

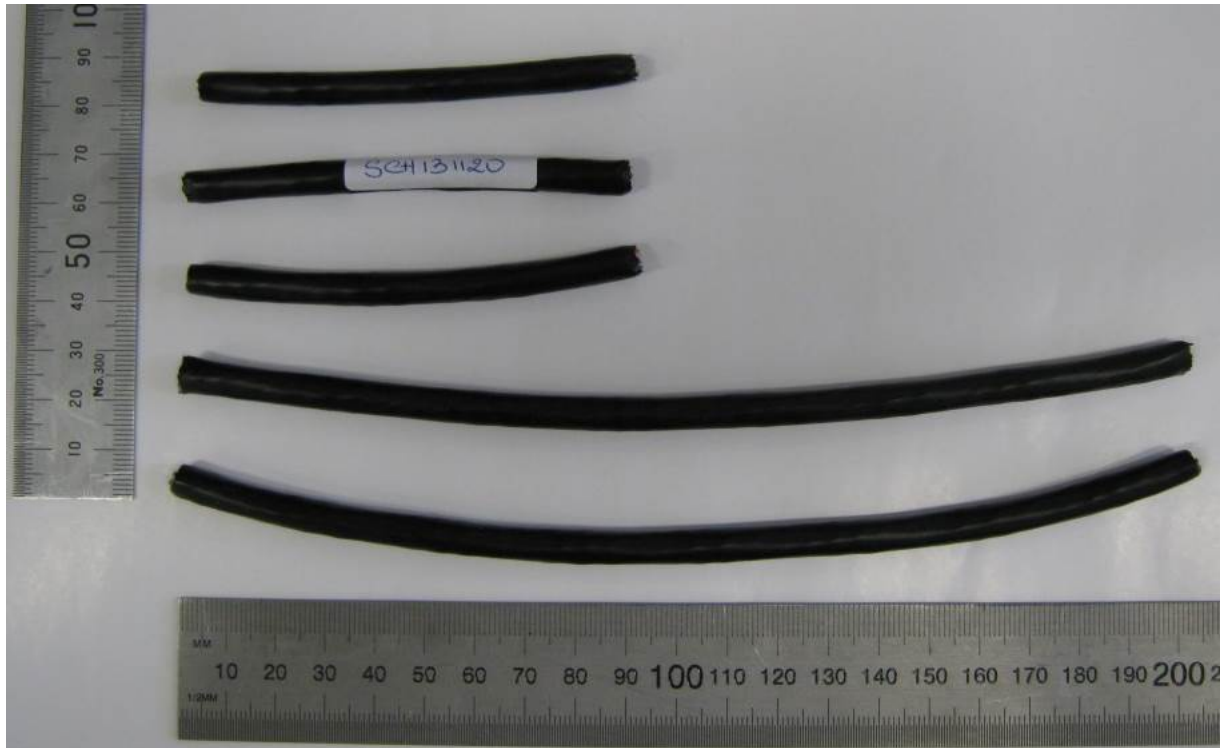


Fig. 1.a. Samples before test with dimensions – top view

Appendix 3- Photographic Record of Samples



Fig. 1.b. Samples before test with dimensions – side view from cable ends

Appendix 3- Photographic Record of Samples

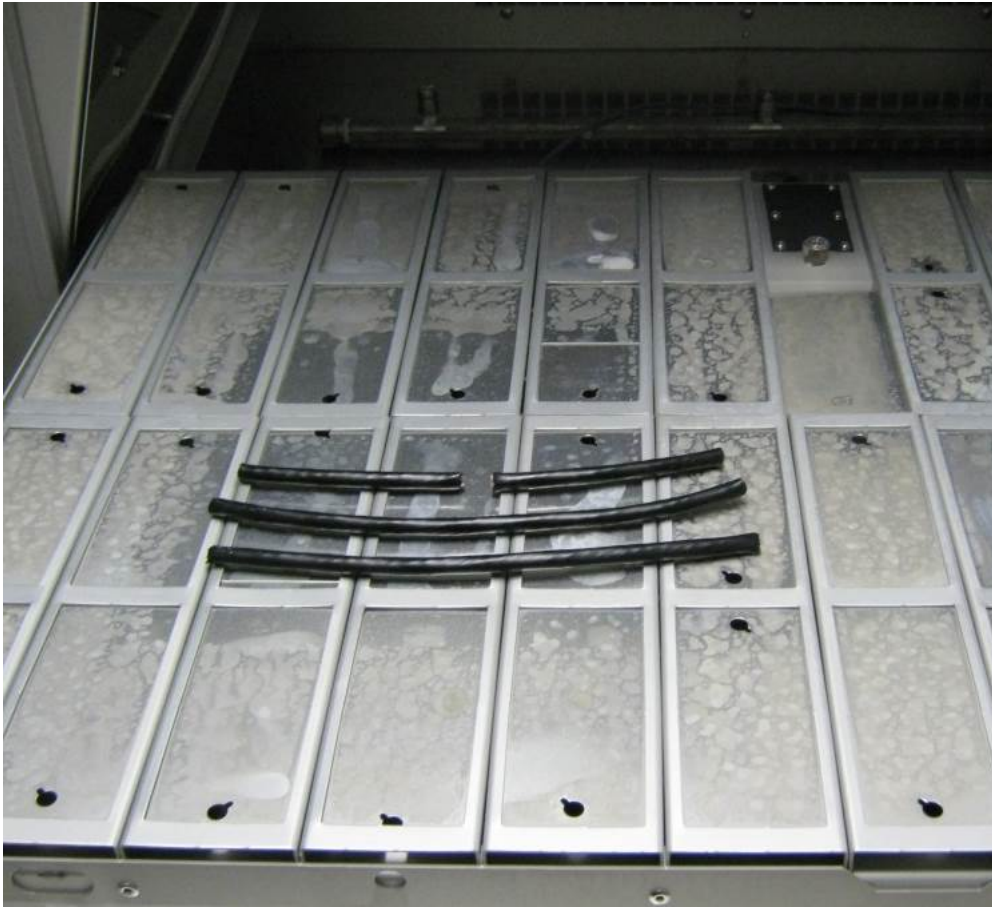


Fig. 1.c. Samples before test – inside the test chamber

Appendix 4- Photographic Record of Test Result

Final test results:



Fig. 2.a. Samples inside the test chamber after 960 hours of radiation

Appendix 4- Photographic Record of Test Result



**Fig. 2.b. Samples after 960 hours of radiation – top view
(The top sample with label was not radiated)**



**Fig. 2.c. Samples after 960 hours of radiation – side view from cable end
(The left sample with label was not radiated)**

Appendix 4- Photographic Record of Test Result



Fig. 2.d. Retracted sheath at cable end, after 960 hours of radiation

Appendix 4- Photographic Record of Test Result



Fig. 2.e. Surface of 960-hour radiated sample (top) compared to non-radiated sample (bottom)

Appendix 4- Photographic Record of Test Result

Test results at various stages of the test:



Figure 3.a. Samples after 360 hours of radiation – inside test chamber

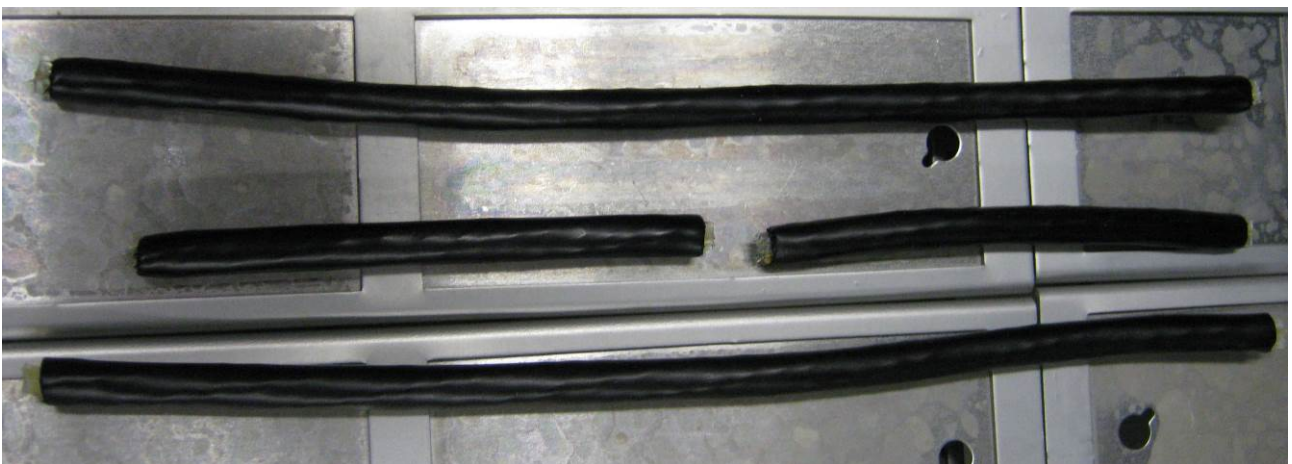


Figure 3.b. Samples after 528 hours of radiation – inside test chamber

Appendix 4- Photographic Record of Test Result



Figure 3.c. Samples after 696 hours of radiation – inside test chamber



Figure 3.d. Samples after 864 hours of radiation – inside test chamber