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For attention: Mr Tobie du Plessis

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Dear Sir

EVALUATION OF A CABLE USED IN EMERGENCY CIRCUITS – 30-MINUTE FIRE RESISTANCE IN TERMS OF BS EN 50200:2006

1. SAMPLE DESCRIPTION

The electrical cable, of which a portion is shown in Figure 1, was evaluated during this test. The cable was described as follows:

- 1 mm² single pair “Kabelcon” PH30-60 fire resistant cable

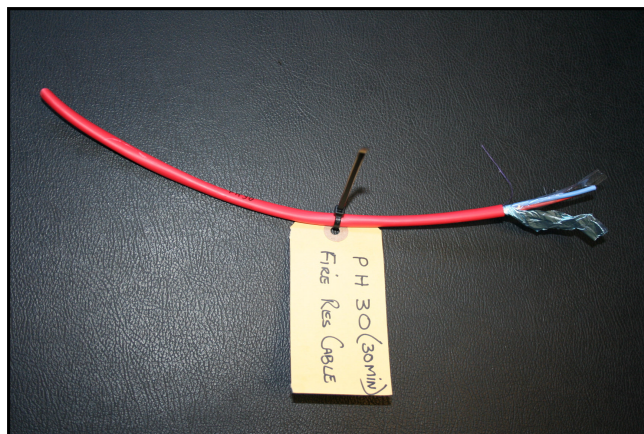


Figure 1: Portion of electrical cable as delivered

2. TEST METHOD

The cable was evaluated on 2011-07-19 at Firelab in Pretoria. The cable was evaluated in accordance with BS EN 50200:2006 (*Method of test for resistance to fire of unprotected small cables for use in emergency circuits*).

Figure 2 shows the test set-up prior to commencement of the test with the cable in position. The time elapsed was measured with a stopwatch while a Meger (supplied by Cabletronics) was used to electrically charge the cable prior to flame exposure. The temperature of the flame was adjusted to be approximately 930 °C where it impinged on the cable. The steel-sleeved K-type thermocouple was kept in position during the entire evaluation, with the temperature recorded on a Sekonic dot chart recorder (shown in Figure 3).

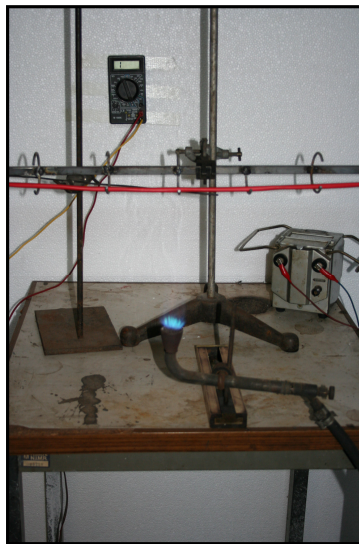


Figure 2: *Experimental set-up*

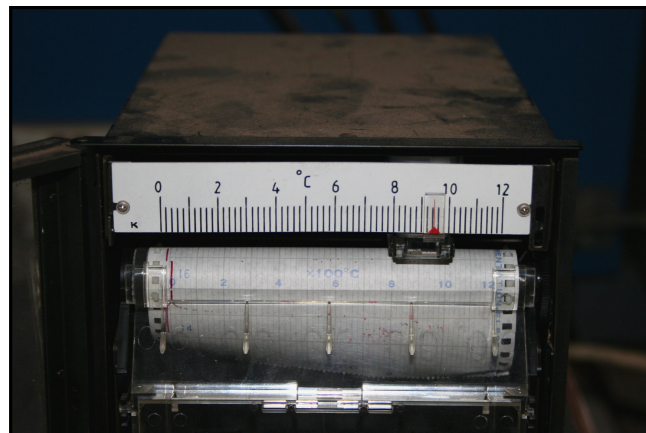


Figure 3: *"Sekonic" dot chart recorder used in experiment*

The continuity on the charged cable was measured with an electrical multi-meter. The cable is deemed to have failed once the multi-meter indicated that the cable had short-circuited due to the flame exposure.

3. RESULTS

The flame temperature was maintained throughout the 60-minute test as shown in Figure 4.

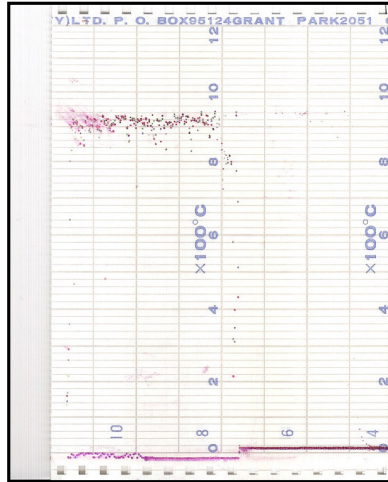


Figure 4: Strip-chart of flame temperature during test

Figure 5 shows the cable upon introduction of the burner. Flaming on the cable continued for approximately 3 minutes before extinguishing. The cable did not short-circuit during the entire test period.

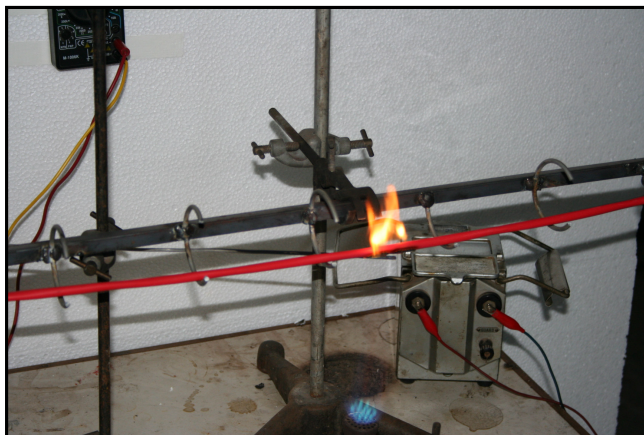


Figure 5: Cable upon introduction of burner

Figure 6 shows the cable upon completion of the 60-minute test period. The cable support was struck at the end of the test period with some char dislodging without the cable short-circuiting.



Figure 6: Cable upon completion of test

4. CONCLUSION

The cable as tested and described in section 1 of this report complied with the Maximum Survival Time of 60 minutes as stated in section 4.1 of BS EN 50200:2006.

Yours faithfully

K van Dyk
Fire Technology & Consulting Services T/a **FIRELAB**