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Test Report No: ICL/H15/5240A

BS 6387: 1994

**Specification for
Performance requirements for cables required to maintain
circuit integrity under fire conditions**

Sponsored By

Red Sea Cable Company
P.O Box 859
Riyadh: 11421
Kingdom of Saudi Arabia

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1. Purpose of Test

To determine the performance of a specimen of a cable when it is subjected to the conditions of test specified in BS 6387: 1994 "Specification for Performance requirements for cables required to maintain circuit integrity under fire conditions". The standard in clause 5, "Tests", states as follows:

"The test shall be applied to cables having two or more insulated conductors, whether or not the cable incorporates other metallic elements such as armor, screen or circuit protective conductor. The tests shall also be applied to cables having one conductor provided that the cable incorporates at least one other metallic component".

The cable submitted for test was a single core cable without another metallic component. The sponsor of the test was informed of this limitation and the test detailed in this standard was carried out at the sponsor's explicit request.

2. Scope of Test

BS 6387: 1994 specifies performance requirements and gives test methods for performance, when exposed to fire alone, exposed to fire with mechanical shock, and fire with water. The cable is tested at the rated voltage of the cables.

The tests methods are applicable to cables having two or more insulated conductors, whether or not the cables incorporate other metallic elements such as armour, screen or circuit protective conductor. The tests method can also be applied to cables having one insulated conductor provided that the cable incorporates at least one other metallic element. The tests method detailed in this standard are not applicable to cables having one insulated conductor but no other metallic element.

3. Description of Test Specimen

The description of the product given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

The product was a single core cable having an overall diameter of 10.4mm and consisting of 35mm² copper conductors, Mica tape, and orange green and yellow coloured polymeric outer sheath.

The outer sheath of the cable was marked “RED SEA CABLES, KSA 450/750V BS 6387 BS EN 50525-3-41 35MM² HO7Z-R 2015 0039M”.

The sponsor of the test has not supplied additional information relating to the composition of the outer sheath or the mica tape used.

4. Conditioning of Test Specimens

The specimens were received on 17th September 2015.

The test specimens were conditioned by maintaining them in indoor ambient conditions for a minimum period of 16 hours at $20 \pm 10^{\circ}\text{C}$.

5. Date of Test

The tests were performed on 26th November 2015.

6. Test Procedure

The test was performed in accordance with the procedure specified in BS 6387: 1994 and this report should be read in conjunction with that Standard.

The tests were carried out with the following sections

D.3 Resistance to fire with water at $650 \pm 40^{\circ}\text{C}$

D.4 Resistance to fire with mechanical shock at 950°C

Test voltage: 450V

6.1 Deviation from the standard.

The cable submitted was a single core cable and did not have another metallic component. The cable was tested by using two lengths of the cable laid side by side and with a slight twist along its length to ensure that each length was in good contact with the next cable.

7. Test Results

The test results relate only to the behaviour of the specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential hazard of the product in use.

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product, which is supplied or used, is fully represented by the specimens, which were tested.

1. D.3 Resistance to fire with water at 650 ± 40 °C

When tested in accordance with the procedure specified in Section D.1 and D.3 no fuse was ruptured during the test duration nor any lamp was extinguished.

2. D.4 Resistance to fire with mechanical shock at 950 °C

When tested in accordance with the procedure specified in Section D.1 and D.4 (950°C) no fuse was ruptured during the test duration nor any lamp was extinguished.

10. Conclusion

The cable submitted for test was a single core cable without another metallic component.

The standard states that this test shall not be applied to a single core cable that does not have another metallic component. The sponsor of the test was informed of this limitation and the test detailed in this standard was carried out at the sponsor's explicit request.

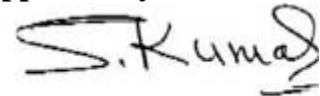
The results show that the cable tested with the amendment detailed in Clause 6.1 of this report, no fuse was ruptured and circuit integrity was maintained in tests for resistance to fire alone .

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