Test Report

WARRES No. 128261

IEC 754-1: 1994
Test On Gases Evolved During Combustion
Of Material From Cables
Determination Of The Amount Of
Halogen Acid Gas

Warrington FIRE research

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Sponsored By

MESC
Second Industrial Area
Phase 3
P.O.Box 585
Riyadh 11383
K.S.A

Warrington FIRE research
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1 Purpose Of Test

To determine the performance of individual components used in cable construction when they are subjected to the conditions of the test specified in IEC 754-1: 1994 "Test on gases evolved during combustion of material from cables. Part 1: Determination of the amount of halogen acid gas". It is intended that the use of IEC 754-1: 1994 will enable the requirements for individual components of a cable construction to be stated in the appropriate cable specification.

2 Scope Of Test

IEC 754-1: 1994 specifies a method of test for the determination of the amount of halogen acid gas, other than hydrofluoric acid, evolved during the combustion of compounds based on halogenated polymers and compounds containing halogenated additives taken from cable constructions.

3 Description Of The Cable

The description of the cable 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 25mm thick twelve core cable which was constructed utilising the following components:

1. Twelve core 2.5 sqmm tinned copper conductors.
2. Mica tape manufactured by Cogebi Belgium
3. Cross linked polyethylene insulation (colour reference "black").
4. Clear plastic tape.
5. Flame retardant low smoke halogen free inner sheath (product reference "Megalon S-500", colour reference "red").
6. Steel wire armour.
7. Flame retardant low smoke halogen free outer sheath (product reference "Megalon S-500", colour reference "red").

The outer sheath of the cable was marked as follows:

"POWER CABLE CU/XLPE/SWA/LSHF 12CX2.5MM2 600/1000V MESC 2002 IEC 60502,IEC60331(H6F)"

The cable was supplied by the sponsor of the test. Warrington Fire Research Centre was not involved in any selection or sampling procedure.

4 Conditioning Of Specimen

The specimen was received on the 08th November

Prior to the test the specimens were conditioned for a period of 16 hours at a temperature of 23 (± 2°) C, and a relative humidity of 50 (± 50)%.

5 Date Of Test

The test was performed on the 04th & 6th December 2002.

6 Test Procedure

The test was performed in accordance with the procedure specified in IEC 754-1: 1994 and this report should be read in conjunction with that Standard.

7 Test Results

The test results relate only to the behaviour of the specimen 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 specimen of the cable component in the form in which it was tested. Small differences in the composition 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 specimen, which was tested.

The results obtained are given in Table 1.

TABLE 1

Hydrochloric Acid Yield
mg/g

Component tested	RUN 1	RUN 2	RUN 3	AVERAGE
Outer sheath	<5	<5	<5	<5

8 Conclusion

When tested in accordance with IEC 754-1: 1994 the hydrochloric acid yield from the outer sheath material was found to be <5mg/g.

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9 **Validity**

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

Tested By

I Moore. I MOORE.

P.P. S RAMALINGAME
Laboratory Supervisor

Approved

P.E. Lythgoe

P E LYTHGOE
Testing Manager
For and on behalf of
WARRINGTON FIRE RESEARCH CENTRE

Date of Issue: 23rd January 2003

Warrington FIRE research

Our Ref:128261
28th January 2003

Mr K Sekar
MESC
Second Industrial Area
Phase 3
P O Box 585
Riyadh 11383
K.S.A.

Dear Mr Sekar

WARRES No: 128261

We have pleasure in enclosing the above report.

The description of the specimens tested has been prepared from information provided by yourselves and every precaution has been taken to ensure that the details are correct. If you find that there are any inaccuracies, however, could you please return the original report to us within 14 days together with written notification of the inaccuracy.

Yours sincerely

I Moore
Technical Officer
Testing Department

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