



Test Report

No. 2098819/EC

Date : Jul 21 2009

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ARMOUR HONG KONG LTD.
UNIT 2003, VALLEY CENTRE,
80-82 MORRISON HILL ROAD,
WAN CHAI, HONG KONG

The following sample was submitted and identified on behalf of the client as:
LSOH CABLE

SGS Job No. : 1272975
Sample Receiving Date : JUL 07 2009
Testing Period : JUL 07 - 21 2009

Test Required:

1. This test was performed in accordance with IEC 60332-1: 2004. Test for vertical flame propagation for a single insulated wire or cable.
2. This test is conducted as per IEC 61034-1:2005 Measurement of smoke density of cables burning under defined conditions –Part 1: Test apparatus and IEC 61034-2:2005 Measurement of smoke density of cables burning under defined conditions –Part 2: Test procedure and requirements.
3. This test is conducted as per IEC 60754-1:1994 Test on gases evolved during combustion of materials from cable – Part 1: Determination of the amount of halogen acid gas.

Remark : The test was conducted in SGS Affiliate.

Test Results: --- See attached sheet ---

Test Duration:

Sample Receiving Date : JUL.13, 2009
Test Performing Date : JUL.13, 2009 TO JUL.21, 2009

Signed for and on behalf of
SGS Hong Kong Ltd

Hui Ying Ngai, Alex
Section Manager

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1. IEC 60332-1: 2004

I. Test requirements

This test was performed in accordance with IEC 60332-1: 2004. Test for vertical flame propagation for a single insulated wire or cable.

II. Sample details

Color	Pink
Inter Wire Diameter	2.5mm, 4cores
Overall Diameter	7mm

Conditioning: before testing, all test pieces shall be conditioned at $(23 \pm 5) ^\circ\text{C}$ for not less than 16h at a relative humidity of $(50 \pm 20) \%$.

III. Test results

Flame Application: 60±2s

During the test duration, it shall be recorded:	
If the filter paper has ignited or not;	NO
If the filter paper has ignited, the time from ignition of the filter paper to cessation of the burning;	--
If the distance between the lower edge of the top support and the onset of charring is less than 50mm or not;	NO
If charring extends downwards to a point greater than 540 mm from the lower edge of the top support.	NO

Recommended performance requirements:

The test specimen is recommended considered to have failed the IEC 60332-1: 2004, Test for vertical flame propagation for a single insulated wire or cable, if a vertical specimen show:

- The filter paper has ignited.
 - The distance between the lower edge of the top support and the onset of charring is less than 50mm.or
 - Charring extends downwards to a point greater than 540 mm from the lower edge of the top support
- If a failure is recorded, two more tests shall be carried out, If both tests result in passes, the single insulated conductor of cable shall be deemed to have passed the test.

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2. IEC 61034-1: 2005

I. Test reference

This test is conducted as per IEC 61034-1:2005 Measurement of smoke density of cables burning under defined conditions –Part 1: Test apparatus and IEC 61034-2:2005 Measurement of smoke density of cables burning under defined conditions –Part 2: Test procedure and requirements.

II. Sample details:

Materials / Color / Diameter	Cable / Pink / 7mm
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	Temperature (°C)	Humidity (%)	Duration(h)
Precondition	23±2	50±5	At least16

III. Preparation of specimen

Length of specimen pieces: (1.00±0.05)m Number of specimen: N ₁ = 6 pieces
Details of mounting test sample: individual test piece was bound together at the ends, and at 300mm from each end, at which place they shall be clamped to the support by means of wire binders.

Test results

The minimum light transmittance (%)	89
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Recommended performance requirement :

In the absence of any given requirement, it is recommended that a value of 60 % cable light transmittance is adopted as a minimum for any cable tested against this standard.

Remark: Evaluation of test results

- 1) For cables up to and including 80 mm overall diameter, the recorded minimum light transmittance shall be taken as the cable light transmittance.
- 2) For cables above 80 mm overall diameter, the recorded minimum light transmittance shall be normalized by multiplying by a factor of $D/80$ (where D is the actual diameter in millimeters of the cable under test) and the resulting value shall be taken as the cable light transmittance.

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3. IEC 60754-1: 1994

I. Test reference

This test is conducted as per IEC 60754-1:1994 Test on gases evolved during combustion of materials from cable – Part 1: Determination of the amount of halogen acid gas.

II. Sample details:

Materials / Color	Cable / Pink
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	Temperature (°C)	Humidity (%)	Duration (h)
Precondition	23±2	50±5	16

III. Test results

Test No.	Specimen mass(g)	B(ml)	A(ml)	The amount of halogen acid *(mg/g)	Average (mg/g)
1	0.9922	39	32	128.7	128.9
2	0.9900	38	31	129.0	

Remark:

The calculation format:

$$\text{The amount of halogen acid (mg/g)} = \frac{36.5(B - A)M \times (1000/200)}{m},$$

A – the volume of 0,1 M ammonium thiocyanate solution used in the determination.

B – the volume of 0,1 M ammonium thiocyanate solution used in the blank test.

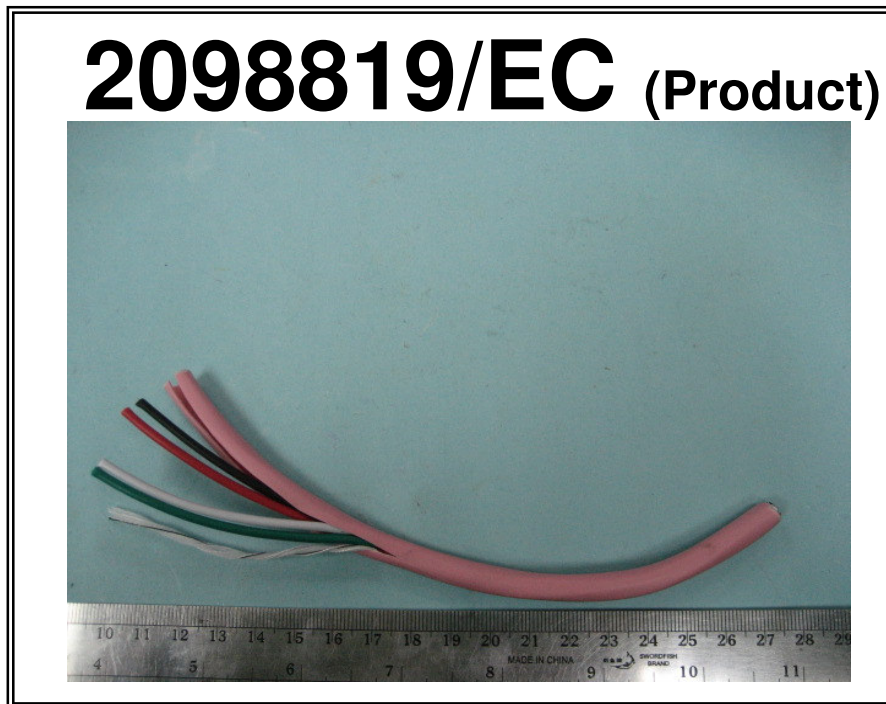
M – the molarity of ammonium thiocyanate solution.

m – the mass of the sample taken in grams.

* – expressed as milligrams of hydrochloric acid per gram of sample.

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

Sample photo :



SGS authenticate the photo on original report only

End of Report

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