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DELTA Test Report



 **DANAK**
TEST Reg. no. 19

Flammability test performed on a polyester strip.

Performed for JP Air Tech a/s.

DANAK-19/12711

Project no.: T204438

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19 December 2012

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Title Flammability test performed on a polyester strip

Product description Polyester strip

Product identification JX260ALU+FR

Accreditation no. DANAK-19/12711

Project no. T204438

Test object received 18 December 2012

Test period December 2012

Client JP Air Tech a/s
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Specification IEC 60332-1:2004

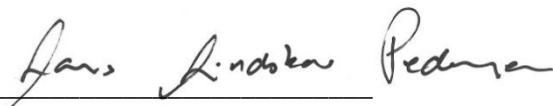
Results Compliance with specifications is verified

Prepared by Claude Videt

Reviewed by Dennis Andersen

Date 19 December 2012

Responsible



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1. Summary

A polyester strip has been tested for compliance with requirements for flammability parameters.

The purpose of the testing was to verify if the strip comply with IEC 60332-1.

The polyester strip for this test was sent to DELTA by the customer

The testing has been performed under laboratory conditions at the EC Cabling Group of DELTA.

This report firstly informs on the conclusion, and then the test results are reported. The results are compared with the requirements. At last the applied standards and test procedures are listed and described.

2. Conclusion

The tested sample complies with the applied requirements.

The test results are only applicable for the tested sample.

3. Description of sample under test

3.1 Dimension

Width: 21 mm

Thickness: 0.5 mm

3.2 Material

Flame Retardant Polyester

3.3 Aspect



Figure 1. Sample front

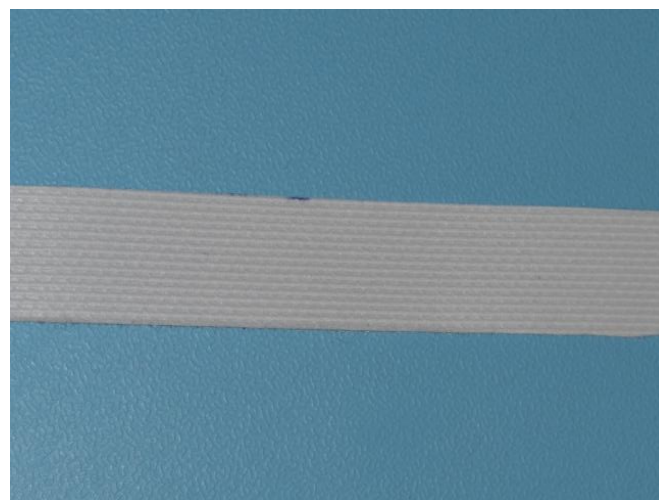


Figure 2. Sample back

4. Test results

4.1 Flammability (IEC 60332-1)

Table 1. Flammability, sample 1

Parameter	Test result	Requirement	Compliance
Distance A [mm]	410	> 50 mm	YES
Distance B [mm]	500	< 540 mm	YES
Extinguish time	0' 1" [min, s]	No requirement	NA
Flaming droplets	Paper does not burn	Paper shall not burn	YES

Table 2. Flammability, sample 2

Parameter	Test result	Requirement	Compliance
Distance A [mm]	405	> 50 mm	YES
Distance B [mm]	500	< 540 mm	YES
Extinguish time	0' 1" [min, s]	No requirement	NA
Flaming droplets	Paper does not burn	Paper shall not burn	YES

Equipment:

Flammability test equipment, DELTA

Instrument no.: 31035

5. Reference to applicable standards and documents

Test of the sample under test is performed with reference to the following standards:

5.1 Standards for fire performance

IEC 60332-1-1:2004

Tests on electric and optical fibre cables under fire conditions -

Part 1-1: Test for vertical flame propagation for a single insulated wire or cable - Apparatus.

IEC 60332-1-2:2004

Tests on electric and optical fibre cables under fire conditions -

Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame.

IEC 60332-1-3:2004

Tests on electric and optical fibre cables under fire conditions -

Part 1-3: Test for vertical flame propagation for a single insulated wire or cable - Procedure for determination of flaming droplets/particles

6. Test procedures

The tests carried out on the cable under test are performed according to the standard: IEC 61156-1 Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification.

The test methods are detailed in test procedures worked out by DELTA and approved by DANAK. In this section the procedures are described briefly.

6.1 Environmental tests

6.2 Test under fire conditions

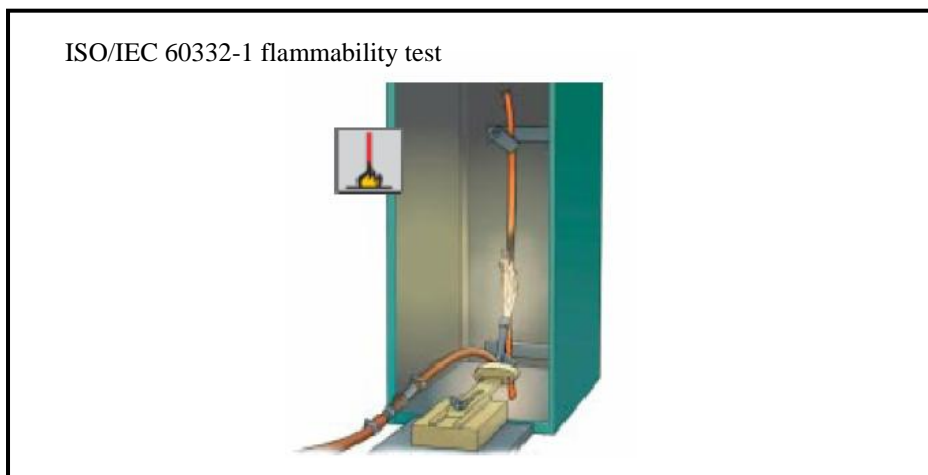


Figure 3. Test set-up for flammability test

The fire properties of the sample under test are measured according to the referenced flammability standard. A 60 cm sample of the strip under test is placed vertically in the test jig. A 1 kW flame is applied to the cable for duration of 1 min. and then removed. The distance from the upper fixation point to the upper and lower boundaries for the charred sections are measured, and the time until extinguishes of the fire is recorded.

The parameter “flaming droplets” is tested by placing two pieces of filter paper below the sample under test. The dimension of the filter paper is 30*30 cm. It is required that the filter paper does not burn.

The measurement uncertainty for the distance evaluations is ± 10 mm.

6.3 Test set up



Figure 4. Before the test



Figure 5. During the test



Figure 6. After the test

6.4 Test software

Test software according to information in the table below is used for the conducted tests.

Software name	Function	File name	Version	Date
ECReport	Report	Xreport	41	120515
Report programme	Report	Rapgen.xls	1.6	110714
DELTA Automatic Reporting Program	Automatic word processing	Rapport	1.7	110829
Cable report 2002	Cable report generation	Cable report	4.6	111102