REPORT

Contact person
Anna Sandinge
Safety
+46 10 516 59 73
anna.sandinge@sp.se

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Amo Specialkabel AB
Kabelvägen 5
360 75 ALSTERMO

Test for flame propagation according to ISO 6722, 5.22 Resistance to flame propagation

(2 appendices)

Introduction

SP has by request of AMO Specialkabel AB performed a fire test according to ISO 6722. The purpose of the test is to form a basis for technical fire classification.

Products

The automotive wire family called as following: “RKUB” is a PVC insulated cable.

The products in the family are:

Name	Cross- section (mm^2)	Insulation thickness (mm)	Overall- diameter (mm)
RKUB*	0.25	0.25	1.05
RKUB	0.35	0.35	1.45
RKUB	0.5	0.4	1.7
RKUB	0.75	0.4	1.9
RKUB	1	0.4	2.1
RKUB	1.5	0.5	2.6
RKUB	2.5	0.5	3.0
RKUB	4	0.5	3.6
RKUB	6	0.5	4.2
RKUB	10	1.0	6.1
RKUB	16	1.0	7.2
RKUB	25	1.2	8.9
RKUB	35	1.2	10.2
RKUB	50	1.4	12.5
RKUB	70	1.4	14
RKUB*	95	1.6	16.1

Selected cables for testing

*cables selected for testing according to ISO 6722-1, 4.7.

Manufacturer

Amo specialkabel AB, Alstermo, Sweden.

Sampling

The samples were delivered by the client. It is not known to SP Fire Research if the samples received are representative of the mean production characteristics.

The samples were received May 12, 2016 at SP Fire Research.

Test results

The test results are given in appendix 1 - 2.

The test results relate only 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.

Criteria

According to “ISO 6722, Road vehicles — 60 V and 600 V single-core cables — Dimensions, test methods and requirements” and “ECE/324/Rev.2/Add.117/Rev.1/Regulation No. 118.

The cable is placed in a metal rig with a 45 degree angle. The sample is held in place with clamps at both ends. The flame from a 9 mm Bunsen burner is applied to the sample at a point 500 mm below the lower edge of the top support. The flame is applied to the sample for 15 seconds (cable conductors with sizes ≤ 2.5 mm^2) or 30 seconds (cable conductors with sizes > 2.5 mm^2). Any combustion flame of insulating material shall extinguish within 70 s and a minimum of 50 mm of insulation at the top of the test sample shall remain unburned.

Assessment

The tested samples of the automotive wire family called “RKUB” meet the technical fire requirements according to ISO 6722 and “ECE/324/Rev.2/Add.117/Rev.1/Regulation No. 118”.

SP Technical Research Institute of Sweden
Safety - Fire Research, Fire Dynamics

Performed by

Signed by: Anna Sandinge
Reason: I am the author of this document
Date & Time: 2016-05-18 14:49:35 +02:00

Anna Sandinge

Examined by

Signed by: Per Thureson
Reason: I have reviewed this document
Date & Time: 2016-05-18 14:47:01 +02:00

Per Thureson

Appendices

1 Test results – RKUB 0.25 mm^2

2 Test results – RKUB 95 mm^2

Appendix 1

Test results ISO 6722:2011, 5.22 Resistance to flame propagation

Product

The automotive wire family called as following: “RKUB” is a PVC insulated cable.

The tested product in the family is:

Name	Cross- section (mm^2)	Insulation thickness (mm)	Overall- diameter (mm)
RKUB*	0.25	0.25	1.05

Test results

Length of test sample 600 mm.

Test no.	1	2	3	4	5
Observations during fire test					
Flame exposure time, s	15*	12*	10*	9*	7*
After flame time, s	0	2	0	0	0
Observations after fire test					
Unaffected length of cable measured from the lower edge of the top support, mm	463	459	465	463	465
Total damaged length of cable, mm	55	58	54	50	48

* Cable broke during flame exposure and the flames extinguished.

Measured data

Diameter 1 mm.

Conditioning

Specimen conditioned for at least 16 hours at (23 ± 2) °C and (50 ± 5) % relative humidity.

Date of test

May 18, 2016.

Appendix 2

Test results ISO 6722:2011, 5.22 Resistance to flame propagation

Product

The automotive wire family called as following: “RKUB” is a PVC insulated cable.

The tested product in the family is:

Name	Cross- section (mm^2)	Insulation thickness (mm)	Overall- diameter (mm)
RKUB*	95	1.6	16.1

Test results

Length of test sample 600 mm.

Test no.	1	2	3	4	5
Observations during fire test					
Flame exposure time, s	30	30	30	30	30
After flame time, s	0	0	0	0	0
Observations after fire test					
Unaffected length of cable measured from the lower edge of the top support, mm	456	455	450	454	460
Total damaged length of cable, mm	55	57	60	65	60

Measured data

Diameter 16.5 mm.

Conditioning

Specimen conditioned for at least 16 hours at (23 ± 2) °C and (50 ± 5) % relative humidity.

Date of test

May 18, 2016.