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BASF – Fire Safety Technology

BASF
The Chemical Company

Test Report No.: 7064 / 23551 Date: 06.11.2007

BASF Aktiengesellschaft
Brandschutztechnik
E-KSE/XN - A 521
D-67056 Ludwigshafen

Test according to

Draft DIN 5510 Part 2 : 2003-09

Preventive fire protection in railway vehicles - Part 2: Fire behaviour and fire side effects of materials and parts; Classification, requirements and test methods
Test according to Draft DIN 54837 : 2003-09 Testing of materials, small components and component sections for rail vehicles - Determination of burning behaviour using a gas burner

Client:

FP FinnProfiles Oy

Iilaakso

91100 Ii

The results are refering only to the tested samples.

The testing laboratory of the Fire Safety Technology of BASF AG is certified according to DIN EN ISO/IEC 17025 : 2005 with the competence of conducting fire tests.
DAR-Register-No.: DAC-PL-0430-06-00.

ilac-MRA

DACH
DAC-PL-0430-06-00

Deutscher Akkreditierungs Rat
DAR
DAC-PL-0430-06-00

Test according to Draft DIN 5510 Part 2 : 2003-09
Preventive fire protection in railway vehicles - Part 2: Fire behaviour and fire side effects of materials and parts; Classification, requirements and test methods
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Receipt of order: 22.08.2007
Receipt of samples: 05.10.2007
Date of test: 06.11.2007

1. Material: (stated by client)

Extruded LTC Silicone

Colour: Black

Field of application:

2. Summary of results and classification:

Length of damaged area	**8 cm**	**Combustibility**	**S4**
Afterflame time	**0 s**		
Integral of smoke development	**1 %•min**	**Smoke development class**	**SR2**
Falling debris	**Droplets / debris no or not burning**	**Dripping class**	**ST2**

Remarks:

Any conclusions we draw about the fire safety of the materials we test are based exclusively on the results of the test under the conditions described.
The extent to which such conclusions can be applied to non-tested material under non-standard conditions is the sole responsibility of the customer and is done so at his own risk.

BASF Fire Safety Technology **Ludwigshafen, 06.11.2007**

Dr. Henn
Head of Laboratory

Kaiser
Technician

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3. Material:

Stated by client

Extruded LTC Silicone

Additional details from testing laboratory

Black silicone cord

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4. Samples:

Sample size:

Length:	500,00	[mm]	Weight:	16,71	[g]
Width:		[mm]	Weight per area:		[kg/m²]
Thickness:		[mm]	Density:		[kg/m³]
Outer diameter:	5,8	[mm]			
Inner Diameter:		[mm]			

Conditioning:

	Conditions	Duration days
Client: (stated by client)		
Laboratory:	Standard 23/50-1 DIN 50014	32

Pre-conditioning:

Exposed surface: Identical surfaces

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5. Test results:

Test apparatus: DIN 50 050		Sample:	1	2	3	4	5	Avg.
Ignition	at	[min:s]	0:02	0:03	0:03	0:03	003	0:03
	Afterflame time	[s]	0	0	0	0	0	0
Glowing	at	[min:s]	0:02	0:02	0:03	0:03	0:03	0:03
	Afterglow time	[s]	10	17	20	0	14	12
Flame height	Maximum	[cm]	15	15	20	15	20	17
	at	[min:s]	0:58	0:40	1:05	0:50	0:50	0:53
Falling debris	at	[min:s]	3:25	3:40	3:20	2:05	4:45	3:27
	Burning duration	[s]	---	---	---	---	---	---
Smoke density	Maximum	(%)	1	1	1	1	1	1
	at	[min:s]	1:00	0:50	1:15	1:15	1:15	1:07
Integral of smoke development		[% *min]	1	1	1	1	1	1
Max. length of damaged area		[cm]	9	8	8	8	9	8
Termination by extinguishing at		[min:s]	---	---	---	---	---	
Burning or melting through the sample		[yes/no]	yes	yes	yes	yes	yes	

Observations:

6. Used test equipment:

Test apparatus	PK	0011
Linear measure instrument	MB	0032
Balance	MW	0003
Light measurement system	ML	0003
Data aquisition	MC	0007

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7. Requirements:

Standard	Criteria	Classification
DIN 5510 Part 2	**Combustibility class**	
	Length of damaged area: ≤ 30 cm Afterflame time: Burning to the end of test and extinguishing allowed	S2
	Length of damaged area: ≤ 25 cm Afterflame time: ≤ 100 s (no single value ≥ 120 s)	S3
	Length of damaged area: ≤ 20 cm Afterflame time: ≤ 10 s	S4
	Length of damaged area: 0 cm Afterflame time: 0 s	S5
	Smoke development class	
	Integral of smoke development: > 100 %•min	SR1 not achieved
	Integral of smoke development: ≤ 100 %•min	SR1
	Integral of smoke development: ≤ 50 %•min	SR2
	Dripping class	
	Burning droplets / debris	ST1
	No burning droplets / debris *	ST2

* A classification as ST2 can also be achieved in case of burning droplets/debris, provided that the average time of afterburning is ≤ 20 seconds