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Offenbach, 2006-12-13

Your ref.  
Ozcan Bülbül

Your letter  
2006-08-11

Our ref. - please indicate  
5006187-9020-0001/78284-ce  
FG42/hz

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*Translation: In any case the German version shall prevail*

## Prüfbericht zur Information des Auftraggebers Test Report for the Information of the applicant

Dieser Prüfbericht enthält das Ergebnis einer einmaligen Untersuchung an dem zur Prüfung vorgelegten Erzeugnis. Ein Muster dieses Erzeugnisses wurde geprüft, um die Übereinstimmung mit den nachfolgend aufgeführten Normen bzw. Teilen von Normen festzustellen.  
*This test report contains the result of a single investigation carried out on the product submitted. A sample of this product was tested to found the accordance with the thereafter listed standards resp. parts of standards.*

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Notified Body according to the Equipment and Product Safety Act (GPSG) for technical work equipment and consumer products  
Notified Body according to the EMC directive for the electromagnetic compatibility (EMC) of appliances.  
Accredited by DAR accreditation bodies according to DIN EN ISO/IEC 17025, DIN EN 45011 and 45012  
Accredited by IEC – International Electrotechnical Commission – IEC/IEC/CB, IECQ and CENELEC – European Committee for Electrotechnical Standardization – CCA, HAR, ENEC

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Date of receipt of test samples: 2006-08-31  
Date of performance of tests: 2006-11-06 up to 2006-11-10  
Testing laboratory: VDE Testing and Certification Institute  
Section FG 42  
Merianstraße 28  
63069 Offenbach

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## 1 Description of test sample

The applicant supplied for the test about 10 m special cable

Type: LIHCH FE 180 2X1,5 mm<sup>2</sup>

## 2 Test procedure

By request of the applicant the following test was conducted:

- Method of test for resistance to fire of unprotected small cables for use in emergency circuits according to DIN EN 50200 (VDE 0482 Part 1):2000-10

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### 3 Marking of the sample

Sheath

BIRTAS KABLO LIHCH FE 180 2X1,5 mm2 DIN EN pH 30 02/19190 00XX mt.

XXXX = metre marking

### 4 Construction

- Conductor: fine copper wires, bare,  
diameter of single wire 0,25 mm,
- Cores: plastic cores, white / brown
- Core stranding: two cores stranded
- Wrapping: one layer of helically- overlapped- plastic tape  
one layer of helically- overlapped- glass fibre tape
- Screen: wire braid, metal coated  
single wire diameter 0,13 mm
- Sheath: plastic material, orange  
outer diameter 8,3 mm

### 5. Isolation effect in case of fire according to DIN EN 50200 (VDE 0482 Part 1)

#### 5.1 Test parameters

- quantity of energy  
propane (5 ± 0,2) l/min  
air (80 ± 4) l/min

#### - Flame temperature

Over a period of 10 minutes the average temperature shall be (830 + 40 /- 0) °C.  
The temperature has to be recorded by two thermocouples every 30 s before the test.  
The difference of the average values shall not exceed 40°C.

- Flame temperature before the test

Energy consumption of burner	propane 5,10 l/min air 80,0 l/min
Thermocouple 1	848 °C (average /10 min)
Thermocouple 2	843 °C (average /10 min)
Difference	5 °C

- Shock producing

5 min  $\pm$  5 s after activation (ignition of the burner) and subsequently in intervals of 5 min  $\pm$  10 s

- Bending radius 125 mm (internal radius of each bend)

- Test wall

board material Isoplan 1100

- Clips for mounting the sample

copper P clips (thickness 1,5 mm, width 15 mm)

- Electric supply

ac voltage  $U_0 = 110$  V (phase to earth)  
current load of 0,18 A through the conductor  
connection of the conductor according to picture 9b (a-cores L1, b-cores L2)  
the phase of transformer output was protected by a 2 A fuse metal clips, drain wire and shield connected to earth

- Flame application time 180 minutes

## 5.2 Point of failure

wiring cable for telecommunication and data processing systems

- the voltage is not maintained during the test duration, as indicated by fuse failure or by interruption of the circuit breaker.

- a conductor ruptures during the test duration, as indicated by the lamp extinguishing

### 5.3 Test procedure

#### Test results

##### First test

- temperature in the test chamber: 21 °C ( before the test)
- energy consumption of burner: propane 5,16 l/min  
air 80,2 l/min

After a burning time of 180 minutes no fuse tripped and no lamp extinguished.

##### Second test

- temperature in the test chamber: 24 °C ( before the test)
- energy consumption of burner: propane 5,13 l/min  
air 80,8 l/min

After a burning time of 180 minutes no fuse tripped and no lamp extinguished.

***The test requirement for 180 minutes has been met.***

Yours sincerely

VDE Testing and Certification Institute  
Department F4



Dietmar Banowski



Reinhard Herzog

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