



## Test Report

# No. 2009-B-4895/01

### 1. Issue

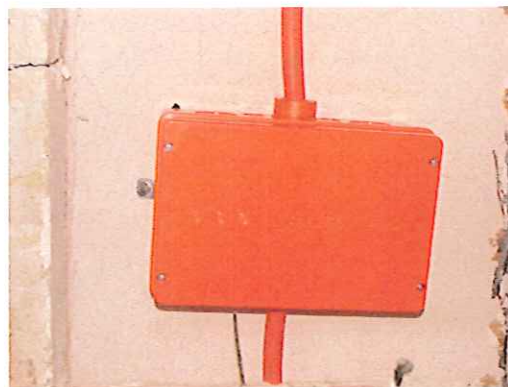
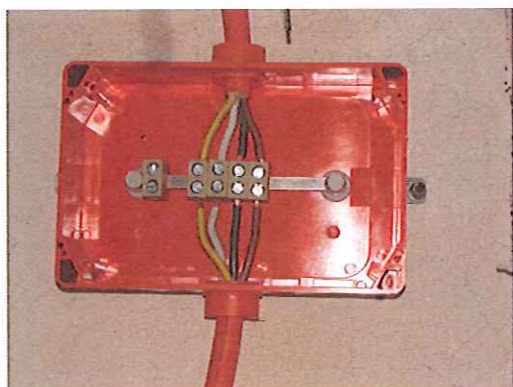
Client: Günther Spelsberg GmbH & Co. KG  
Im Gewerbepark 1  
D-58579 Schalksmühle

Order of: 2009-11-19

Incoming date: 2009-11-19

Content of order: Execution of a fire test according to DIN EN 12101-3: 2002 with flaming about 120 minutes (400 °C) for determination of the function period of a junction box

Test sample: WKE 5



Test result: WKE 5 – fulfil F400

Delivery date: 2009-11-17

Sampling: MPA Dresden GmbH wasn't involved in any selection or sampling procedure.



This test report contains 3 pages of text and 6 pages of enclosures.

Publications of test reports, also in the form of extracts and references to tests for advertising need in every case the written agreement of the test institute. Every page of these test report is stamped with the official seal of the test institute.

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## 1 Preface

The Günther Spelsberg GmbH & Co. KG in Schalksmühle assigned the MPA Dresden GmbH with the execution of a fire test according to DIN EN 12101-3: 2002 with flaming about 120 minutes (400 °C) for determination of the function period of a junction box.

## 2 Description of the test samples

### 2.1 Description of the junction box WKE 5

The WKE 5 junction box consists of a bottom part and a top cover. Milled-out portion for supporting of cable fittings are situated in the side walls. The terminal box has terminals consisting of high temperature resistant special ceramic.

The terminal box was mounted through outside fixing clips on the wall.

Marking: WKE 5

Dimensions: length × width × height = 256 mm × 171 mm × 106 mm

Abstract: relay box with function E90 using as a junction box with fused branch pipe

Test accreditation VDE:

Protection class: IP 54 / 65 according to EN 60670 VDE

Glowing hot-wire test: 650 °C according to DIN VDE 0471 EN 60695  
UL 94-V0

Nominal voltage:  $U_i = 450$  V according to EN 60670

Materials:

Material box: special thermosetting plastics halogen-free

Colour: orange similar RAL 2004

Material terminals: high temperature resistant special ceramic

Fixing clips: steel

## 3 Test preparation

The junction box WKE 5 was tested according to DIN EN 12101-3: 2002. The fire test was carried out on the 18<sup>th</sup> of November 2009 in the MPA Dresden GmbH.

Therefore the junction box was mounted in a testing furnace according to annex C of the DIN EN 12101-3: 2002 and section 5 of the ISO 834-1: 1999. The flaming was carried out with oil burners. A direct effect of the flames on the junction box was impossible.

The junction box WKE 5 was mounted during the fire test on a wall of aerated concrete. The cable led through on the right and left side out of the testing furnace. The feed through of the cables out of the testing furnace were closed or choked good with mineral wool.

The assessment of loss of functionality (short circuit) of the tested junction boxes was showed by checking of the phases L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub> and N with 3.15 A-micro fuses.



#### 4 Examination of the test

The fire test was carried out according to annex C of the DIN EN 12101-3: 2002. The temperature in the testing furnace of 400 °C as start temperature was reached five minutes after switching-on of the burner. The voltage was disconnected after 15 test minutes for a period of 2 minutes according to section C.4.4 of the DIN EN 12101-3: 2002. The voltage was connected again after the 2 minutes. The disconnection and the connection of the voltage were without any problems. The period of 2 minutes, for which the voltage was disconnected, was added to the test period.

The middle increase of the temperature inside of the testing furnace is confronted to the in the section 6.1.3 of the DIN EN 12101-3: 2002 defined test temperature of 400 °C in the enclosure 4 of that test report. The adherence of the test regulations is shown.

The fire test was terminated after 128 minutes flaming without any short circuits or without any interruptions of the strip conductor.

#### 5 Evaluation of the results


With the according to DIN EN 12101-3: 2002 executed fire test on the junction box WKE 5 was established that the requirements for the class F400 according to DIN EN 12101-3: 2002 were fulfilled.

#### 6 Special hints


This test report is only valid for the in section 2 described test sample.

The Test Report No. 2009-B-4895/01 is valid indefinitely as long as the structure and the components of the test sample are not changing.

Freiberg, 2010-02-10

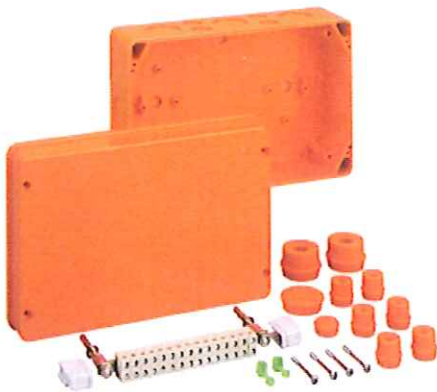
  
Dipl.-Ing. Hübler  
Manager of Test Laboratory



  
Dipl.-Ing. (FH) Aguirre Cano  
Test Engineer



## Produktdatenblatt



### Brandschutzdose WKE 5 (15 x 6<sup>2</sup>)

Bezeichnung : WKE 5 (15 x 6<sup>2</sup>)

Bestell-Nr.: 860 205 01

EAN: 896257

Abmessungen (mm): L 256 x B 171 x H 106

Kurzbeschreibung: Verbindungskasten mit  
Funktionserhalt und Klemmen aus hochtemperaturbeständiger Spezialkeramik

### Prüfungen Zulassungen

Feuerwiderstand : Prüfzeugnis P-MPA-E-01-031  
E 30; E 60; E 90 nach DIN 4102 Teil 12

Schutzart : IP 54 / 65 nach EN 60670

Glühdrahtprüfung: 650° C nach DIN VDE 0471 EN 60695  
UL 94-V0

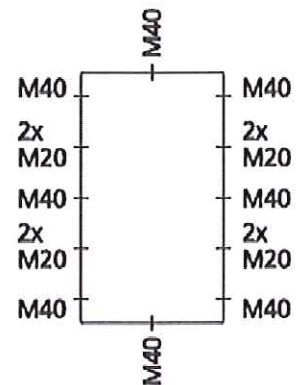
Nennspannung: U<sub>i</sub>=450V nach EN 60670

Material Gehäuse: Spezial Duroplast halogenfrei

Material Klemmen: Spezialkeramik hochtemperaturbeständig

Farbe: orange ähnlich RAL 2004

Temperatur in der Umgebung: Minimalwert: -25°C  
Maximalwert: 40°C  
Mittelwert über 24h: 35°C



Anzahl der Klemmbaren Leitungen pro Pol: 0,5 bis 6 mm<sup>2</sup>

8 x 0,5<sup>2</sup> / 4 x 0,75<sup>2</sup> / 6 x 1,0<sup>2</sup> / 6 x 1,5<sup>2</sup> / 2 x 2,5<sup>2</sup> / 2 x 4<sup>2</sup> / 2 x 6,0<sup>2</sup>

Enthaltenes Zubehör: 15 St. Aufreihklemme 6 mm<sup>2</sup>  
2 St. Dübel Ø 6 mm für Beton mit Muttern M6  
2 St. Unterlegscheibe 6,4 mm  
2 St. Distanzhülse  
1 St. Tragschiene WKE 5  
6 St. Anbaustutzen M20 Dichtbereich 8 – 13 mm  
2 St. Anbaustutzen M40 Dichtbereich 17 – 30 mm  
1 St. Verschlussstopfen M20 Dichtbereich 8 – 13 mm  
1 St. Verschlussstopfen M40 Dichtbereich 17 – 30 mm  
2 St. Berührungsschutz WKE4/5  
1 St. Montageanleitung / Übereinstimmungserklärung



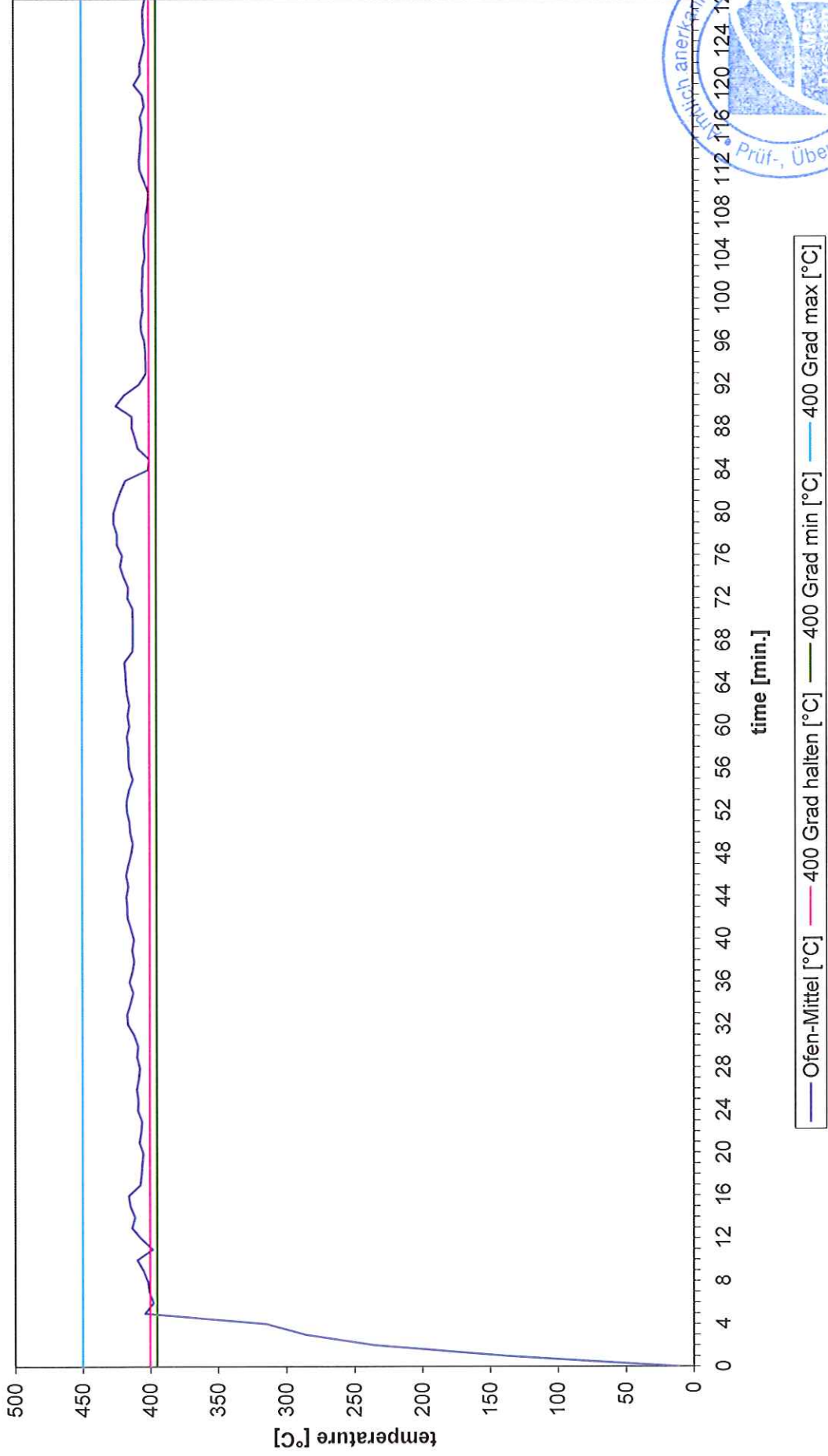
Verwendbare Kabelhersteller und Kabel

Hersteller	Kabeltypen Versorgungskabel	Kabelquerschnitt in mm <sup>2</sup>	Funktionserhalt		
			E30	E60	E90
Dätwyler Kabel+Systeme GmbH Auf der Roos 4-12 65795 Hattersheim	Pyrofil KERAM NHXH FE 180 / E90	n x 1,5 <sup>2</sup> bis n x 16 <sup>2</sup>	X	X	X
	Pyrofil KERAM NHXH FE 180 / E30 / E60	n x 1,5 <sup>2</sup> bis n x 16 <sup>2</sup>	X		
Kabelwerke Eupen AG Malmedyer straße 9 B-4700 Eupen	Eupen NHXH-J/ E90	n x 1,5 bis n x 16	X	X	X
	Eupen NHXH-J/ E90	n x 1,5/1,5 bis n x 16/16	X	X	X
	Eupen NHXH-J/ E30	n x 1,5 bis n x 16	X		
	Eupen NHXH-J/ E30	n x 1,5/1,5 bis n x 16/16	X		
Facab Lynen GmbH & Co.KG Dürener Str. 340 52249 Eschweiler	Lynenwerk 2000 NHXH-JFE 180 / E90	n x 1,5 bis n x 16	X	X	
	Lynenwerk 2000 NHXH-JFE 180 / E30	n x 1,5 bis n x 16	X		
Prysmian Kabel und Systeme GmbH Gartenfelder Str. 28 13599 Berlin (ehemals Pirelli ehemals Siemens)	Pirelli SENOPYR NHXH-J/ E90	n x 1,5 bis n x 16	X	X	X
	Pirelli SENOPYR PLUS NHXH-J/ E30	n x 1,5 bis n x 16	X		
LEONI Studer AG Herrenmattstrasse 20 CH-4658 Däniken	Studer AG CH Däniken NHXH/ E90	n x 1,5 bis n x 16	X	X	X
	Studer AG CH Däniken NHXH/ E30	n x 1,5 bis n x 16	X		
Nexans Deutschland Industries GmbH & Co. KG Bonnenbroicher Straße 2-14 41238 Mönchengladbach	NEXANS Reyhalon KF2U-FIM E90 N2XH- JFE180	n x 1,5 bis n x 16	X	X	X
	NEXANS Reyhalon KF2U-FIM E30 N2XH- JFE180	n x 1,5 bis n x 16	X		

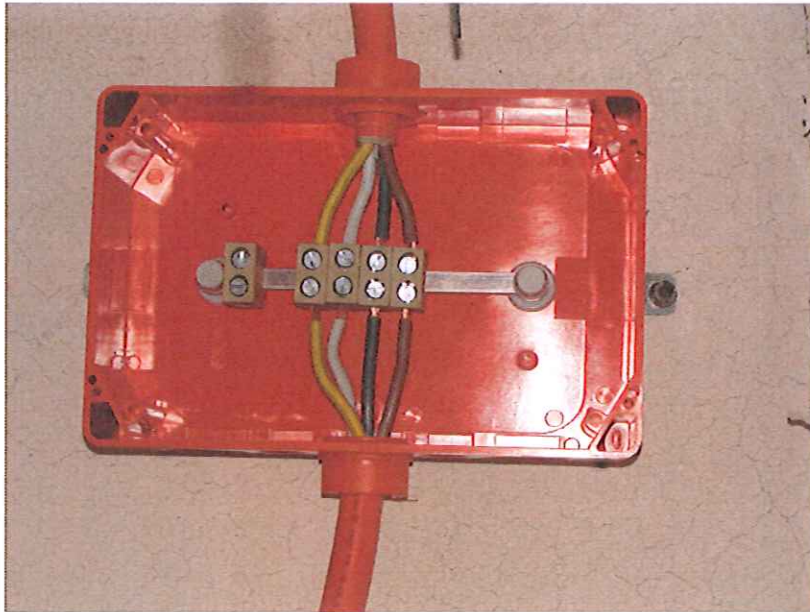
Hersteller	Kabeltypen Steuerleitung	Kabelquerschnitt in mm <sup>2</sup>	Funktionserhalt		
			E30	E60	E90
Dätwyler Kabel+Systeme GmbH Auf der Roos 4-12 65795 Hattersheim	Pyrofil KERAM JE-H(S)H Bd FE 180 E30 / E90	n x 0,8 mm <sup>2</sup>	X	X	X
LEONI Studer AG Herrenmattstrasse 20 CH-4658 Däniken	Studer AG CH Däniken JE-H(S)H/ E90	n x 0,8 mm <sup>2</sup>	X	X	X
Facab Lynen GmbH & Co.KG Dürener Str. 340 52249 Eschweiler	Lynenwerke 2000 JE-H(S)H/ E90	n x 0,8 mm <sup>2</sup>	X	X	X
	Lynenwerke 2000 JE-H(S)H/ E30	n x 0,8 mm <sup>2</sup>	X		
Kabelwerke Eupen AG Malmedyer straße 9 B-4700 Eupen	Eupen JE-H(S)H...Bd...E90	n x 0,8 mm <sup>2</sup>	X	X	X
	Eupen JE-H(S)H...Bd...E30	n x 0,8 mm <sup>2</sup>	X		
Nexans Deutschland Industries GmbH & Co. KG Bonnenbroicher Straße 2-14 41238 Mönchengladbach	NEXANS Reyhalon JE-H(S)H...Bd E30-E90	n x 0,8 mm <sup>2</sup>	X	X	X
	Reyhalon VDE...JE-H(S)H/ E30/ E90	n x 0,8 mm <sup>2</sup>	X	X	



### temperature in the testing furnace



**Photo 1: test sample "WKE 5" (opened) before fire test according to DIN EN 12101-3: 2002**



**Photo 2: test sample "WKE 5" (closed) before fire test according to DIN EN 12101-3: 2002**



**Photo 3: test sample "WKE 5" after fire test according to DIN EN 12101-3: 2002**

