

## General appraisal certificate

**Appraisal certificate no**      **P-MPA-E-04-008**

**Subject:**                      Cable system with the fire resistance classification E30  
(certified according to DIN 4102-12: 1998-11) to ensure the  
the power supply of electrical systems in case of fire.

**Applicant:**                    Günther Spelsberg GmbH + Co. KG  
Postfach 1520  
58571 Schalksmühle

**Issue date:**                    20.05.2005

**Valid until:**                    20.05.2010

On the basis of this general appraisal certificate the product named above can be used in accordance with the terms of the federal building regulations.

This general appraisal certificate replaces the general appraisal certificate no. P-MPA-E-04-008 of the Material Testing Authority North Rhine Westphalia from 10.02.2004.

## 1 Subject and scope of application

### 1.1 Subject

#### 1.1.1

The general appraisal certificate is valid for the manufacturing and use of cable systems. Their cables are connected via clamp boxes from the type WKE-RK and with connector clamps from the type SAK from the company Weidmüller in accordance with the drawing in appendices 1 to 2. They form part of the function preservation classification E30 according to the information given in table 1 and 2.

#### 1.1.2

The cable system consists mainly of

- The supply cables (table 1),
- Control cables (table 2),
- The fastening element (table 3) and
- The clamp boxes (appendix 1 with the clamps from the company Weidmüller).

The installation of the cables shall be conducted according to table 3.

**Table 1** (supply cables)

	Type of cable	Fire resistance qualifications of cables with cross section		
		E30	E60	E90
Supply cables of the fire resistance classification E 30 in connection with clamp boxes from the type WKE-RK and connector clamps from the type SAK	Daetwyler Pyrofil Keram NHXH FE 180 / E 30 / E 60	n x 1.5 to n x 35	_____	_____
	Eupen NHXH-J / E 30	n x 1.5 to n x 35	_____	_____
	Eupen NHXCH-J / E 30	n x 1.5/1.5 to n x 35/35	_____	_____
	Lynenwerk 2000 NHXH-J FE 180 / E30	n x 35	_____	_____
	Pirelli SIENOPYR PLUS NHXH-J / E 30	n x 1.5 to n x 35	_____	_____
	Studer AG CH-Däniken NHXH / E 30	n x 1.5 to n x 35	_____	_____
	NEXANS Reyhalon KF2U-FIM E 30 N2XH-J FE180	n x 1.5 to n x 16	_____	_____

**Table 2** (control cables)

	Type of cable	Fire resistance qualifications of cables with cross section		
		E30	E60	E90
Control cables of the fire resistance classification E 30-E90 in connection with clamp boxes from the type WKE-RK and connector clamps from the type SAK	Daetwyler Pyrofil Keram JE-H(St)H Bd FE 180 E 30 / E 90	n x 0.8	_____	_____
	Kabelwerk Eupen JE-H(St)H... Bd...E30	n x 0.8	_____	_____
	Studer AG CH-Däniken JE-H(St)H / E 30	n x 0.8	_____	_____
	NEXANS Reyhalon VDE JE-H(St)H / E 30 / E 90	n x 0.8	_____	_____

## 1.2 Scope of application

### 1.2.1

Within the frame of the test procedure the function loss of electrical cable systems is detected on the basis of a short circuit or a conductor breakage. According to the norm named above the scope of application is restricted to cables with a nominal voltage of  $\leq 1$  kV.

### 1.2.2

The function maintenance of cable systems must not be influenced negatively through surrounding components during the classification period.

A possible interference of the function of the electric cables resulting from an increase of resistance of the conductor caused by thermic differences is not taken into account for the classification.

### 1.2.3

The classification is also valid for angular or vertical cable systems (e.g. cable ladders). However, this is only valid if the cable systems are supported in the transition area vertically-horizontally, so that bending or slipping of the cable systems at the angles can be prevented. In the case of continuous cable ladders the classification is only valid if an effective support (distance  $a < 3500$ mm, see fig. 1) of the cables is given.

FIG.:

Measurements in mm

Cable

Permitted bending radius

Fastened with single clamps

Fig. 1: Example for an effective support in case of a vertical cable ladder

The arrangement of the single installation under the ceiling does also apply for horizontal and angular installation of cables at the wall.

#### **1.2.4**

In case of further standards those have to be proven separately.

#### **1.2.5**

The applicant declares that no products have been used in the cable systems which are subject to the ordinance of hazardous substances, the Chemicals Prohibition Ordinance or the CFC-Halon Prohibition Ordinance or that where applicable condition from the ordinances mentioned above (especially the requirement for appropriate labeling) are fulfilled.

Furthermore the applicant declares that if any measures have to be taken for business, supply or use with regards to hygiene, health or environmental protection, these will be arranged by the applicant or published in the required way.

The testing agency has therefore not seen any reason to test the model for health or environmental protection.

## **2 Regulations for use**

The cable system in its model has to be used according to the following detailed specifications.

### **2.1 Cable model**

The supply and control cables according to table 1 and 2 have to be installed according to the following description.

During the installation of the cable a bending radius of  $\geq 12 \times$  the cable diameter has to be adhered to.

### **2.2 Single installation in U-clip without cable tray**

As specified in table 3 steel plate C-bars 30mm x 15mm x 1.5mm at intervals as specified in table 3 have to be fastened to the unplastered ceiling with M6 plugs which have been approved by the building authorities at intervals of 250mm.

In these C-bars the U-clips have to be hinged for the fastening of the cables.

For the fastening of the cables the pressure disc has to be tightened.

### **2.3. Single installation in U-clips with cable tray**

At intervals as specified in table 3 steel plate C-bars 30mm x 15mm x 1.5mm have to be fastened to the unplastered ceiling with M6 plugs which have been approved by the building authorities at intervals of 250mm.

U-clips have to be hinged in the C-bars for the fastening of the cables.

For the fastening of the cables the pressure disc with the cable tray has to be tightened.

### **2.4 Standard Installation**

The possible standard installations of the companies mentioned below are included in table 3.

- OBO-Bettermann OHG, Menden
- PUK-Werke, Berlin
- RICO GmbH & Co. KG, Kirchheim / Teck
- NIEDAX GmbH & Co. KG, Linz / Rhein

- Hilti Deutschland GmbH, München
- MFK Stahlbau GmbH + Co. KG, Kirchheim / Teck
- Adolf Würth GmbH & Co. KG, Künzelsau

**Table 3** Types of standard installation

	<i>OBO</i> <i>Bettermann</i>	<i>PUK</i>	<i>NIEDAX</i>	<i>Hilti</i>	<i>MFK</i>	<i>Würth</i>
<b>U-clip with cable tray</b>						
Installation interval	≤ 600mm	≤ 400mm	≤ 800mm	≤ 600mm	≤ 600mm	≤ 400mm
Single installation	Yes	Yes	Yes	Yes	Yes	Yes
Length of the cable tray	200mm	70mm	200mm	200mm	200mm	70mm
Expert opinion no:	3917 / 4635	3374 / 2096		3187 / 1096	3627 / 3285	
Test report no:						3026 / 7140
Test agency:	IBMB Braunschweig	IBMB Braunschweig		IBMB Braunschweig	IBMB Braunschweig	IBMB Braunschweig
<b>Light clamp</b>						
Installation interval	≤ 300mm	≤ 300mm	≤ 300mm	≤ 300mm		≤ 400mm
Single installation	Yes	Yes	Yes	Yes		Yes
Expert report no:	3917 / 4635	3374 / 2096		3187 / 1096		
Test report no:						3026 / 7140
Test centre:	IBMB Braunschweig	IBMB Braunschweig		IBMB Braunschweig		IBMB Braunschweig

## 2.5 Cable connection

The connection of the cables shall be effected in the clamp box of the type WKE-RK with connector clamps from the type SAK from the company Weidmüller.

The fastening of the clamp box shall be effected with 4 screws and plugs.

## 3 Verification of compliance

The model named in this general appraisal certificate requires a proof of compliance according to the requirements of the building rules list A chapter 3 (serial no. 9). In accordance with this list a declaration of compliance has to be effected by the manufacturer (contractor).

The contractor who creates the cable system has to issue a written declaration of compliance to the contracting body which certifies that the cable system completed by him complies with the regulations of this general appraisal certificate.

## 4 Legal Basis

This general appraisal certificate is issued on the basis of § 22 of the building regulations for the federal state of North Rhine Westphalia (Bauordnung NRW, BauO NW) from the 1.

March 2000 in connection with the building rules list A, issue 2004/2. The federal building regulations of all other federal states contain the according legal basis.

## **5 Instructions on right of appeal**

You can appeal against this general appraisal certificate within a month after the date of issue. The appeal has to be submitted in written or for memorandum to the director of the material testing agency North Rhine Westphalia (Materialprüfungsamt NRW) Marsbruchstrasse 186, 44287 Dortmund, Germany.

## **6 General information**

### **6.1**

The general appraisal certificate does not replace the statutory permissions, approvals and certificates which are necessary for the realization of building projects.

### **6.2**

The general appraisal certificate is issued notwithstanding the rights of any third party, especially private property rights

### **6.3**

Manufacturer of supplier of the model shall, notwithstanding of further regulations, provide the user with copies of the general appraisal certificate.

### **6.4**

The general appraisal certificate shall only be copied as a whole. For a copy of parts of the certificate the approval of the Material Testing Agency NRW is required. Texts and drawings of advertising material shall not contradict the general appraisal certificate. Translations of the general appraisal certificate have to contain the note "Vom Materialprüfungsamt NRW nicht geprüfte Übersetzung der deutschen Originalfassung" (translation of the German original has not been certified by the Material Testing Agency NRW).

Head of the testing agency

Administrator

(Pennings)

(Werner)

Erwitte, 20.05.2005

*Translator's note: This translation of the German original has not been certified by the Material Testing Agency North Rhine Westphalia.*

Appendix 1 of 2

*Figure:*

Fastening with 2 plugs diagonally permitted

Order number	Type	a	b	c
862 40. ...	W KE 400	200	200	110
862 30....	W KE 300	160	160	110
862 20...	W KE 200	115	115	93

Volume in cm<sup>3</sup>: 1934.410

Edited: 16.06.03 mbh

Reviewed: 20.01.05 dqu

Status: Approval

Name: Overview assembly W KE-RK

Serial number: M-862-ff

Spelsberg

Change: WKE 300 updated

Date: 20.01.2005

Name: mbh

Appendix 2 of 2

*Figure*

Volume in cm<sup>3</sup>: 0.001

Edited: 18.06.03 mbh  
Reviewed: 18.06.03 dqu

Name: Overview assembly  
W KE. Alternative wall fastening  
Serial number: M-861-862  
Spelsberg