Material Testing Authority North Rhine-Westphalia
TESTING • MONITORING • CERTIFYING
Branch Erwitte • Auf den Thränen 2 •59597 Erwitte • Tel. (02943) 897-0 • Fax (02943) 897 33 • email: erwitte @mpanrw.de

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:	01.07.2005
Valid until:	01.07.2020

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.

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1 Subject and scope of application

1.1 Subject

1.1.1

The general appraisal certificate is valid fort he 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	———	———

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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 ≤ 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 < 3500mm, see fig. 1) of the cables is given.

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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.

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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 ≥ 12 x 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

	OBO Bettermann	*PUK*	*NIEDAX*	*Hilti*	*MFK*	*Würth*
U-clip with cable tray						
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
Light clamp						
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 fro 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.

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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 Ageny 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.

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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 cm3: 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

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Appendix 2 of 2

Figure

Volume in cm3: o.oo1

Edited: 18.06.03 mbh
Reviewed: 18.06.03 dqu

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