

FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION FIRES-JR-054-16-NURE

Cable bearing system VERGOKAN with cables PRYSMIAN and PRAKAB

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FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION IN ACCORDANCE WITH DIN 4102-12: 1998-11

FIRES-JR-054-16-NURE

Name of the product: Cable bearing system VERGOKAN with cables PRYSMIAN and PRAKAB

Sponsor: VERGOKAN
Meersbloem Melden 16
9700 Oudenaarde
Belgium

Prepared by: FIRES, s.r.o.
Approved Body No. SK01
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059 35 Batizovce
Slovak Republic

Task No.: PR-16-0102

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1. INTRODUCTION

This expert judgement report with classification defines the function in fire classification assigned to element „Cable bearing system VERGOKAN with cables PRYSMIAN and PRAKAB” in accordance with the classes given in DIN 4102-12: 1998-11.

This expert judgement report defines field of application which is outside the field of direct application according test standard or outside the field of extended application according to relevant extended application standard. This expert judgement expresses the opinion of the FIRES and is based on the experience or internal rules of FIRES.

This products have already been classified by FIRES, s.r.o. and number of previous fire resistance expert judgement report with classification is FIRES-JR-038-11-NURE Issue 2, issued on 14. 12. 2011 with validity until 06. 07. 2016. Document FIRES-JR-054-16-NURE replaces expert judgement report with classification FIRES-JR-038-11-NURE Issue 2.

2. DETAILS OF CLASSIFIED PRODUCT

2.1 GENERAL

The element, Cable bearing system VERGOKAN with cables PRYSMIAN and PRAKAB, is defined as a cable bearing system for power and communication halogen free cables with circuit integrity maintenance in fire.

2.2 PRODUCT DESCRIPTION

The element comprise of cable bearing system VERGOKAN – cable trays with accessories (consoles, brackets, screws etc.) with power and communication halogen free cables PRYSMIAN and PRAKAB with circuit integrity maintenance in fire.

Cable trays KBSI

Cable trays are made of steel sheet 1,0 mm thick. Height of side wall is 60 mm. Width of tray is 400 mm. The trays are perforated on the sides and on the bottom. Cable tray is equipped with integrated junction. Trays are jointed together with 5 pcs of screws VMK 6x10 (new trademark is VMK6.10). Maximum load of trays is 20 kg.m⁻¹. Tested trays were KBSI 60x400x1,00 (new trademark is KBSI60.400.100).

Brackets WKM

Brackets are made of steel sheet 2,5 mm thick. Dimensions of the base steel sheet is (70x175) mm and 8,0 mm thick and is equipped by holes for installation. Holes for installation of trays are in upper part of the brackets.

Tested brackets were WKM 400 (new trademark is HDWKM400).

Consoles HSMU

Consoles are made from steel sheet and are composed of a head plate and the U 50 profile. Dimensions of the base head is (123x123) mm and 4,0 mm thick or (135x135) mm and 5,0 mm thick and is equipped by holes for installation. Dimensions of the U profile is (50x50) mm and 2,5 mm thick and is equipped by holes for installation of brackets. Tested consoles were HSMU 50x1000 (new trademark is HDHSMU50.1000).

SPACER TSU50 and HDTSU50

Spacers are made of steel sheet 1,0 mm thick (TSU50) or 1,5 mm thick (HDTSU50).

Cables

Power and communication free halogen cables are specified for stationary distribution of electrical energy in dry and damp premises. Since they are free from halogens and exhibit enhanced fire performance, these cables are used in those applications where in the event of fire, the negative effect on concentrations of people and valuable material goods must be minimized. Suitable for hotels, hospitals, underground railways, airport etc. to protect people and technical building equipment in the event of fire where there is requirement for maintaining the functional integrity all cable installation in the event of fire. The cables develop in case of fire low heat released rate and smoke and no burning particles drop away



during fire accident. Functional integrity all cable installation in the event of fire is guaranteed only with use specified supporting member and cables grips.

Used cables by test:

PRYSMIAN cables (producer Prysmian, Viale Sarca 222, IT-20126 Milano, Italy)

- cable (N)HXH-J E30 4x50 RM (2x);
- cable (N)HXH-J E30 4x1,5 RE (2x);
- cable (N)HXCH E30 4x50 RM/25 (2x);
- cable (N)HXCH E30 4x1,5 RE/1,5 (2x);
- cable (N)HXHX-J E90 4x50 RM (2x);
- cable (N)HXHX-J E90 4x1,5 RE (2x);
- cable (N)HXCHX E90 4x50 RM/25 (2x);
- cable (N)HXCHX E90 4x2,5 RE/2,5 (2x);
- cable JE-H(St)H E30 2x2x0,8 (2x).

PRAKAB cables (producer PRAKAB PRAŽSKÁ KABELOVNA, s.r.o., Ke Kablu 278, 102 09 Praha 15, Czech Republic)

- cable (N)HXH FE180 E90 4x50 RM (2x);
- cable (N)HXH FE180 E90 4x1,5 RE (2x);
- cable (N)HXCH FE180 E30 4x50 RM/25 (2x);
- cable (N)HXCH FE180 E30 4x1,5 RE/1,5 (2x);
- cable (N)HXH FE180 E30 4x50 RM (2x);
- cable (N)HXH FE180 E30 4x1,5 RE (2x);
- cable (N)HXCH FE180 E90 4x50 RM/25 (2x);
- cable (N)HXCH FE180 E90 4x1,5 RE/1,5 (2x);
- cable JE-H(St)H FE180 E90 2x2x0,8 (2x).

The length of supporting constructions and cables was 5,5 m, 4 m from that was exposed to fire. Power and communication cables were fixed to the steel sheet trays in the points of allowed bending radius by steel clamps according to the cable diameter.

More detailed information about product construction is shown in the drawings which form an integral part of test report [1]. Drawings were delivered by sponsor.

IN SUPPORT OF CLASSIFICATION

3.1 TEST REPORTS AND EXTENDED APPLICATION REPORTS

No.	Name of laboratory	Name of sponsors	Test report No.	Date of the test	Test method
[1]	FIRES, s.r.o., Batizovce, SK	VERGOKAN, Meersbloem Melden 16, 9700 Oudenaarde, Belgium	FIRES-FR- 119-11-AUNE	02. 06. 2011	DIN 4102 – 12:1998-11

3.2 TEST RESULTS

Test report No. /Test method	Specimen No.	Cables	Track No.	Time to first failure / interruption of conductor
[1] DIN 4102-12	S1	cable (N)HXH-J E30 4x50 RM - Prysmian	X2-J	91 minutes
	S2	cable (N)HXH-J E30 4x50 RM - Prysmian	X2-J	91 minutes
	S3	cable (N)HXH-J E30 4x1,5 RE - Prysmian	X2-J	31 minutes
	S4	cable (N)HXH-J E30 4x1,5 RE - Prysmian	X2-J	39 minutes
	S5	cable (N)HXCH E30 4x50 RM/25 - Prysmian	X2-K	83 minutes
	S6	cable (N)HXCH E30 4x50 RM/25 - Prysmian	X2-K	93 minutes
	S7	cable (N)HXCH E30 4x1,5 RE/1,5 - Prysmian	X2-K	39 minutes
	S8	cable (N)HXCH E30 4x1,5 RE/1,5 - Prysmian	X2-K	93 minutes no failure / interruption



Test report No. /Test method	Specimen No.	Cables	Track No.	Time to first failure / interruption of conductor
[1] DIN 4102-12	S9	cable (N)HXHX-J E90 4x50 RM - Prysmian	X2-L	93 minutes no failure / interruption
	S10	cable (N)HXHX-J E90 4x50 RM - Prysmian	X2-L	93 minutes no failure / interruption
	S11	cable (N)HXHX-J E90 4x1,5 RE - Prysmian	X2-L	93 minutes no failure / interruption
	S12	cable (N)HXHX-J E90 4x1,5 RE - Prysmian	X2-L	93 minutes no failure / interruption
	S13	cable (N)HXCHX E90 4x50 RM/25 - Prysmian	Y2-M	93 minutes no failure / interruption
	S14	cable (N)HXCHX E90 4x50 RM/25 - Prysmian	Y2-M	93 minutes no failure / interruption
	S15	cable (N)HXCHX E90 4x2,5 RE/2,5 - Prysmian	Y2-M	93 minutes no failure / interruption
	S16	cable (N)HXCHX E90 4x2,5 RE/2,5 - Prysmian	Y2-M	93 minutes no failure / interruption
	S17	cable (N)HXH FE180 E90 4x50 RM - Prakab	Y2-N	93 minutes no failure / interruption
	S18	cable (N)HXH FE180 E90 4x50 RM - Prakab	Y2-N	76 minutes
	S19	cable (N)HXH FE180 E90 4x1,5 RE - Prakab	Y2-N	93 minutes no failure / interruption
	S20	cable (N)HXH FE180 E90 4x1,5 RE - Prakab	Y2-N	93 minutes no failure / interruption
	S21	cable (N)HXCH FE180 E30 4x50 RM/25 - Prakab	Z2-O	79 minutes
	S22	cable (N)HXCH FE180 E30 4x50 RM/25 - Prakab	Z2-O	93 minutes no failure / interruption
	S23	cable (N)HXCH FE180 E30 4x1,5 RE/1,5 - Prakab	Z2-O	88 minutes
	S24	cable (N)HXCH FE180 E30 4x1,5 RE/1,5 - Prakab	Z2-O	93 minutes no failure / interruption
	S25	cable (N)HXH FE180 E30 4x50 RM - Prakab	Z2-P	86 minutes
	S26	cable (N)HXH FE180 E30 4x50 RM - Prakab	Z2-P	93 minutes no failure / interruption
	S27	cable (N)HXH FE180 E30 4x1,5 RE - Prakab	Z2-P	93 minutes no failure / interruption
	S28	cable (N)HXH FE180 E30 4x1,5 RE - Prakab	Z2-P	93 minutes no failure / interruption
	S29	cable (N)HXCH FE180 E90 4x50 RM/25 - Prakab	Z2-Q	73 minutes
	S30	cable (N)HXCH FE180 E90 4x50 RM/25 - Prakab	Z2-Q	93 minutes
	S31	cable (N)HXCH FE180 E90 4x1,5 RE/1,5 - Prakab	Z2-Q	83 minutes
	S32	cable (N)HXCH FE180 E90 4x1,5 RE/1,5 - Prakab	Z2-Q	93 minutes no failure / interruption
	S52	cable JE-H(St)H E30 2x2x0,8 – Prysmian	X2-J	93 minutes no failure / interruption
	S53	cable JE-H(St)H E30 2x2x0,8 - Prysmian	X2-K	65 minutes
	S54	cable JE-H(St)H FE180 E90 2x2x0,8 – Prakab	Y2-N	66 minutes
	S55	cable JE-H(St)H FE180 E90 2x2x0,8 - Prakab	Z2-Q	56 minutes

[1] The fire test was discontinued in 94th minute at the request of test sponsor.

Specimens S1 – S32 were tested by three-phase voltage supply 3 x 230/400V with bulbs 240V / 60 W. Specimens S52 – S55 were tested by one-phase voltage supply 1 x 110V with LED diodes 3V /0,03W. Circuit breakers with rating 3 A and performance characteristics B(gL) were used.



4. CLASSIFICATION AND FIELD OF APPLICATION

4.1 CLASSIFICATION ACCORDING TO DIN 4102-12: 1998-11

The element, cable bearing system VERGOKAN – cable trays with accessories (consoles, brackets, screws etc.) with power and communication halogen free cables PRYSMIAN and PRAKAB with circuit integrity maintenance in fire is classified according to the following combinations of performance parameters and classes as appropriate.

Cables PRYSMIAN used by the test are classified as follows:

Cable	Type of tested cable, single cross-sections and number of conductors	Arrangement	Classification for type of tested cable (by cross-sections and number of conductors)	Classification for cable
(N)HXH E30	(N)HXH-J E30 4x1,5 RE	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track X2-J.	E 30	n x ≥ 1,5 mm ² n ≥ 2 E 30
	(N)HXH-J E30 4x50 RM		E 90	
JE-H(St)H E30	JE-H(St)H E30 2x2x0,8	Non-standard track X2-J and X2-K.	E 60	n x 2 x ≥ 0,8 mm E 60
(N)HXCH E30	(N)HXCH E30 4x1,5 RE/1,5	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track X2-K.	E 30	n x ≥ 1,5/1,5 mm ² n ≥ 2 E 30
	(N)HXCH E30 4x50 RM/25		E 60	
(N)HXHX E90	(N)HXHX-J E90 4x1,5 RE	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track X2-L.	E 90	n x ≥ 1,5 mm ² n ≥ 2 E 90
	(N)HXHX-J E90 4x50 RM		E 90	
(N)HXCHX E90	(N)HXCHX E90 4x2,5 RE/2,5	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track Y2-M.	E 90	n x ≥ 2,5/2,5 mm ² n ≥ 2 E 90
	(N)HXCHX E90 4x50 RM/25		E 90	



Cables PRAKAB used by the test are classified as follows:

Cable	Type of tested cable, single cross-sections and number of conductors	Arrangement	Classification for type of tested cable (by cross-sections and number of conductors)	Classification for cable
(N)HXH FE180 E90	(N)HXH FE180 E90 4x1,5 RE	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track Y2-N.	E 90	n x ≥ 1,5 mm ² n ≥ 2 E 60
	(N)HXH FE180 E90 4x50 RM		E 60	
JE-H(St)H FE180 E90	JE-H(St)H FE180 E90 2x2x0,8	Non-standard track Y2-N and Z2-Q.	E 30	n x 2 x ≥ 0,8 mm n ≥ 2 E 30
(N)HXCH FE180 E30	(N)HXCH FE180 E30 4x1,5 RE/1,5	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track Z2-O.	E 60	n x ≥ 1,5/1,5 mm ² n ≥ 2 E 60
	(N)HXCH FE180 E30 4x50 RM/25		E 60	
(N)HXH FE180 E30	(N)HXH FE180 E30 4x1,5 RE	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track Z2-P.	E 90	n x ≥ 1,5 mm ² n ≥ 2 E 60
	(N)HXH FE180 E30 4x50 RM		E 60	
(N)HXCH FE180 E90	(N)HXCH FE180 E90 4x1,5 RE/1,5	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m ⁻¹ . Consoles in spacing of 1500 mm. Non-standard track Y2-M.	E 60	n x ≥ 1,5/1,5 mm ² n ≥ 2 E 60
	(N)HXCH FE180 E90 4x50 RM/25		E 60	

The element, cable bearing system VERGOKAN – cable trays with accessories (consoles, brackets, screws etc.) with power and communication halogen free cables PRYSMIAN and PRAKAB with circuit integrity maintenance in fire are classified to classes according to achieved test results of tested cables at tracks. Other classification is not allowed.

4.2 FIELD OF APPLICATION

This classification is valid for the following end use applications:

- test results are applicable only for tested bearing systems VERGOKAN with cables PRYSMIAN and PRAKAB;
- throughout the period during which circuit integrity is to be maintained, neighboring building components shall not have a negative effect on circuit integrity;
- although testing is only carried out on cables arranged horizontally, test results also apply to cables arranged either diagonally or vertically (e.g. risers), as long as the cable system is supported in transitional areas (i.e. where it switches from a horizontal to a vertical arrangement) in such a manner that the cables will not slip or kink at corners;
- test results of function in fire test of cables tested at standard supporting construction are also applicable for tested standard supporting construction of other producers;
- test results of function in fire test of cables tested at standard supporting construction are also applicable for cables of other producers tested at standard supporting construction;



- results of testing bunched cables on a ladder or tray also apply to support construction attached to a wall. However, such constructions required proof of suitability by means of a test certificate or other document issued by an accredited testing laboratory;
- test result is applicable to cable without connecting elements (e.g. sleeves and junction boxes);
- **test result is applicable to welded head plate to steel U-shaped ceiling profiles;**
- **heavy joined steel brackets WKM... shall be fixed to steel U-shaped ceiling profiles HSMU from one or from two sides, providing the maximum loading of U-shaped ceiling profiles is not more than during the fire test and only if sufficient type of fixation of the head plates to ceiling is provided;**
- **use the new type of spacer TSU50 instead of spacer HDTSU50;**
- **change the construction of tested console (base of console) type HDHSMU in accordance with drawings in annex.**

5. LIMITATIONS

Load-bearing construction elements for fixing of cable systems must be proved for at least the same fire resistance compare to classified function in fire of cable system.

The construction contractor is solely responsible for proper preparation.

This classification document does not represent type approval or certification of the product.

The classification is valid until 14. 06. 2021 provided that the product, field of application and standards and regulations are not changed.

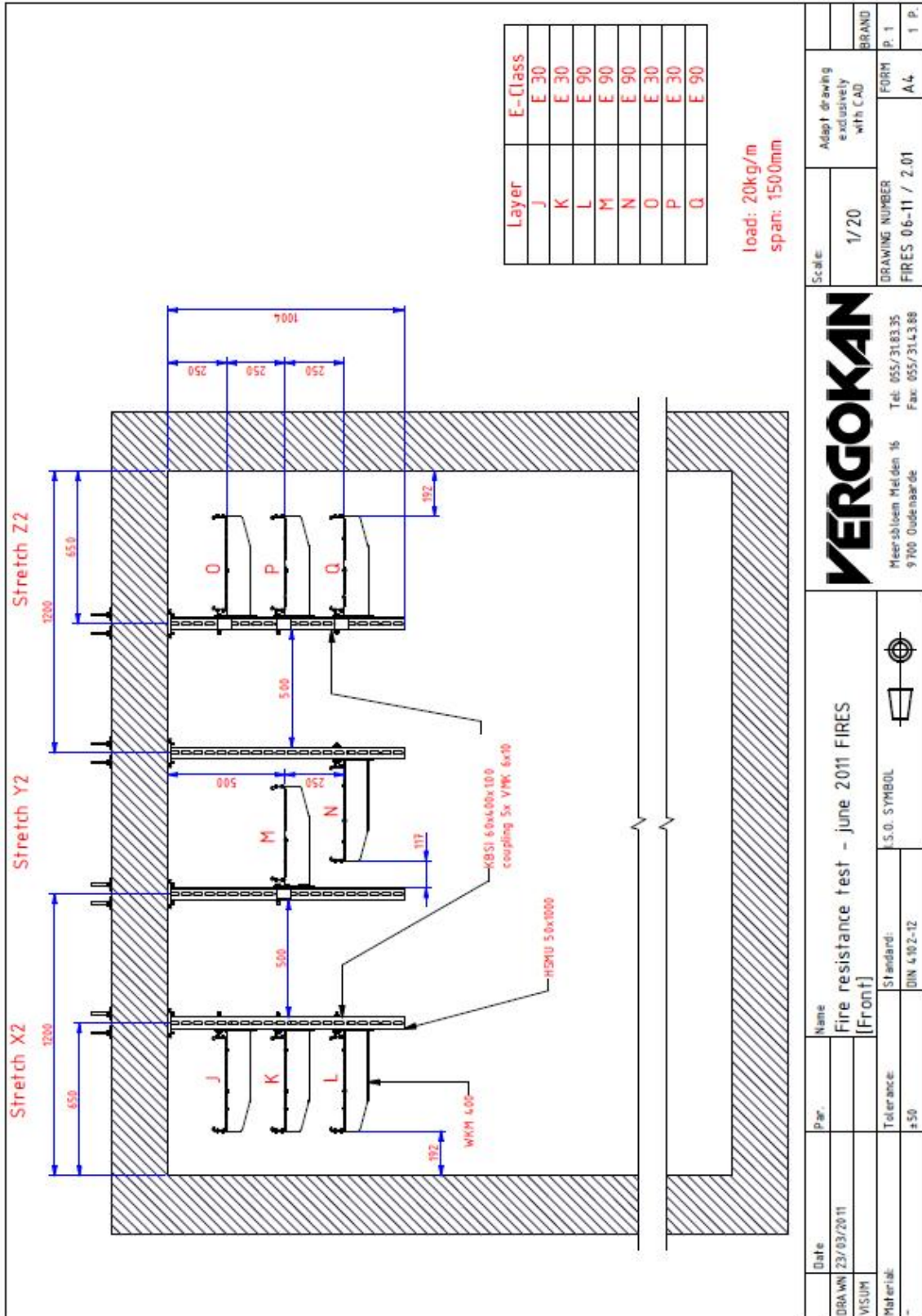
Approved:

Signed:

Ing. Štefan Rástocký
leader of the testing laboratory



Miroslav Hudák
technician of the testing laboratory





load: 20kg/m
span: 1,5m
no of layers: max. 3

5 VMK 6x10 in the coupling

Trays are fixated with 2 VMK 6x10 on each bracket.

no	qty	drawing	description
9	3	L4001	Cable tray with interlocking ends
8	11	VMK 6x10	Teethed round head bolt/rod
7	3	B 10x60 (DIN 933)	Bolt
6	3	TSU PROT0_01	Spacer
5	1	H5MU PROT0_03	Ceiling profile U-shaped
4	2	-	Fire resistant plug
3	6	CR0 10 (DIN 902 9)	Flat gasket washer
2	5	M 10 (DIN 934)	Nut
1	3	L5547	Heavy joined bracket
no	qty	drawing	description

VERGOKAN
Meersbloem Meiden 16
9700 Oudenaarde
Tel: 055/31.83.35
Fax: 055/31.43.88

Scale: 1/10
DRAWING NUMBER: FIRES 06-11
FORM: A4
P. 1
1 P.

Date: 23/03/2011
DRAWN: VISUM
Material: -
Par.: +50
Tolerance: -
Standard: S.S.O. SYMBOL
DIN 4102-12
Name: Fire resistance - june 2011 FIRES
Without threaded rod, with KBSI 60x---x1.00



Material dikte : 0.8/1/1.25

Type	Binnenmaat breedte :	Maat B			
		MD 0.8	MD 1.0	MD 1.25	
KBSE 60*75	73	74.6	75	75.5	
KBSE 60*100	98	99.6	100	100.5	
KBSE 60*150	148	149.6	150	150.5	
KBSE 60*200	198	199.6	200	200.5	
KBSE 60*250	248	249.6	250	250.5	
KBSE 60*300	298	299.6	300	300.5	
KBSE 60*350	348	349.6	350	350.5	
KBSE 60*400	398	399.6	400	400.5	
KBSE 60*500	498	499.6	500	500.5	
KBSE 60*600	598	599.6	600	600.5	

NOT FOR PRODUCTION

1	A	Scherptekening afwerkingsplan (NF 442) (norm: 00 25/09/2010)	30/09/2010
aanst.	M2:	aanst./00-10/00	

Mercurius Holding B.V.
Tel: 055/314335
Fax: 055/314338

Schakel:		1/4
PLANNUMMER	44.001 / 4 /	
FORM	GS/MS	
k		12
		12

Naam:	Kabelbaan ineenschuifbaar		
Ontw. van Component:	Par:		
GET.:	Datum:	02-01-08	
VISUM:	Toleranties:		
Auteursid.:	Uits.: -	U.S.A. SYMBOOL	



NOT FOR PRODUCTION

Naam:	Par.:	Datum:	Par.:
Get. van: Competent:	xxx	02-01-08	-
Autonoom:	Toleranties:	0,0 - 5	
Benaming: Kabelbaan ineenstuurbaar Perforatiepatronen No. 1: U.S. SYMBOL No. 2:			

1	A	Geplaatst als: <i>Geplaatst</i>	02/05/2010	02/05/2010	—	—
1	A	Geplaatst als: <i>Geplaatst</i>	02/05/2010	02/05/2010	—	—
Schaal: 1/5 PLANNUMMER: 4,4,001 / 4 / — FORM: GS/MS k: 1 / 12 p.			MergoKAM Tel: 055/240335 Fax: 055/240338 Hoofdstraat 16 6195 Oudmarste			

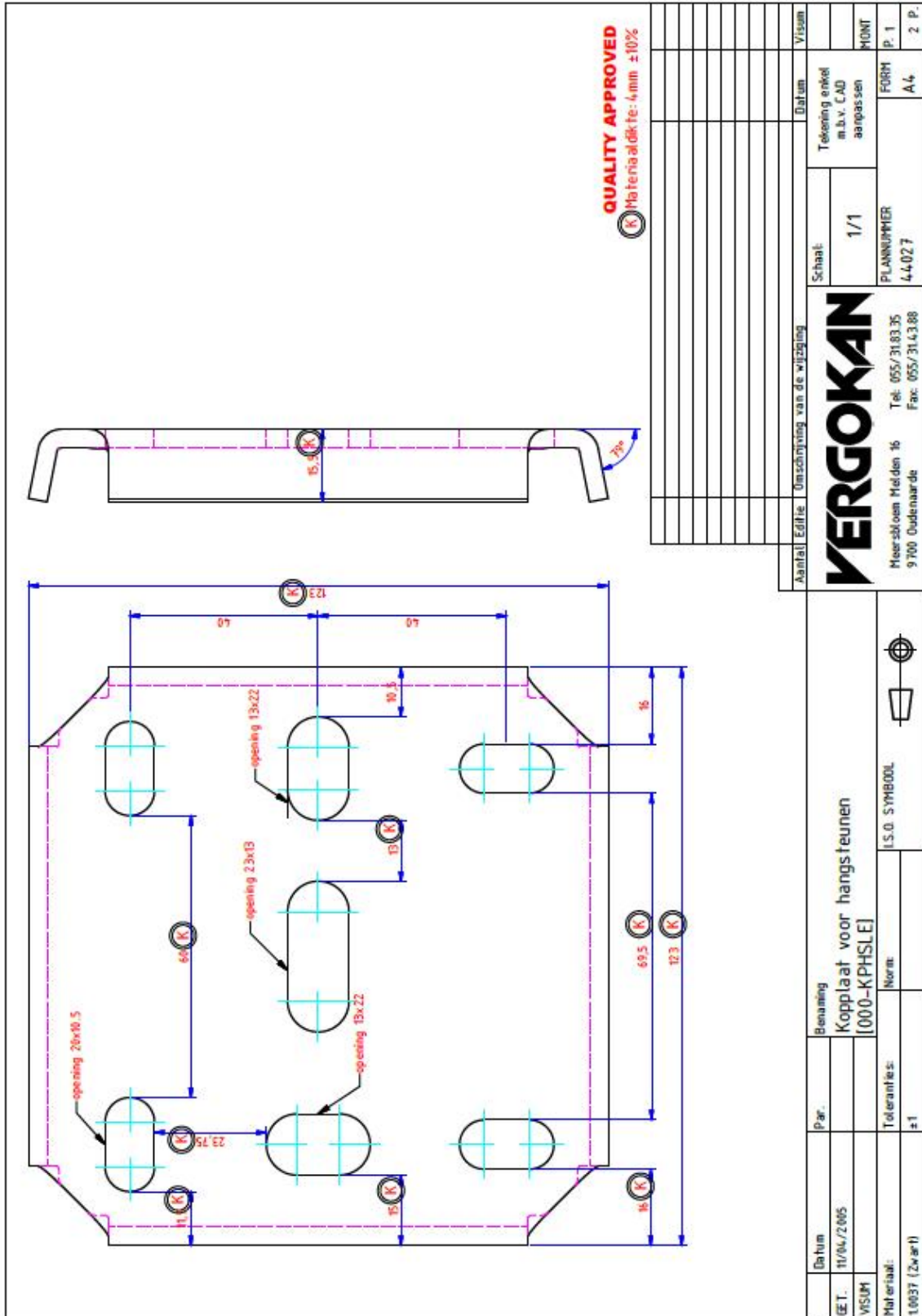


PROTOTYPE

Ref.	L
HSMU 50x200	200
HSMU 50x400	400
HSMU 50x600	600
HSMU 50x800	800
HSMU 50x1000	1000
HSMU 50x1200	1200

Name		U ceiling profile	
Date		[HSMU 50x1000]	
DRAWN	12/04/2011	S.S.O. SYMBOL	
VISUM			
Material:	1.0037 (Het dip)	Tolerance:	#1

VERGOKAN		Meersbloem Meiden 16 9700 Oudenaarde	
Tel: 055/31.83.35		Fax: 055/31.43.88	
Scale:	1/3	DRAWING NUMBER	HSMU PROTO_03
Adapt drawing exclusively with CAD		FORM	A4
		P.	L. P.





The drawing shows a rectangular head plate with rounded corners. The overall dimensions are 135 mm by 80 mm. It features a central slot with a width of 32 mm and a depth of 13 mm. There are two circular holes on each side, each with a diameter of $\phi 7.5$ mm. The distance from the center of the plate to the center of each hole is 40 mm. The distance between the two holes on each side is 80 mm. The distance from the edge of the plate to the center of each hole is 12.5 mm. The thickness of the plate is 5 mm. A 3D perspective view shows the plate with several oval-shaped features on its surface.

NOT FOR PRODUCTION

1	A	Toevoegen van gaten d10 (zonder WF)	18/06/2014	SC	By
Number		Edition		Description of the modification	
		Date		Adapt drawing exclusively with CAD	
		Scale:		FORM	
		1 : 2		A4	
		DRAWING NUMBER		P. 2	
		46059		2 P.	

VERGOKAN

Meersbloem Melden 16
9700 Oudenaarde

Tel: 055/318335
Fax: 055/314388

I.S.O. SYMBOL

Ref.	0KPHSLE3	Name	Head plate type HSLE3:---	Standard:	I.S.O. SYMBOL
Drawn	colpaest		[0KPHSLE3]		
Date	18/03/2014				
Material:	1.0332 (0011 untreated)	Tolerance:	-		



NOT FOR PRODUCTION

1	A	vlakke kopplaat	Description of the modification
Number		Edition	
		11/03/2015	Date
		By	
		Adapt drawing exclusively with CAD	
		Scale:	1 : 2
		DRAWING NUMBER	
		FORM	A4
		P.1	
		1 P.	

Ref.	L
HDHSMU50.200	200
HDHSMU50.300	300
HDHSMU50.400	400
HDHSMU50.500	500
HDHSMU50.600	600
HDHSMU50.800	800
HDHSMU50.1000	1000
HDHSMU50.1200	1200
HDHSMU50.1500	1500

VERGOKAN

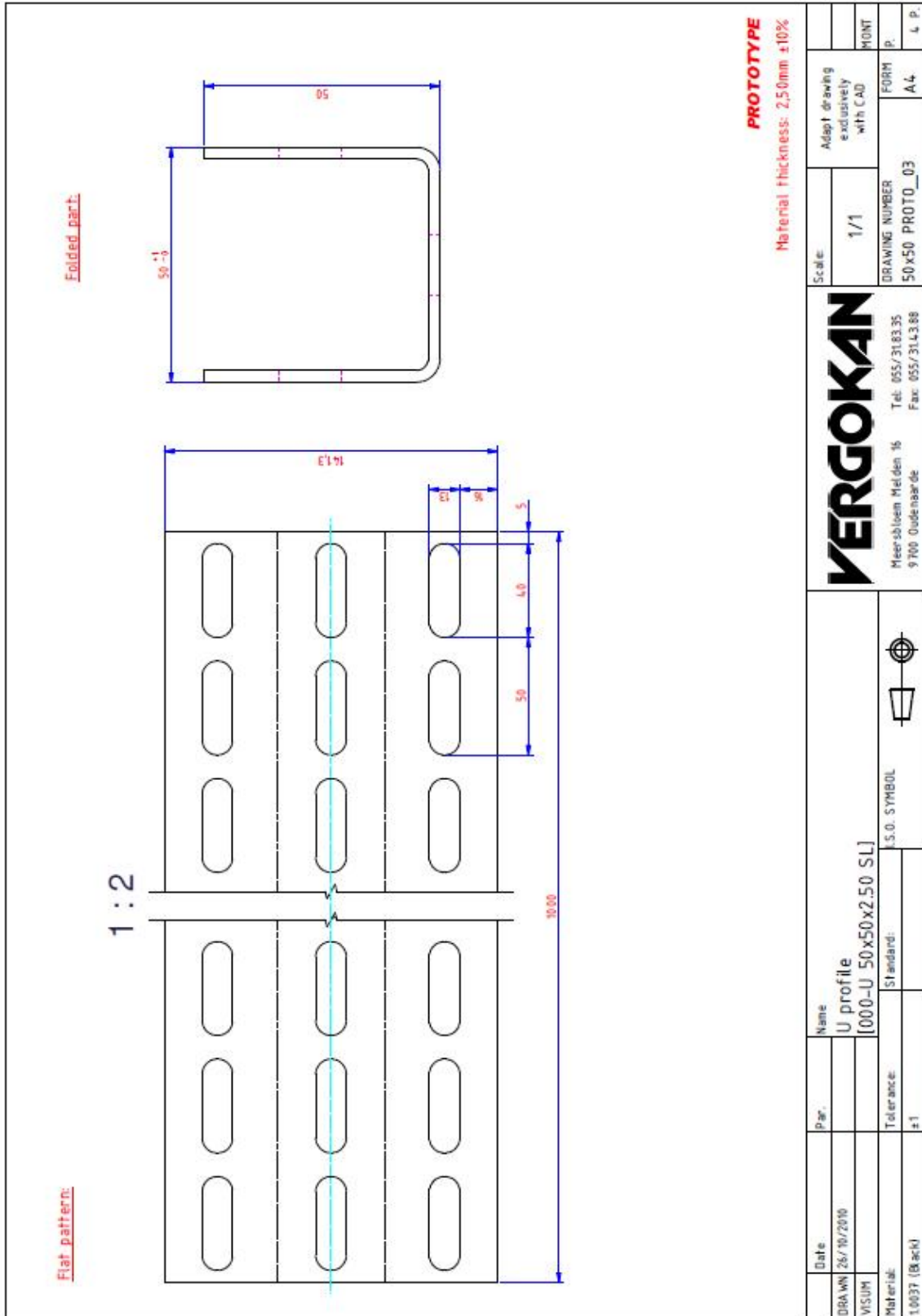
Meersbloem Meiden 16 Tel: 055/3183.35
 9700 Oudenaarde Fax: 055/314.388

Name: Ceiling profile medium heavy, U shape
 [HDHSMU50.1000]

Standard: I.S.O. SYMBOL

Tolerance: -

Material: 1.0332 (DD11 hot dip)





1	1	45729	[2TSU50]	TSU verzinkt
2	1	B 10x80 (DIN 933)	[HDB10.80]	HD Zeskantbout
3	2	CR0 10 (DIN 9021)	[HDCRO.10]	HD Carosserierondsel
4	1	M 10 (DIN 934)	[HDM10]	Zeskantmoer M10 (HD)
item	qty	drawing	reference	description
Parts list				

NOT FOR PRODUCTION

Number	Edition	Description of the modification	Date	By

Ref.:	Name	Scale:	Date
HOTSU--	Spacer HDHSMU 50	1 : 1	Adapt drawing exclusively with CAD
Drawn Paul Note	[HDTSU50]	DRAWING NUMBER	FORM
Date 15/06/2011		45730	P. A4
Material: 1.0037 (Hot-dip)	Standard: I.S.O. SYMBOL	DRAWING NUMBER	FORM
	Tolerance: -	45730	P. A4
		Drawing Number	FORM
		45730	P. A4

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1	M10x80 (DIN 933)	[B10.80]	Zeskantbout	
2	M10 (DIN 9021)	[CRO10]	Carrossieronderstel	
3	M10 (DIN 934)	[M10]	Zeskantmoer	
4	4.5728	[TTSU50]	Spacer, HSMU 50	
item	qty	drawing	reference	description

Parts list	

1	A	Herontwerp naar aanleiding brandtesten 2015 (zie WF HDHSMU50.000 - 21 10 2015)	27/02/2015	notepa
Number		Edition		By
		Description of the modification		Date

NOT FOR PRODUCTION

Ref.	TSU--	Name		
Drawn		Spacer HDHSMU 50		
Date	15/06/2011	[TTSU50]		
Material:		Tolerance:	-	Standard:
1.0226 (DX51 Pregalva)				I.S.O. SYMBOL

Scale:	1 : 2	Adapt drawing exclusively with CAD	FORM	P.
		DRAWING NUMBER	45730	A4
		Meersbloem Meiden 16	Tel. 055/3183 35	3 P.
		9700 Oudenaarde	Fax. 055/314388	MONT



WKM 100 and WKM 200

WKM 300 and WKM 400

PROTOTYPE

Ref.	H	W
WKM 100	76,3	125
WKM 200	85,0	225
WKM 300	93,8	325
WKM 400	102,5	425

Date: _____		Name: _____	
DRAWN: 21/03/2011		Heavy joined bracket	
VSJUM		[WKM 400]	
Material: _____		S.O. SYMBOL:	
Tolerance: _____		Standard: _____	
1.0037 (Hot dip)		±1	

VERGOKAN

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Scale: 1/5	Adapt drawing exclusively with CAD	FORM p.
DRAWING NUMBER: WKM FIRES_05-2011	WKM FIRES_05-2011	A4
PROTTO_05		11 p.



Ref.	Head plate	Thickness head plate	Bracket	Thickness bracket	H	W
000-WKM 100	000-KPWK 300	5,00mm ±10%	000-CWKM 100	2,50mm ±10%	76,3	125
000-WKM 200	000-KPWK 400	5,00mm ±10%	000-CWKM 200	2,50mm ±10%	85,0	225
000-WKM 300	000-KPWKZ 300	8,00mm ±10%	000-CWKM 300	2,50mm ±10%	93,8	325
000-WKM 400	000-KPWKZ 300	8,00mm ±10%	000-CWKM 400	2,50mm ±10%	102,5	425

000-CWKM 100

000-CWKM 200

000-CWKM 300

000-CWKM 400

PROTOTYPE

Date	Name	Number	Description of the modification	Date	Visum
DRAWN 21/03/2011	Heavy joined bracket [000-WKM 100]				
VISUM					
Material:	Tolerance:				
1.0037 (Zwart)	#1				

S.O. SYMBOL

VERGOKAN

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Tel: 055/31.83.35
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Scale: 1/5

DRAWING NUMBER: WKM FIRES 05-2011

FORM: A4

PROTO_05