

## **FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION IN FIRES-JR-056-16-NURE**

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**Cable bearing system VERGOKAN with cables DÄTWYLER and PRYSMIAN**

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# FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION IN ACCORDANCE WITH ZP-27/2008

**FIRES-JR-056-16-NURE**

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

**Sponsor:** VERGOKAN  
Meersbloem Melden 16  
9700 Oudenaarde  
Belgium

**Prepared by:** FIRES, s.r.o.  
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Slovak Republic

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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 DÄTWYLER and PRYSMIAN in accordance with the classes given in ZP-27/2008.

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-051-11-NURE Issue 2, issued on 14. 12. 2011 with validity until 31. 08. 2016. Document FIRES-JR-056-16-NURE replaces expert judgement report with classification FIRES-JR-051-11-NURE Issue 2.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1 GENERAL

The element, Cable bearing system VERGOKAN with cables DÄTWYLER and PRYSMIAN, 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 DÄTWYLER and PRYSMIAN with circuit integrity maintenance in fire.

#### **Cable trays KBSI**

Cable trays are made of steel sheet 0,75 mm thick. Height of side wall is 60 mm. Width of tray is 300 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<sup>-1</sup>. Tested trays were KBSI 60x300x0,75 (new trademark is KBSI60.300.075).

#### **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 300 (new trademark is HDWKM300).

#### **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:

DÄTWYLER cables (producer Dätwyler AG, Gotthardstrasse 31, CH-6460 Altdorf, Switzerland):

- cable (N)HXH FE180 E30-E60 4x50 RM (2x);
- cable (N)HXH FE180 E30-E60 4x1,5 RE (2x);
- cable (N)HXCH FE180 E30-E60 4x50 RM/25 (2x);
- cable (N)HXCH FE180 E30-E60 4x1,5 RE/1,5 (2x);
- cable (N)HXH FE180 E90 4x50 RM (2x);
- cable (N)HXH FE180 E90 4x1,5 RE (2x);
- cable (N)HXCH FE180 E90 4x50 RM/25 (2x);
- cable (N)HXCH FE180 E90 4x2,5 RE/2,5 (2x);
- cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 (2x);
- cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 (2x).

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 R (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).

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.

### 3. TEST REPORTS AND EXTENDED APPLICATION REPORTS 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- 171-11-AUNE	17. 08. 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)HXCH FE180 E30-E60 4x50 RM/25 - Dätwyler	W1 - A	93 minutes no failure / interruption
	S2	cable (N)HXCH FE180 E30-E60 4x50 RM/25 - Dätwyler	W1 - A	92 minutes
	S3	cable (N)HXCH FE180 E90 4x50 RM/25 - Dätwyler	W1 - B	93 minutes no failure / interruption
	S4	cable (N)HXCH FE180 E90 4x50 RM/25 - Dätwyler	W1 - B	93 minutes no failure / interruption
	S5	cable (N)HXH FE180 E90 4x50 RM - Dätwyler	W1 - C	93 minutes no failure / interruption
	S6	cable (N)HXH FE180 E90 4x50 RM - Dätwyler	W1 - C	93 minutes no failure / interruption
	S7	cable (N)HXH FE180 E30-E60 4x50 RM - Dätwyler	X1 - D	87 minutes



Test report No. /Test method	Specimen No.	Cables	Track No.	Time to first failure / interruption of conductor
[1] DIN 4102-12	S8	cable (N)HXH FE180 E30-E60 4x50 RM - Dätwyler	X1 - D	74 minutes
	S9	cable (N)HXCH FE180 E30-E60 4x1,5 RE/1,5 - Dätwyler	X1 - E	93 minutes no failure / interruption
	S10	cable (N)HXCH FE180 E30-E60 4x1,5 RE/1,5 - Dätwyler	X1 - E	93 minutes no failure / interruption
	S11	cable (N)HXH FE180 E30-E60 4x1,5 RE - Dätwyler	X1 - E	93 minutes no failure / interruption
	S12	cable (N)HXH FE180 E30-E60 4x1,5 RE - Dätwyler	X1 - E	93 minutes no failure / interruption
	S13	cable (N)HXCH FE180 E90 4x2,5 RE/2,5 - Dätwyler	X1 - F	93 minutes no failure / interruption
	S14	cable (N)HXCH FE180 E90 4x2,5 RE/2,5 - Dätwyler	X1 - F	93 minutes no failure / interruption
	S15	cable (N)HXH FE180 E90 4x1,5 RE - Dätwyler	X1 - F	93 minutes no failure / interruption
	S16	cable (N)HXH FE180 E90 4x1,5 RE - Dätwyler	X1 - F	93 minutes no failure / interruption
	S17	cable (N)HXH-J E30 4x50 RM - Prysmian	Y1 - G	83 minutes
	S18	cable (N)HXH-J E30 4x50 RM - Prysmian	Y1 - G	91 minutes
	S19	cable (N)HXH-J E30 4x1,5 RE - Prysmian	Y1 - H	73 minutes
	S20	cable (N)HXH-J E30 4x1,5 RE - Prysmian	Y1 - H	84 minutes
	S21	cable (N)HXCH E30 4x1,5 RE/1,5 - Prysmian	Y1 - H	87 minutes
	S22	cable (N)HXCH E30 4x1,5 RE/1,5 - Prysmian	Y1 - H	81 minutes
	S23	cable (N)HXHX-J E90 4x1,5 RE - Prysmian	Y1 - I	93 minutes no failure / interruption
	S24	cable (N)HXHX-J E90 4x1,5 RE - Prysmian	Y1 - I	93 minutes no failure / interruption
	S25	cable (N)HXCHX E90 4x2,5 RE/2,5 - Prysmian	Y1 - I	93 minutes no failure / interruption
	S26	cable (N)HXCHX E90 4x2,5 RE/2,5 - Prysmian	Y1 - I	93 minutes no failure / interruption
	S27	cable (N)HXCH E30 4x50 RM/25 - Prysmian	Z1 - J	78 minutes
	S28	cable (N)HXCH E30 4x50 RM/25 - Prysmian	Z1 - J	90 minutes
	S29	cable (N)HXHX-J E90 4x50 RM - Prysmian	Z1 - K	93 minutes no failure / interruption
	S30	cable (N)HXHX-J E90 4x50 RM - Prysmian	Z1 - K	69 minutes
	S31	cable (N)HXCHX E90 4x50 RM/25 - Prysmian	Z1 - L	93 minutes no failure / interruption
	S32	cable (N)HXCHX E90 4x50 RM/25 - Prysmian	Z1 - L	93 minutes no failure / interruption
	S52	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	W1 - A	29 minutes
	S53	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	W1 - B	25 minutes
	S54	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	W1 - C	25 minutes
	S55	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	X1 - D	33 minutes
	S56	cable JE-H(St)H E30 2x2x0,8 - Prysmian	Y1 - G	61 minutes
	S57	cable JE-H(St)H E30 2x2x0,8 - Prysmian	Z1 - J	66 minutes

[1] The fire test was discontinued in 94<sup>th</sup> 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 – S57 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 ZP-27/2008

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

Cables DÄTWYLER 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 E30-E60	(N)HXH FE180 E30-E60 4x1,5 RE	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track X1-D and X1-E.	P 90-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXH FE180 E30-E60 4x50 RM		P 60-R	
(N)HXCH FE180 E30-E60	(N)HXCH FE180 E30-E60 4x1,5 RE/1,5	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track W1-A and X1-E.	P 90-R	n x ≥ 1,5/1,5 mm <sup>2</sup> n ≥ 2 P 90-R
	(N)HXCH FE180 E30-E60 4x50 RM/25		P 90-R	
JE-H(St)HRH... Bd FE180 E30-E90	JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8	Non-standard track W1-A and W1-B.	P 15-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 15-R
(N)HXH FE180 E90	(N)HXH FE180 E90 4x1,5 RE	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track W1-C and X1-F.	P 90-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 90-R
	(N)HXH FE180 E90 4x50 RM		P 90-R	
JE-H(St)H... Bd FE180 E30-E90	JE-H(St)H...Bd FE180 E30-E90 2x2x0,8	Non-standard track W1-C and X1-D.	P 15-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 15-R
(N)HXCH FE180 E90	(N)HXCH FE180 E90 4x2,5 RE/2,5	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track W1-B and X1-F.	P 90-R	n x ≥ 2,5/2,5 mm <sup>2</sup> n ≥ 2 P 90-R
	(N)HXCH FE180 E90 4x50 RM/25		P 90-R	



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 KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Y1-G and Y1-H.	P 60-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXH-J E30 4x50 RM		P 60-R	
JE-H(St)H E30	JE-H(St)H E30 2x2x0,8	Non-standard track Y1-G and Z1-J.	P 60-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 60-R
(N)HXCH E30	(N)HXCH E30 4x1,5 RE/1,5	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Y1-H and Z1-J.	P 60-R	n x ≥ 1,5/1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXCH E30 4x50 RM/25		P 60-R	
(N)HXHX E90	(N)HXHX-J E90 4x1,5 RE	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Y1-I and Z1-K.	P 90-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXHX-J E90 4x50 RM		P 60-R	
(N)HXCHX E90	(N)HXCHX E90 4x2,5 RE/2,5	In cable trays KBSI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Y1-I and Z1-L.	P 90-R	n x ≥ 2,5/2,5 mm <sup>2</sup> n ≥ 2 P 90-R
	(N)HXCHX E90 4x50 RM/25		P 90-R	

The element, cable bearing system VERGOKAN – cable trays with accessories (consoles, brackets, screws etc.) with power and communication halogen free cables DÄTWYLER and PRYSMIAN 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 DÄTWYLER and PRYSMIAN;**
- throughout the period during which circuit integrity is to be maintained, neighbouring 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;
- results gained during tests of cable bearing system exposed to higher temperature are valid also for the cable trays exposed to lower temperature;
- if a set of at least two pieces of four-conductor cable with the smallest allowed nominal cross-section and two pieces of four-conductor cable with nominal cross-section of 50 mm<sup>2</sup> or larger is tested and the cables with the smallest and the largest section achieve required function in fire classification, the test result is valid for all cross-sections of cable of particular construction type and particular ways of installation;
- if the limit conductor cross-section of tested set of cables differs from above stated, the test result is valid only for such defined range of cable cross-sections of particular cable type and way of installation;
- if only cables with the smallest or largest section achieve the required function in fire classification, the test results are valid only for the particular section and way of installation;
- if minimal two pieces of communication cables with the smallest allowed number of conductors, pairs and diameters (cross-sections) are tested, the test results are valid for all diameters (cross-sections), pairs, number of conductors of cable of particular construction type and particular ways of installation;
- if cables with larger number of conductors or pairs than the smallest allowed number are tested, the test results are valid for all construction types of cable with the same or larger number of conductors, eventually pairs of particular construction type of cable and particular ways of installation;
- if the widest considered cable tray or cable ladder is tested, the test results are valid for all narrower cable trays or cable ladders of the same construction;
- if the standard support construction acc. to ZP27/2008 is used for testing, test results also apply to other types of tested support 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;
- test results of cables at ladders or in trays attached at ceiling are applicable also for cables placed in bearing system fixed to wall;
- **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.

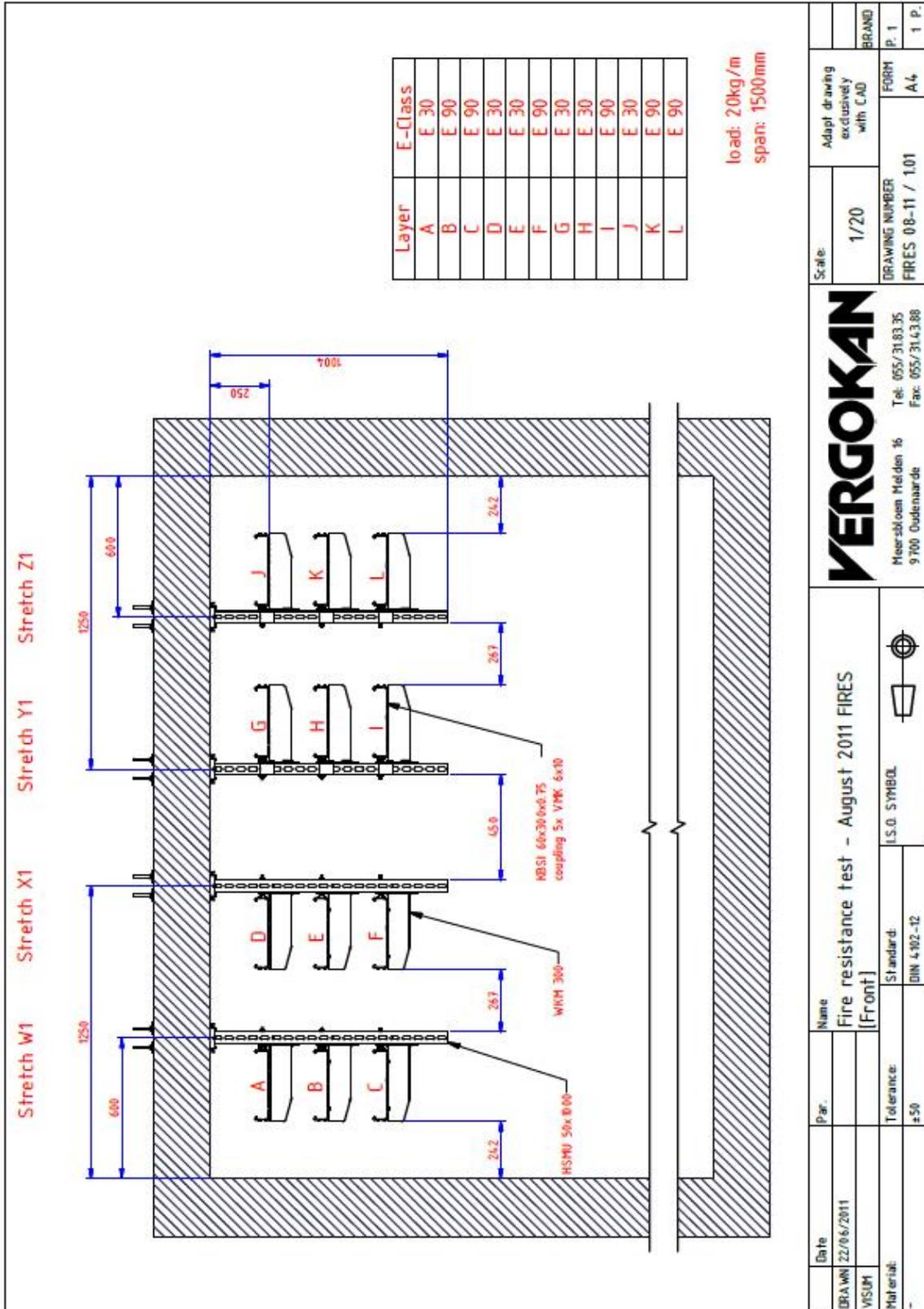
Approved:

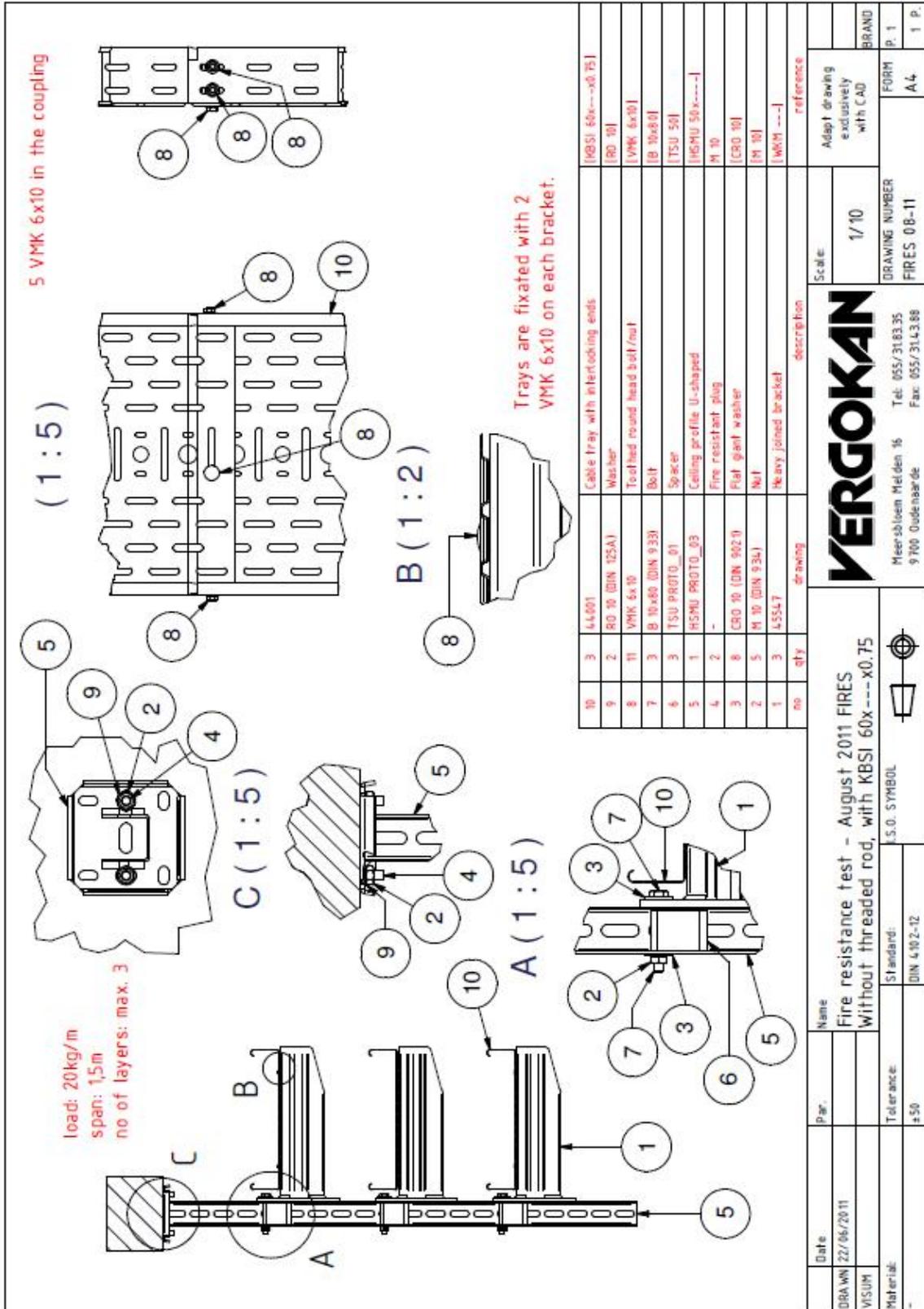
Ing. Štefan Rástocký  
leader of the testing laboratory



Signed:

Miroslav Hudák  
technician of the testing laboratory





Date	22/06/2011	Name	Fire resistance test - August 2011 FIRES
DRAWN	MSJM	Par.	Without threaded rod, with KBSI 60x---x0.75
Material	-	Tolerance	±50
		Standard	DIN 4102-12
		S.O. SYMBOL	
<b>VERGOKAN</b>		Meersbloem Meiden 16 9700 Oudenaarde	
Scale:		1/10	
DRAWING NUMBER		FIRES_08-11	
FORM		A4	
p. 1		1 P.	





**NOT FOR PRODUCTION**

Naam:	Par.:	Datum:	Benaming:	Materiaal:	Aanpak:
Get.:	Get.:	02-01-08	Kabelbaan ineen-schuurbaar Perforatiepatronen	1.0037 - Sinterstaal	1
Visum:	Visum:	-			2
Toleranties:		ISO 2			
Toleranties:		ISO 2			

Aanpak:	Materiaal:	Datum:	Benaming:	Materiaal:	Aanpak:
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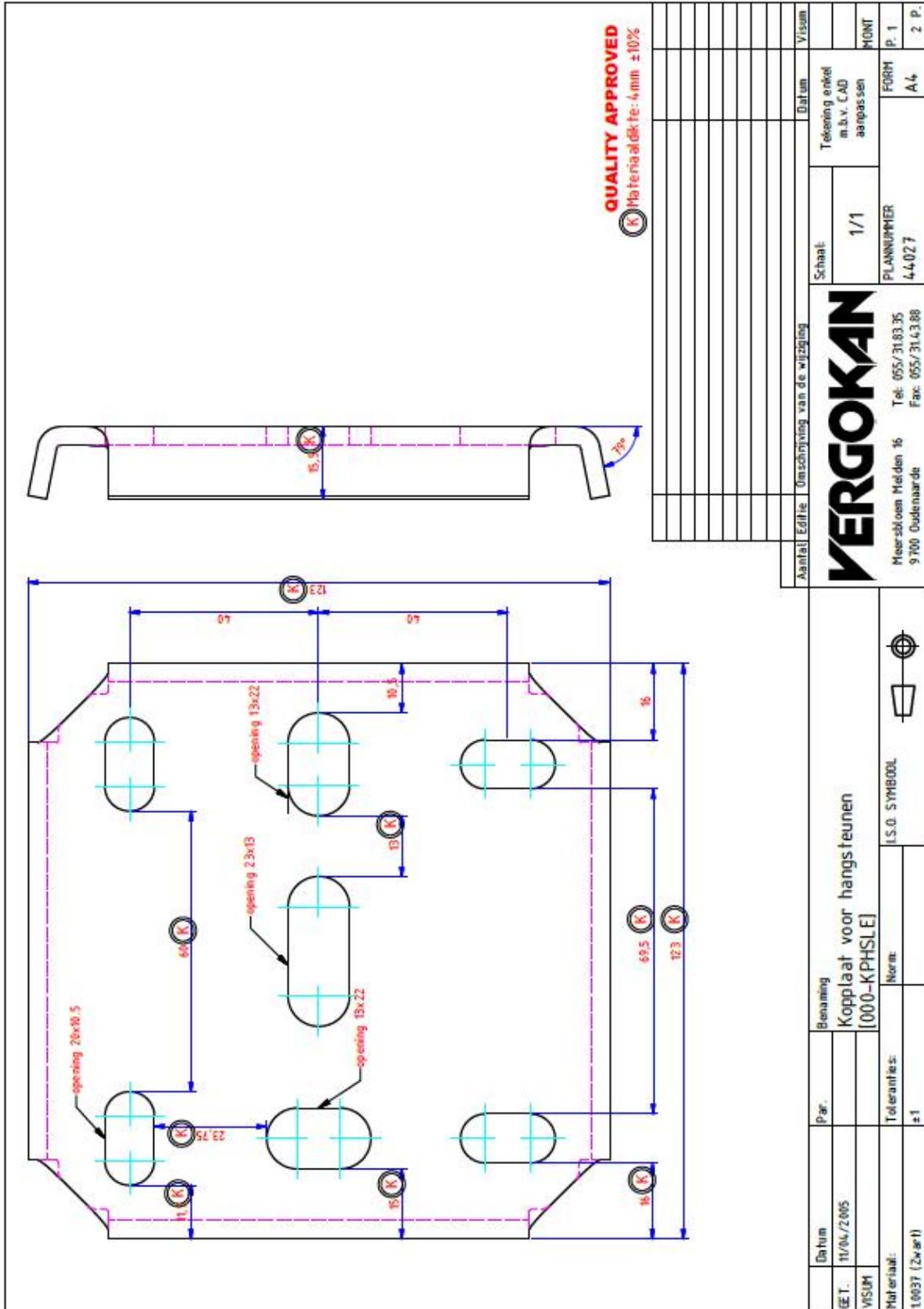


**PROTOTYPE**

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.O. SYMBOL	
VISUM			
Material:	1.0037 (Het dip)	Tolerance:	#1

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





The drawing shows a rectangular head plate with rounded corners. The overall dimensions are 135 mm in width and 80 mm in height. The plate features several holes: two circular holes with a diameter of  $\phi 70.5$  and two elongated oval holes. The distance between the centers of the circular holes is 80 mm, and the distance between the centers of the oval holes is 32 mm. The distance from the top edge to the center of the upper circular hole is 40 mm. The distance from the right edge to the center of the right circular hole is 40 mm. The distance from the left edge to the center of the left oval hole is 10.5 mm, and the distance from the bottom edge to the center of the bottom oval hole is 13 mm. The thickness of the plate is 5 mm. A 3D perspective view shows the plate with eight holes arranged in two rows of four.

**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	
				FORM P.2	
				A4	
				2 P.	

**VERGOKAN**

Meersbloem Melden 16  
9700 Oudenaarde

Tel: 055/318335  
Fax: 055/314388

Name: Head plate type HSLE3:---  
[0KPHSLE3]

Standard: I.S.O. SYMBOL

Tolerance: -

Material: 1.0332 (0011 untreated)



**NOT FOR PRODUCTION**

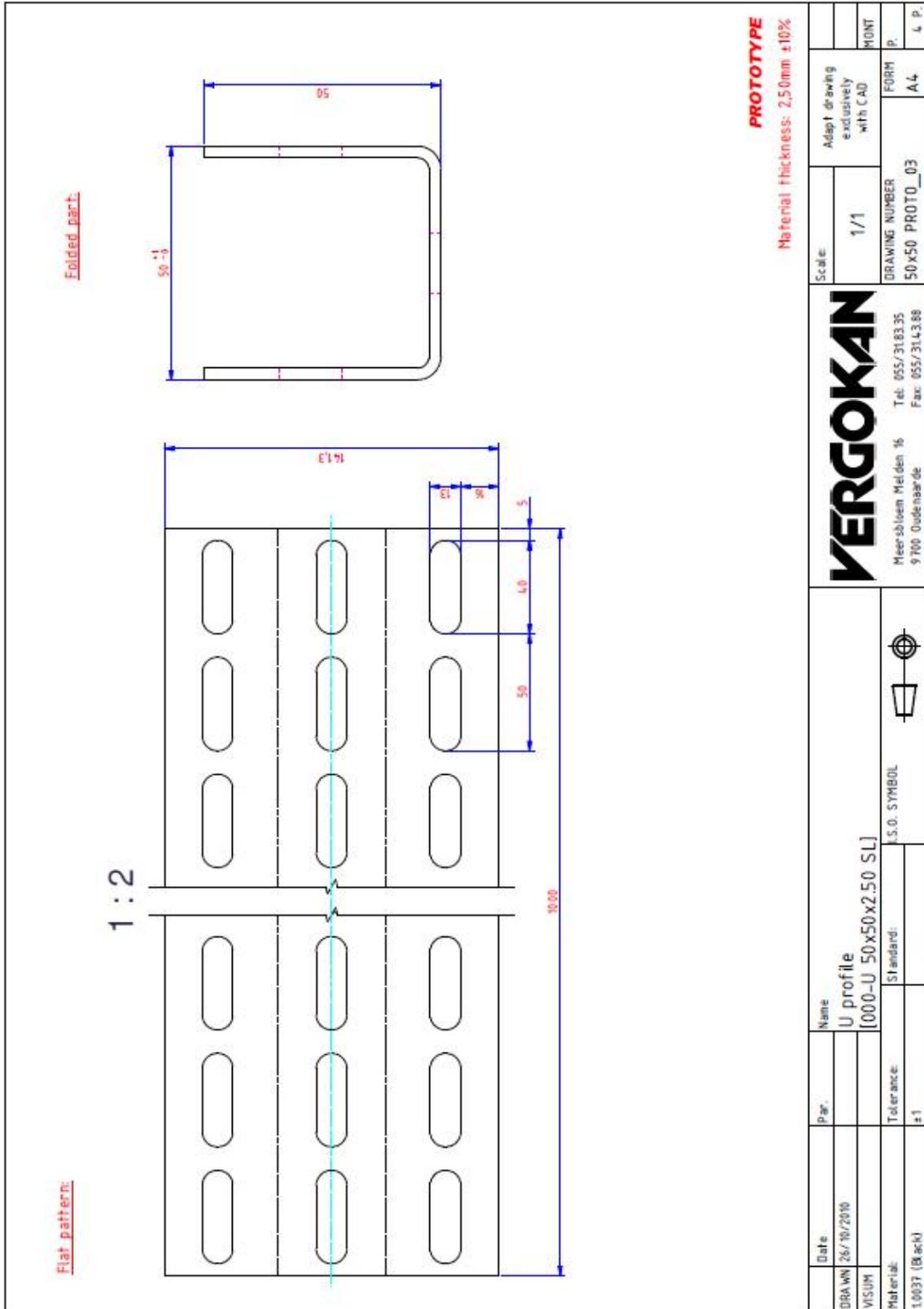
1	A	vlakke kopplaat	Description of the modification
Number		Edition	
		11/03/2015	Date
		By	
		Adapt drawing exclusively with CAD	
		Scale:	1 : 2
		DRAWING NUMBER	
		FORM	A4
		P.1	1 P.

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)		

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

Ref.	HDHSMU50.-----		
Drawn	Paul Note		
Date	11/04./2011		







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

Parts list	

	<p style="color: red; font-weight: bold;">NOT FOR PRODUCTION</p>
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1	A	Herontwerp naar aanleiding brandtesten 2015 (zie WF HDHSMU50.000 - 21 10 2015)	27/02/2015	notpa
Number / Edition		Description of the modification	Date	By

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

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



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

<b>VERGOKAN</b>	Meersbloem Meiden 16 9700 Oudehaarde	Tel: 055/31.83.35 Fax: 055/31.43.88	
Scale:	1/5	Adapt drawing exclusively with CAD	MONT
DRAWING NUMBER	WKM FIRES_05-2011	FORM	A4
PROTTO_05			1L 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**

Meersbloem Meiden 16  
9700 Oudenaarde

Tel: 055/31.83.35  
Fax: 055/31.43.88

Scale: 1/5

DRAWING NUMBER: WKM FIRES 05-2011

FORM: A4

PROTO\_05