

# FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION IN ACCORDANCE WITH ČSN 73 0895: 2016

**FIRES-JR-073-22-NURE**

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

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

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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 ČSN 73 0895: 2016.

The test was carried out according to standard STN 92 0205 and meets also all requirements of ČSN 73 0895: 2016 and test results can be directly used for classification of tested products according to ČSN 73 0895: 2016.

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

This product has already been classified by FIRES, s.r.o. and number of previous fire resistance expert judgement report with classification is FIRES-JR-085-16-NURE (issued on 14. 06. 2016) with validity until 14. 06. 2021. Document FIRES-JR-073-22-NURE replaces expert judgement report with classification FIRES-JR-085-16-NURE.

## 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

#### **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).

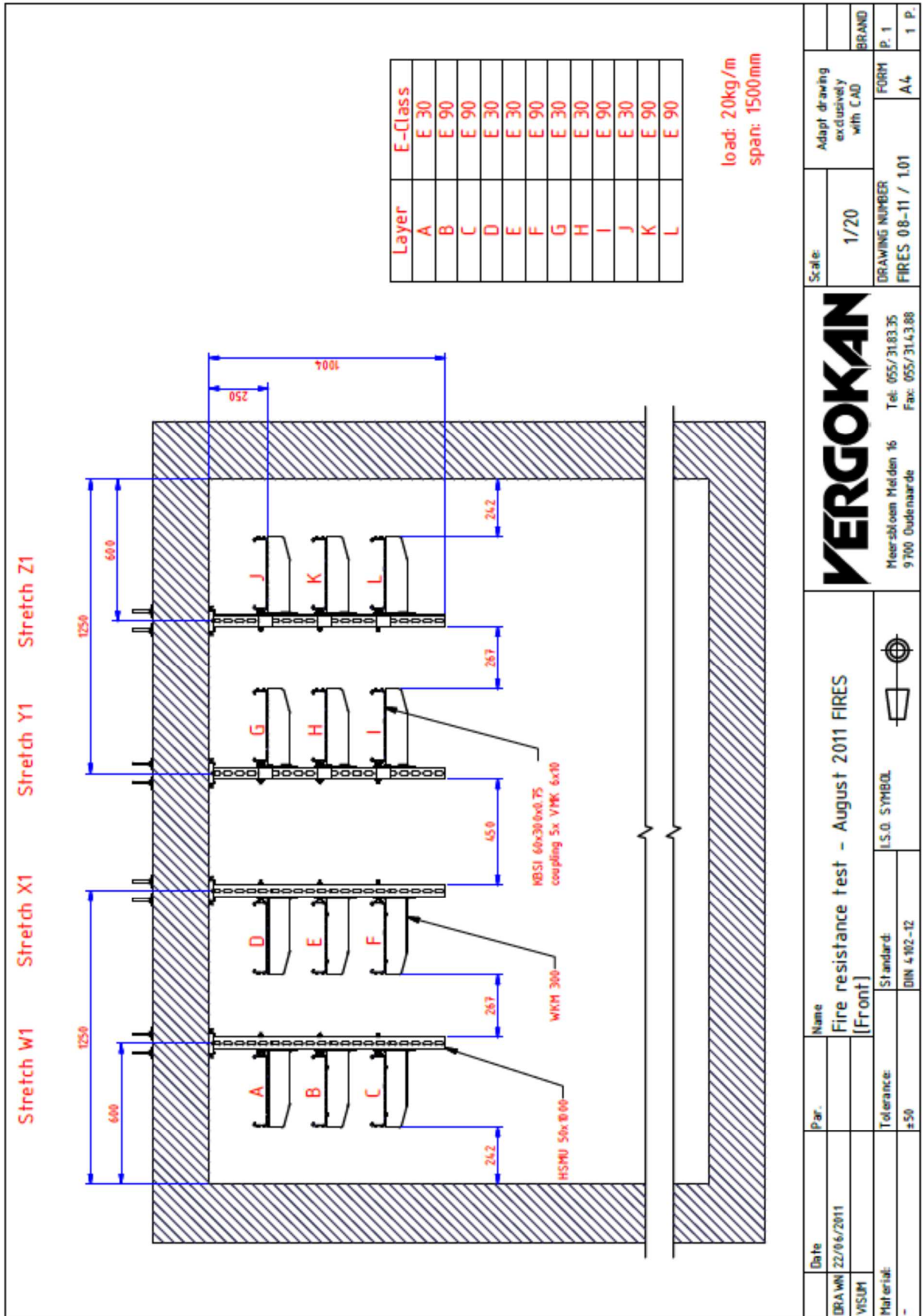
The length of cables was 5,5 m and 4,0 m from that was exposed to fire.

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.



Assembly of the tested structure, more information in the test report [1].





### 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, Slovak Republic	VERGOKAN, Oudenaarde, Belgium	FIRES-FR- 171-11-AUNE	17. 08. 2011	STN 92 0205

#### 3.2 TEST RESULTS

Test report No. /Test method	Specimen No.	Cables	Producer	Track No.	Time to first failure / interruption of conductor
[1] STN 92 0205	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
	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 ČSN 73 0895: 2016

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.

Used cables DÄTWYLER by test are classified as follows:

Type of 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 type of 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> .	<b>P90-R</b>	n x ≥ 1,5 mm <sup>2</sup> n ≥ 1 <b>P60-R</b>
	(N)HXH FE180 E30-E60 4x50 RM	Consoles in spacing of 1500 mm. Non-standard track X1-D and X1-E.	<b>P60-R</b>	
(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> .	<b>P90-R</b>	n x ≥ 1,5/1,5 mm <sup>2</sup> n ≥ 1 <b>P90-R</b>
	(N)HXCH FE180 E30-E60 4x50 RM/25	Consoles in spacing of 1500 mm. Non-standard track W1-A and X1-E.	<b>P90-R</b>	
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.	<b>P15-R</b>	n x 2 x ≥ 0,8 mm n ≥ 2 <b>P15-R</b>
(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> .	<b>P90-R</b>	n x ≥ 1,5 mm <sup>2</sup> n ≥ 1 <b>P90-R</b>
	(N)HXH FE180 E90 4x50 RM	Consoles in spacing of 1500 mm. Non-standard track W1-C and X1-F.	<b>P90-R</b>	
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.	<b>P15-R</b>	n x 2 x ≥ 0,8 mm n ≥ 2 <b>P15-R</b>
(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> .	<b>P90-R</b>	n x ≥ 2,5/2,5 mm <sup>2</sup> n ≥ 1 <b>P90-R</b>
	(N)HXCH FE180 E90 4x50 RM/25	Consoles in spacing of 1500 mm. Non-standard track W1-B and X1-F.	<b>P90-R</b>	





Used cables Prysmian by test are classified as follows:

Type of 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 type of 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.	P60-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 1 P60-R
	(N)HXH-J E30 4x50 RM		P60-R	
JE-H(St)H E30	JE-H(St)H E30 2x2x0,8	Non-standard track Y1-G and Z1-J.	P60-R	n x 2 x ≥ 0,8 mm n ≥ 2 P60-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.	P60-R	n x ≥ 1,5/1,5 mm <sup>2</sup> n ≥ 1 P60-R
	(N)HXCH E30 4x50 RM/25		P60-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.	P90-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 1 P60-R
	(N)HXHX-J E90 4x50 RM		P60-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.	P90-R	n x ≥ 2,5/2,5 mm <sup>2</sup> n ≥ 1 P90-R
	(N)HXCHX E90 4x50 RM/25		P90-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, is classified to classes according to achieved test results of tested cables at tracks. Other classification is not allowed.



## 4.2 FIELD OF DIRECT APPLICATION

This classification is valid for the following end use applications:

### General

- cable track functionality shall not be affected negatively by adjacent building or technological elements, another cable tracks, piping tracks or other technological device;
- test results are applicable only in case the cable track in practice will be fixed to a building construction which is sufficient in term of its statics performance for period of functionality in fire, i. e. the element meets the loadbearing criterion R according to ČSN EN 13501-2;
- if the cable track is fixed directly to a building construction element made of material such as concrete, bricks, aerated concrete or steel supporting structure, such anchoring components shall be used, which, in term of their properties, are suitable with respect to used material, used installation method, required thermal attack curve, required period of functionality in fire, mechanical actions caused by cable support construction with cables;
- the cable track can be fixed for example by means of bolted joints, riveted joints, welded joints, joints of direct assembling (inserting). Suitability of fixing type for the purpose shall be demonstrated by a test or statics calculation;
- if it is not possible to fix the cable route directly to element of building construction, an additional construction may be used. Design of such construction shall apply all principles for projection of cable support construction withstanding the fire effects for specified period. It is possible to verify the additional construction properties by means of a calculation in accordance with Eurocodes or by a test. When fixing the additional construction to an element of building construction all requirements given in previous clauses apply.
- the number of cables placed on the cable support construction in horizontal arrangement is limited just by area disposition, but the maximal load acting on the cable support construction, stated by manufacturer, shall not be exceeded. Manufacturer specification of the number of cables, if available, shall also be respected;
- if cables run freely they need not be fixed by clips when they are arranged horizontally on trays or ladders;
- on their whole length the cables shall be installed in such a manner, that the minimal bend radius stated by manufacturer is observed;
- also cables without functionality in fire may be placed on cable system together with cables with functionality in fire but only under the condition, that minimum distance of 200 mm is observed between them or they are separated by means of suitable fire screen. In addition the common cable management is possible only in case when each power cable or conductor is insulated to maximal voltage used in power management system;
- communication, data and signal cables shall be placed in such a way, that at all events a distance minimum of 100 mm is provided between those cables and power cables;

When the cable routes are installed in sloped or vertical position following shall be met:

- in points where it turns from horizontal to other orientation the cable route shall be effectively attached and in orientation other than horizontal the cables shall be fixed firmly also in places of bending whereas the allowable support position maximal distances and the allowable minimal bend radius are retained;
- cable tracks installed in arrangement with the angle between the horizontal plane and their longitudinal axis is less than 20° are considered as horizontal;

### Cables and cable support systems

- test results are applicable to tested cable route, it means to combination of type, cross-section and manufacturer of the cable and of type and manufacturer of the cable support system. Further direct application possibilities are given in following statements.

Test results for power cables are directly applicable as follows:

- where test specimens according to ČSN 73 0895 are used, the worst test result obtained from testing of these specimens applies to all dimensions and tested arrangement method of tested cable;
- if cables with maximal cross-section of the core less than 50 mm<sup>2</sup> are tested, the worst test result applies to all cross-sections of cables in range of tested cross-sections;
- test result obtained from testing of cables with five or four conductors applies also to cables of the same type with smaller or greater number of conductors;
- in case only cables with minimal or maximal tested cross-section passed successfully the test, the test result is applicable only to the same type of cable, section and arrangement method as tested;





Test results obtained from testing of communication or signal cables are directly applicable as follows:

- test results are applicable to all constructions of specified type with diameter (cross-section) and number of cores equal to or greater than that of test specimen;

Test results obtained from testing of metallic data cables are directly applicable as follows:

- test results from perimeter integrity test apply for tested arrangement method for all dimensions of specified type with diameter (cross-section) and number of cores equal to or greater than that of test specimen;

Test results for cable supports systems are directly applicable as follows:

- test results obtained from testing of installation on cable trays or cable ladders suspended on floor suspension devices are allowed to be applied to support constructions attached to a wall;
- In case the test was carried out with cable tray or ladder with jointing point placed in the middle between support constructions ( $\pm 5\%$  of their distance) the test results apply to any position of jointing point between support constructions;
- test results from test with specimen of cable trays or ladders are applicable also to event when the surface is treated with a colour painting or spraying in layer of surface density  $< 1,0 \text{ kg/m}^2$  or of thickness  $< 1,0 \text{ mm}$  in accordance with ČSN EN 13501-1. When the thickness or surface density of this layer is of greater value it is necessary to carry out a test according to this standard;
- when test specimens of support constructions made in conformity with EN 61537 ed. 2 form steel with surface treatment are used, the test results are directly applicable to support constructions of the same type made of stainless steel but not vice versa. However, it is necessary to demonstrate the mechanical characteristics of stainless steel in range of test temperatures are equal to or greater than those of steel used in test specimens.

For non-standard cable support constructions the test results are directly applicable as follows:

- results from tests carried out on cable trays and cable ladders are applicable to all cable trays and cable ladders of identical construction of smaller width than tested.
- direct application of test results from test on a test specimen is not possible to different design nor to any other product made by another manufacturer;

#### 4.3 FIELD OF EXTENDED APPLICATION

- test result obtained for test specimen of cable tray lengths and cable ladder lengths is applicable to all parts of system, which are used for changing of direction and dimension or for ending of lengths. Typical examples of system parts are elbows, T shaped parts, cross-over parts;
- application of test results for cable tray jointing and cable ladder jointing other than as specified in standard;
- test results obtained for cable system with cable trays are applicable also for usage of coverings of cable trays. However these shall be ensured against movement. It is necessary to include the cover mass into overall load;
- application of test results to different fire scenario than used in test. However, the fire scenario upon which the test results are to be applied shall be as follows: its temperature value for each point of the temperature-time curve has to be lower than respective temperature value for fire scenario used in the test at the same time. When comparing two fire scenarios, it is possible to move the scenarios (their courses) each other along the time axis;
- **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;**
- **is possible use the new type of spacer TSU50 instead of spacer HDTSU50;**
- **is possibly change the construction of tested console (base of console) type HDHSMU in accordance with construction drawings in part 6.4.**



4.4 CONSTRUCTION DRAWINGS

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	reference
9	3	44.001	Cable tray with interlocking ends	[KBSI 60x---x100]
8	11	VMK 6x10	Toothed round head bolt/nut	[VMK 6x10]
7	3	B 10x80 (DIN 933)	Bolt	[B 10x80]
6	3	TSU PROTO_01	Spacer	[TSU 50]
5	1	HSMU PROTO_03	Ceiling profile: U-shaped	[HSMU 50x----]
4	2	-	Fire resistant plug	M 10
3	6	CRO 10 (DIN 9029)	Flat giant washer	[CRO 10]
2	5	M 10 (DIN 934)	Nut	[M 10]
1	3	4554.7	heavy joined bracket	[VMK ---]
no	qty	drawing	description	reference

Meerslooten Melden 16 Tel: 055/3183.35  
9700 Oudenaarde Fax: 055/3143.88

Date	Par.	Name	Scale:	Adapt drawing exclusively with CAD	FORM P. 1
DRAWN 23/03/2011		Fire resistance - june 2011 FIRES	1/10		
VISUM		Without threaded rod, with KBSI 60x---x100	DRAWING NUMBER		
Material:	Tolerance:	Standard:	FIRES 06-11		
-	+50	DIN 4102-12			



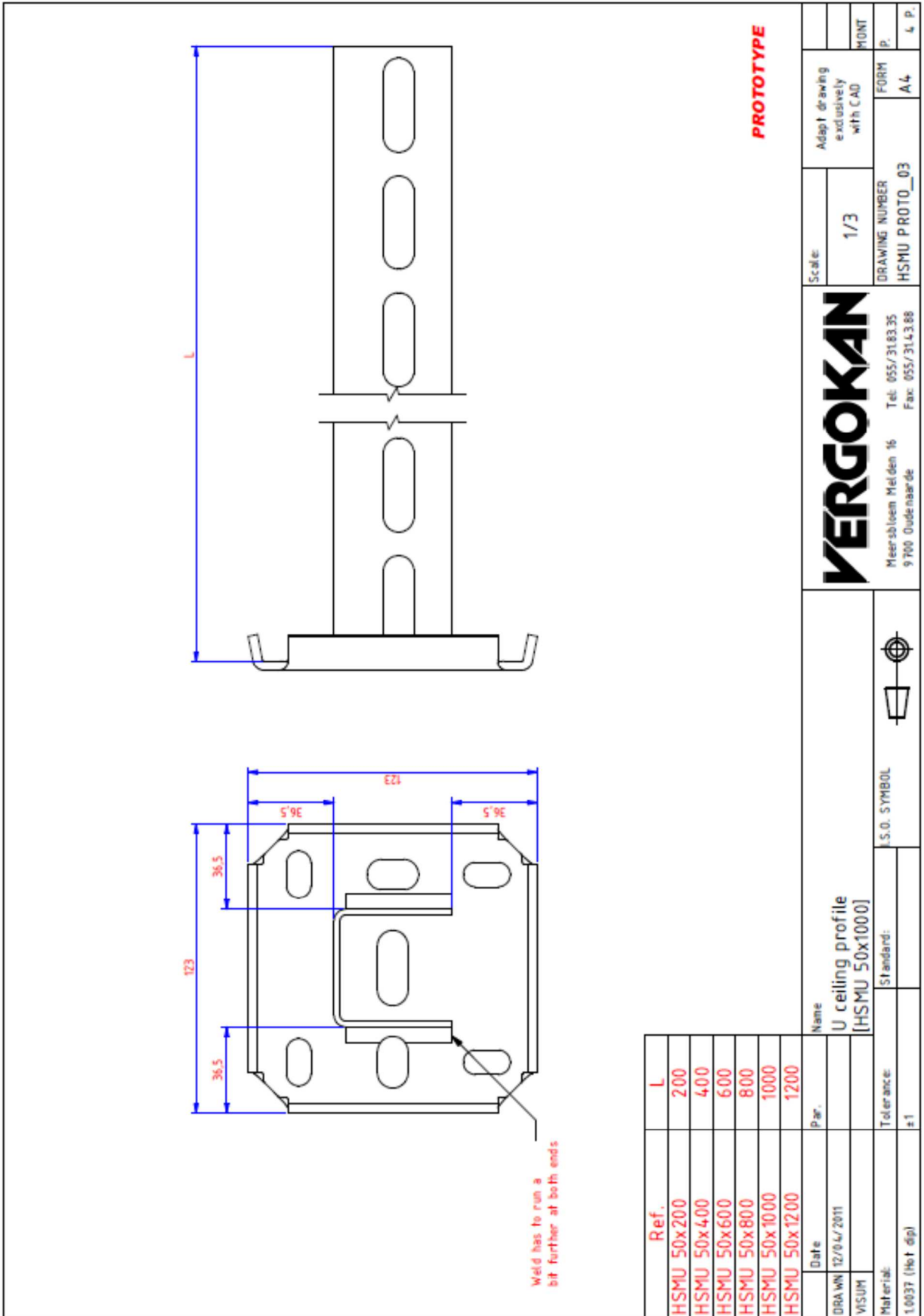


1	A	Aangepaste afwerkpatroon (NF 888 80075x1 tot 25/05/2010)	25/05/2010	Fabrik	GET.	-	VISUM
Aantal		Mtz.		Omschrijving		Schied : 1/5	
				Telering enkel m.b.v. CAD programma's		FORM 05/MS k. 11	
				PLANNUMMER 4.4.001 / 4 / -		KSAAN	
				Tel. 055/314335		k. 11	
				Fax. 055/314348		12 k.	

**NOT FOR PRODUCTION**

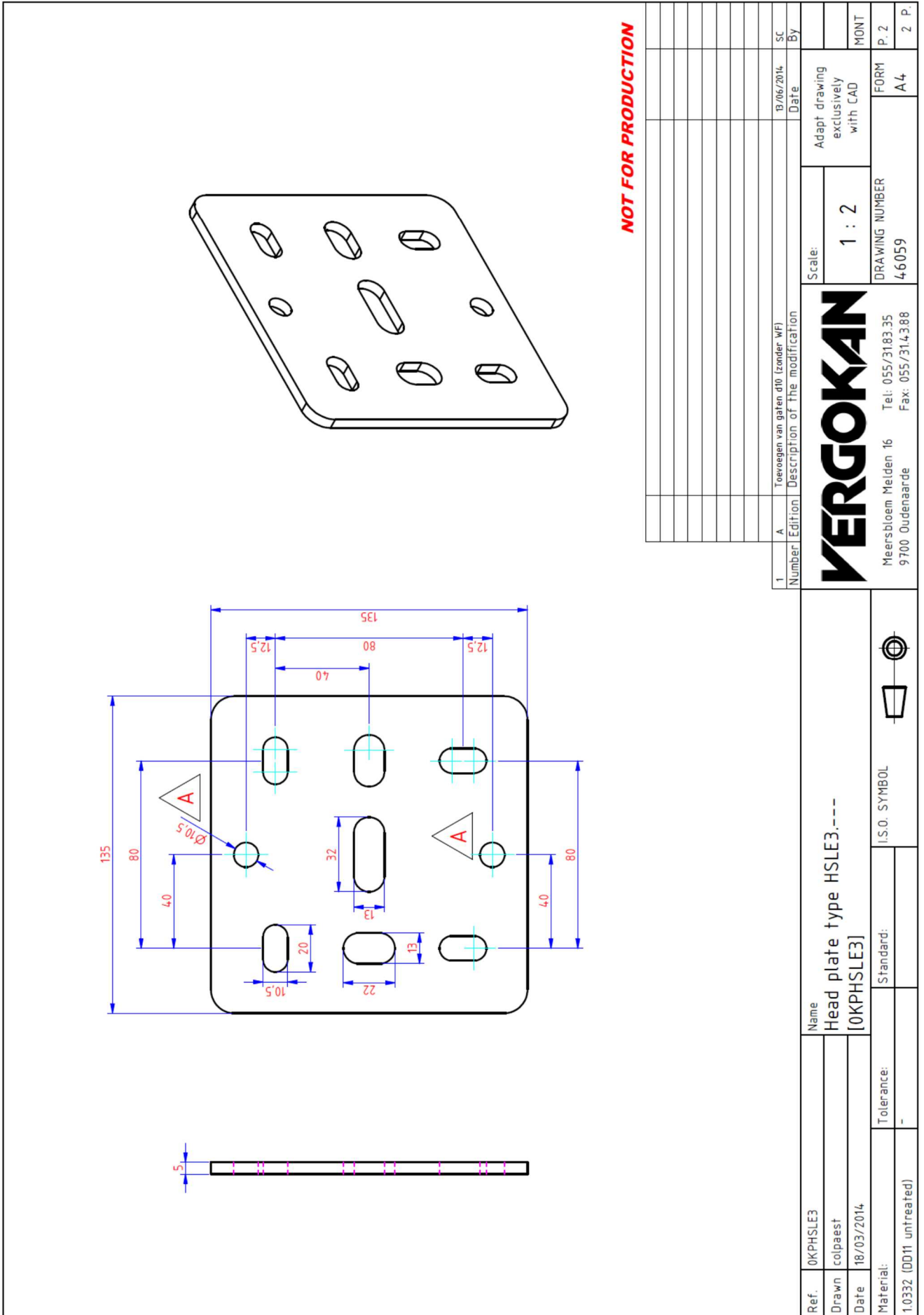
Naam	Datum	Par.	Benoeming		
Get. Van Compaschot	02-01-08	<wvc>	Kabelbaan ineenschuifbaar Perforatiepatronen		
Material: 1.0037 - Sandsis1.1r	Tolerantie: 10.5		Norm: -		











**NOT FOR PRODUCTION**

1	A	Toevoegen van gaten d10 (zonder WF)	13/06/2014	SC	By
Number		Edition		Description of the modification	
		Scale:		Adapt drawing exclusively with CAD	
		1 : 2		FORM P. 2	
		DRAWING NUMBER		A4	
		4-6059		2 P.	

**VERGOKAN**

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

Ref.	OKPHSLE3	Name	Head plate type HSLE3.---
Drawn	colpaest		
Date	18/03/2014		
Material:	1.0332 (DD11_untreated)	Tolerance:	-
		Standard:	I.S.O. SYMBOL





**NOT FOR PRODUCTION**

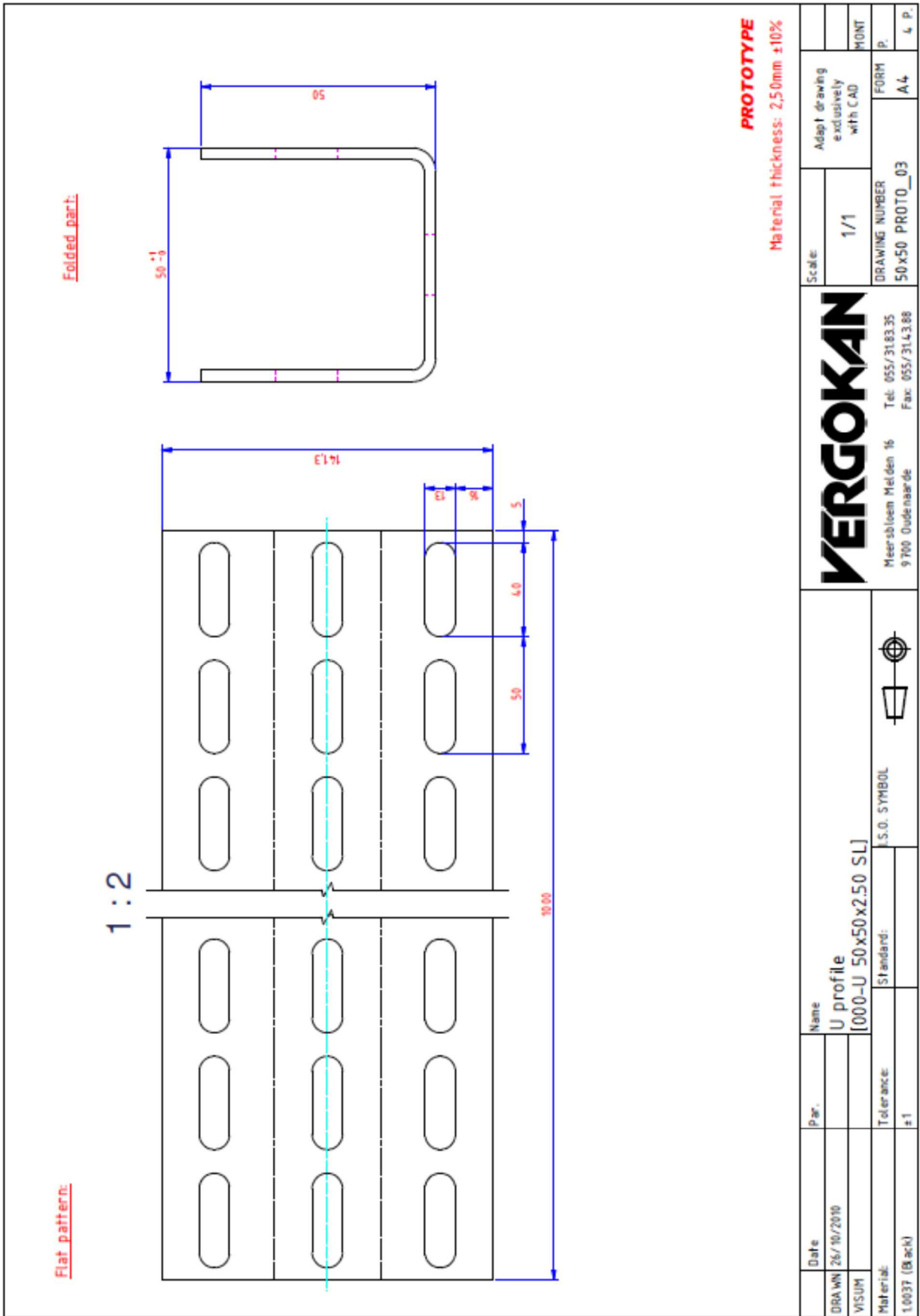
Ref.	L
HDHSMU50.200	200
HDHSMU50.300	300
HDHSMU50.400	400
HDHSMU50.500	500
HDHSMU50.600	600
HDHSMU50.800	800
HDHSMU50.1000	1000
HDHSMU50.1200	1200
HDHSMU50.1500	1500

Ref.	HDHSMU50.----	Name	Ceiling profile medium heavy, U shape [HDHSMU50.1000]
Drawn	Paul	Note	
Date	11/04/2011		
Material:	1.0332 (0011 hot dip)	Tolerance:	-
		Standard:	
		I.S.O. SYMBOL	

Number	1	via ke koppelaar	Description of the modification	
Edition	A			
Date	11/03/2015			
By	notepa			

Scale:	1 : 2	Adapt drawing exclusively with CAD	MONT
DRAWING NUMBER	4.5732	FORM	P. 1
		A4	1 P.

Meersbloem Melden 16    Tel: 055/3183 35  
9700 Oudenaarde        Fax: 055/314.388







1	1	M10x80 (DIN 933)	[B10.80]	Zeskantbout
2	2	M10 (DIN 9021)	[CRO10]	Carrossieronddiel
3	1	M10 (DIN 934)	[M10]	Zeskantmoer
4	1	45728	[TTSU50]	Spaeker, HSHMU 50
item	qty	drawing	reference	description

Parts list	

NOT FOR PRODUCTION

1	A	Herontwerp naar aarleiding brandstreek 2015 (zw WF HDHSHMU00000 - 27 10 2015)	27/03/2015	notepa
Number	Edition	Description of the modification	Date	By

	Scale:	1 : 2	Adapt drawing exclusively with CAD	FORM P.
			DRAWING NUMBER	A.4
			4.5730	3 P.

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

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



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

Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Edition																					
Description of the modification																					
Date																					
Adapt drawing exclusively with CAD																					
Scale:	1/5																				
DRAWING NUMBER	WKM FIRES 05-2011																				
FORM	A4																				
MONT	16 P.																				

		Meer sblom Mel den 16 9700 Oudenaarde		Tel: 055/31.83.35 Fax: 055/31.43.88	
Date	21/03/2011	Name	Heavy joined bracket [000-WKM 100]	S.O. SYMBOL	
Par.		Tolerance:	±1		
Material:	1.0037 (Zwart)	Standard:			





#### 4.5 LABELING OF CABLE TRACK

The contractor shall always label the cable track at the accessible place and by permanent way. Label contains following information:

- the name of individual or legal person whose workers have installed the system;
- indication of cable bearing system which is stated in classification report;
- class of function in fire, number of classification report;
- year of installation of cable bearing system.

If the track is long, it is appropriate to repeat the labelling approximately every 50 m.

#### 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 provided that the product, field of application and standards and regulations are not changed.

Approved by:

Ing. Štefan Rástocký  
*Head of the testing laboratory*

Prepared by:

Miroslav Hudák  
*Technician of the testing laboratory*