

## **FUNCTION IN FIRE EXPERT JUDGEMENT REPORT WITH CLASSIFICATION IN FIRES-JR-059-16-NURE**

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

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

**FIRES-JR-059-16-NURE**

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

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

**Prepared by:** FIRES, s.r.o.  
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**Task No.:** PR-16-0102

**Date of issue:** 14. 06. 2016

Reports: 3  
Copy No.: 2

**Distribution list:**

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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 PRAKAB 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-052-11-NURE Issue 2, issued on 14. 12. 2011 with validity until 31. 08. 2016. Document FIRES-JR-059-16-NURE replaces expert judgement report with classification FIRES-JR-052-11-NURE Issue 2.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1 GENERAL

The element, Cable bearing system VERGOKAN with cables DÄTWYLER 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 DÄTWYLER 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<sup>-1</sup>. Tested trays were KBSI 60x400x1,00 (new trademark is KBSI60.400.100).

#### **Cable trays KBSTI**

Cable trays are made of steel sheet 1,0 mm thick. Height of side wall is 60 mm. Width of tray is 300 mm or 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 3 pcs of screws VMK 6x10 (new trademark is VMK6.10). Maximum load of trays is 20 kg.m<sup>-1</sup>. Tested trays were KBSTI 60x300x0,75 (new trademark is KBSTI60.300.075) and KBSTI 60x400x1,00 (new trademark is KBSTI60.400.100).

#### **Brackets WKM**

Brackets are made of steel sheet 2,5 mm thick. Dimensions of the head plate 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) and 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:

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 (6x);  
 cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 (6x).

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

cable (N)HXCH FE 180 E90 4x50 RM/25 (2x);  
 cable (N)HXCH FE 180 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.

### 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- 172-11-AUNE	18. 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)HXH FE180 E30-E60 4x50 RM - Dätwyler	X2 - M	93 minutes no failure / interruption
	S2	cable (N)HXH FE180 E30-E60 4x50 RM - Dätwyler	X2 - M	93 minutes no failure / interruption
	S3	cable (N)HXH FE180 E90 4x50 RM - Dätwyler	X2 - N	93 minutes no failure / interruption
	S4	cable (N)HXH FE180 E90 4x50 RM - Dätwyler	X2 - N	93 minutes no failure / interruption
	S5	cable (N)HXCH FE180 E90 4x50 RM/25 - Dätwyler	X2 - O	93 minutes no failure / interruption
	S6	cable (N)HXCH FE180 E90 4x50 RM/25 - Dätwyler	X2 - O	93 minutes no failure / interruption
	S7	cable (N)HXCH FE180 E30-E60 4x50 RM/25 - Dätwyler	Y2 - P	93 minutes no failure / interruption
	S8	cable (N)HXCH FE180 E30-E60 4x50 RM/25 - Dätwyler	Y2 - P	93 minutes no failure / interruption
	S9	cable (N)HXCH FE180 E30-E60 4x1,5 RE/1,5 - Dätwyler	Y2 - Q	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	S10	cable (N)HXCH FE180 E30-E60 4x1,5 RE/1,5 - Dätwyler	Y2 - Q	93 minutes no failure / interruption
	S11	cable (N)HXH FE180 E30-E60 4x1,5 RE - Dätwyler	Y2 - Q	93 minutes no failure / interruption
	S12	cable (N)HXH FE180 E30-E60 4x1,5 RE - Dätwyler	Y2 - Q	73 minutes
	S13	cable (N)HXCH FE180 E90 4x2,5 RE/2,5 - Dätwyler	Y2 - R	93 minutes no failure / interruption
	S14	cable (N)HXCH FE180 E90 4x2,5 RE/2,5 - Dätwyler	Y2 - R	93 minutes no failure / interruption
	S15	cable (N)HXH FE180 E90 4x1,5 RE - Dätwyler	Y2 - R	93 minutes no failure / interruption
	S16	cable (N)HXH FE180 E90 4x1,5 RE - Dätwyler	Y2 - R	93 minutes no failure / interruption
	S17	cable (N)HXCH FE 180 E90 4x50 RM/25 - Prakab	Z2 - U	93 minutes no failure / interruption
	S18	cable (N)HXCH FE 180 E90 4x50 RM/25 - Prakab	Z2 - U	81 minutes
	S19	cable (N)HXCH FE 180 E90 4x1,5 RE/1,5 - Prakab	Z2 - U	93 minutes no failure / interruption
	S20	cable (N)HXCH FE 180 E90 4x1,5 RE/1,5 - Prakab	Z2 - U	93 minutes no failure / interruption
	S52	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	X2 - M	35 minutes
	S53	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	X2 - N	24 minutes
	S54	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	X2 - O	23 minutes
	S55	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	Y2 - P	29 minutes
	S56	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	Z2 - S	33 minutes
	S57	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	Z2 - S	93 minutes no failure / interruption
	S58	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	Z2 - S	30 minutes
	S59	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	Z2 - S	93 minutes no failure / interruption
	S60	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	Z2 - T	41 minutes
	S61	cable JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8 -Dätwyler	Z2 - T	51 minutes
	S62	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	Z2 - T	35 minutes
	S63	cable JE-H(St)H...Bd FE180 E30-E90 2x2x0,8 - Dätwyler	Z2 - T	93 minutes no failure / interruption
	S64	cable JE-H(St)H FE180 E90 2x2x0,8 - Prakab	Z2 - U	93 minutes no failure / interruption
	S65	cable JE-H(St)H FE180 E90 2x2x0,8 - Prakab	Z2 - U	12 minutes

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

Specimens S1 – S20 were tested by three-phase voltage supply 3 x 230/400V with bulbs 240V / 60 W. Specimens S52 – S65 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 by company DÄTWYLER and PRAKAB 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 KBSTI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track X2-M and Y2-Q.	P 60-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXH FE180 E30-E60 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 X2-M and X2-N.	P 15-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 15-R



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)HXCH FE180 E30-E60	(N)HXCH FE180 E30-E60 4x1,5 RE/1,5	In cable trays KBSTI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Y2-P and Y2-Q.	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	
(N)HXH FE180 E90	(N)HXH FE180 E90 4x1,5 RE	In cable trays KBSTI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track X2-N and Y2-R.	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	
(N)HXCH FE180 E90	(N)HXCH FE180 E90 4x2,5 RE/2,5	In cable trays KBSTI60.300.075. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM300. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track X2-O and Y2-R.	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	
JE-H(St)HRH... Bd FE180 E30-E90	JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8	Non-standard track X2-O and Y2-P.	P 15-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 15-R
JE-H(St)H... Bd FE180 E30-E90	JE-H(St)H...Bd FE180 E30-E90 2x2x0,8	In cable trays KBSTI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Z2-S.	P 30-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 30-R
JE-H(St)HRH... Bd FE180 E30-E90	JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8		P 30-R	
JE-H(St)H... Bd FE180 E30-E90	JE-H(St)H...Bd FE180 E30-E90 2x2x0,8	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Z2-T.	P 30-R	n x 2 x ≥ 0,8 mm n ≥ 2 P 30-R
JE-H(St)HRH... Bd FE180 E30-E90	JE-H(St)HRH...Bd FE180 E30-E90 2x2x0,8		P 30-R	





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)HXCH FE 180 E90	(N)HXCH FE 180 E90 4x1,5 RE/1,5	In cable trays KBSI60.400.100. Ceiling consoles HDHSMU50.1000 wits brackets HDWKM400. Loading 20 kg.m <sup>-1</sup> . Consoles in spacing of 1500 mm. Non-standard track Z2-U.	P 90-R	n x ≥ 1,5 mm <sup>2</sup> n ≥ 2 P 60-R
	(N)HXCH FE 180 E90 4x50 RM/25		P 60-R	
JE-H(St)H FE180 E90	JE-H(St)H FE180 E90 2x2x0,8		Without classification	Without classification

The element, cable bearing system VERGOKAN – cable trays with accessories (consoles, brackets, screws etc.) with power and communication halogen free cables by company DÄTWYLER and PRAKAB 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 PRAKAB;**
- 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:

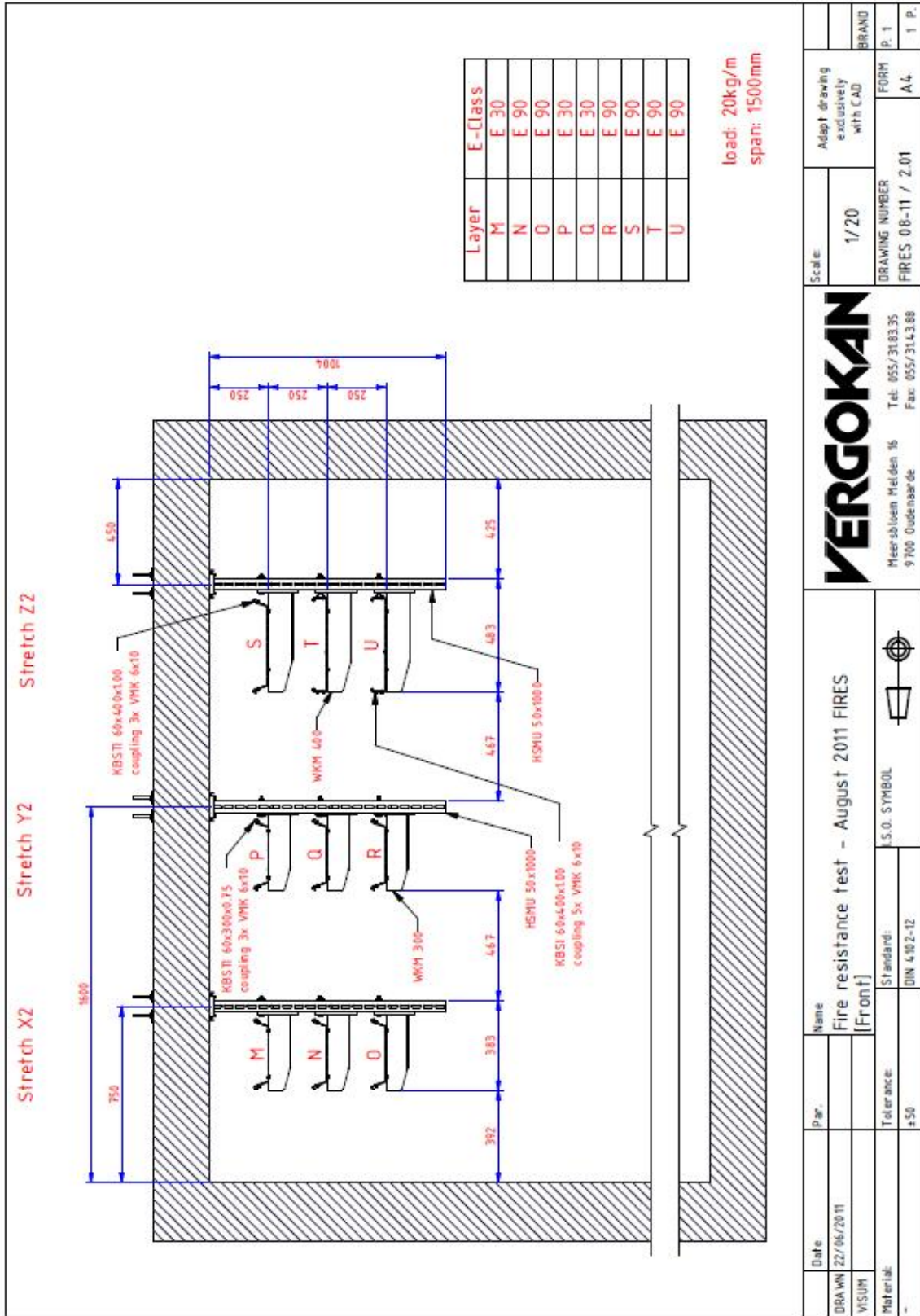
Ing. Štefan Rástocký  
leader of the testing laboratory



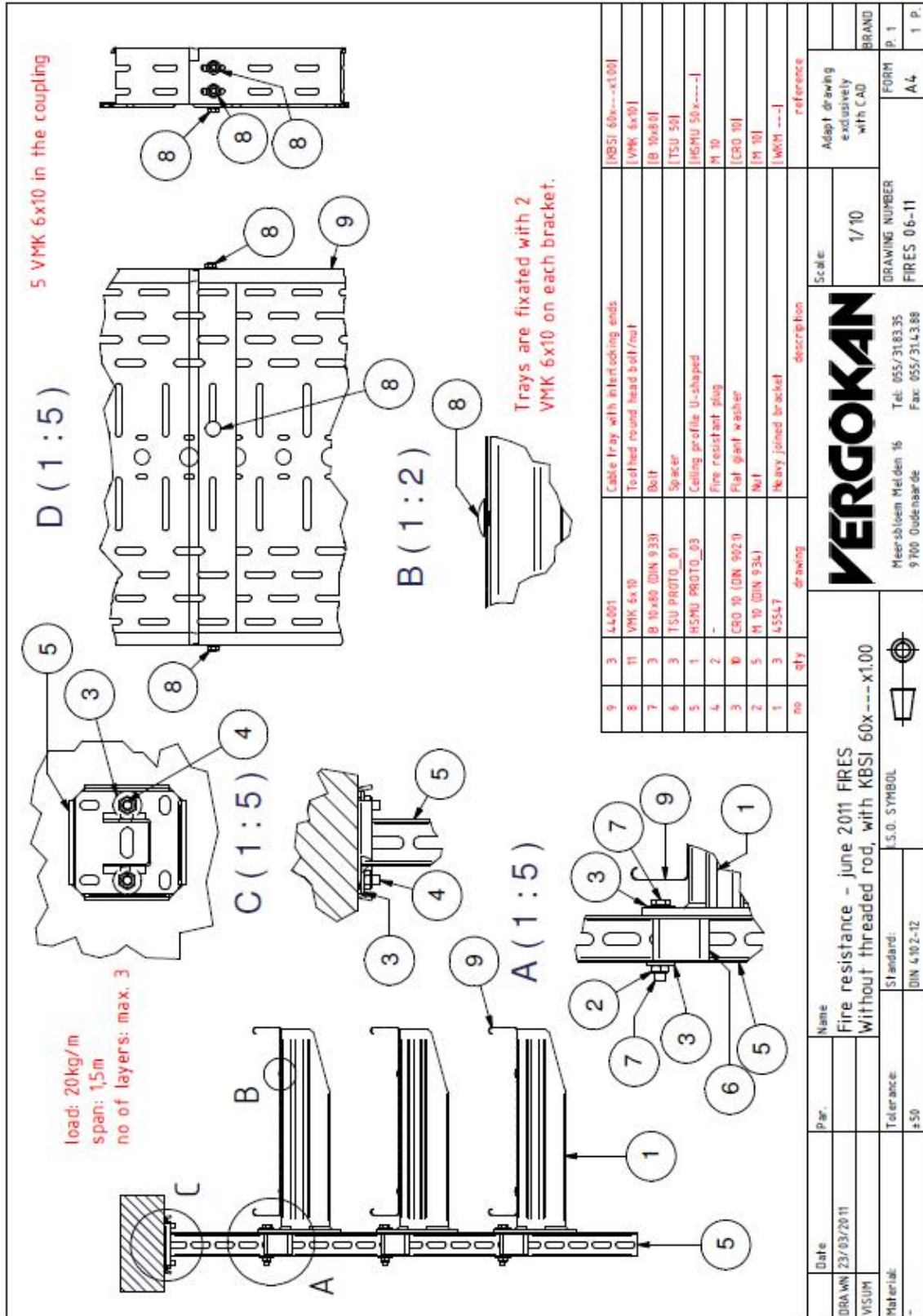
Signed:

Miroslav Hudák  
technician of the testing laboratory





Date:	22/06/2011	Name:	Fire resistance test - August 2011 FIRES
DRAWN:	MSJIM	Par.:	[Front]
Material:	-	Tolerance:	±50
		Standard:	DIN 4102-12
		S.O. SYMBOL:	
		Meersbloem Merden 16 9700 Oudehaarde	
		Tel: 055/318335 Fax: 055/314388	
Scale:	1/20	Adapt drawing exclusively with CAD	BRAND
DRAWING NUMBER	FIRES_08-11 / 2.01	FORM	p. 1
			A4
			1 P.



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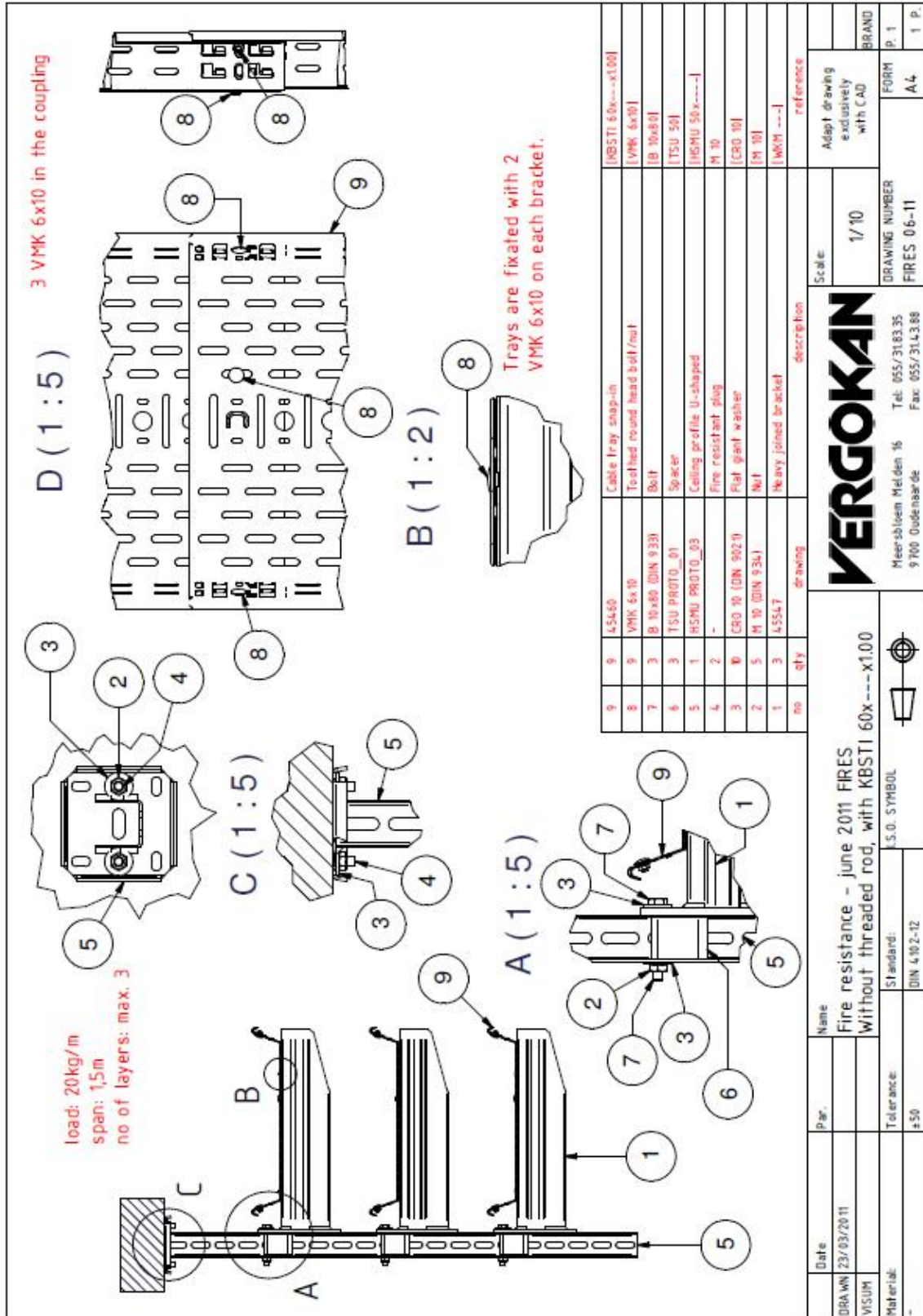
Meersbloem Meiden 16  
9700 Oudenaarde  
Tel: 055/31.83.35  
Fax: 055/31.43.88

Fire resistance - june 2011 FIRES  
Without threaded rod, with KBSI 60x---x1.00

Standard:  
DIN 4102-12

Date: 23/03/2011  
DRAWN: VISUM  
Material: -

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



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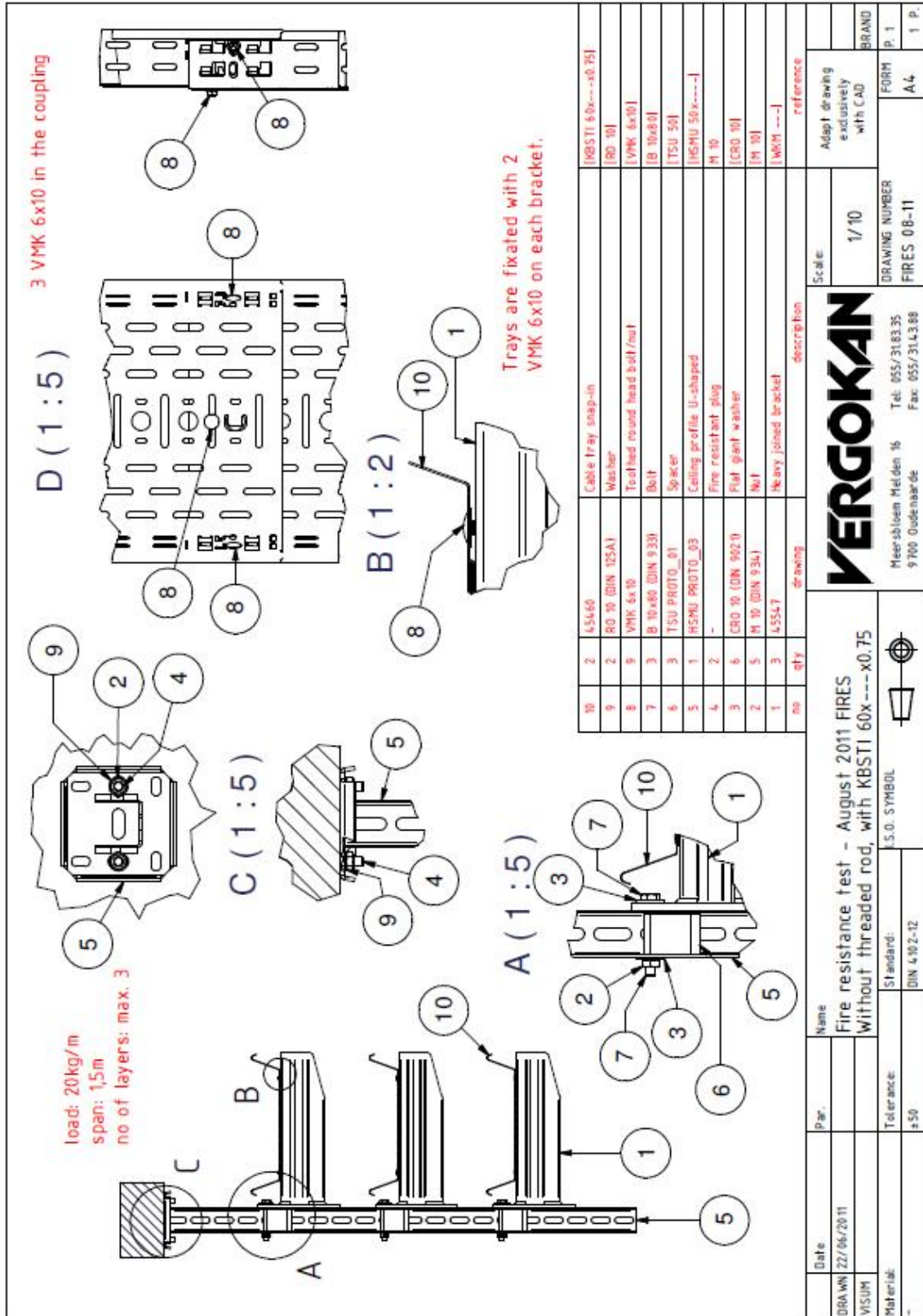
Meersbloem Melden 16  
9700 Oudenaarde  
Tel: 055/31.83.35  
Fax: 055/31.43.88

Fire resistance - June 2011 FIRES  
Without threaded rod, with KBSTI 60x...x100

Date: 23/03/2011  
Par.:  
Tolerance: +50  
Standard: DIN 4102-12  
S.O. SYMBOL

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







Material dikte : 0.8/1/1.25

**NOT FOR PRODUCTION**

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

1	A	Verpakking afleveringspakket (NF 484) (voor best. tot 25/05/2016)	05/05/2016	—	—
Jaar	Nr.	Revisie	Revisie	GET.	VERM.
		Schied : 1/4		FORM GS/MS / 4 / —	
		PLANNUMMER 44.001		k 12	

Tel: 055/214335  
Fax: 055/214348

Naam	Datum	Par.	Benaming	Uits. symbool
Opn. van Comp. noot	02-01-08	<next>	Kabelbaan ineenschuifbaar	
VERM.	—	—	[KBSI 60*---*---*---]	
Automaat	Toleranties		Naam	
L.0037 (Bendingslijst)	—		—	



**NOT FOR PRODUCTION**

1	A	Scherptekening afwerkingspatroon (NF 484) voor type (00 25/05/2010) (07/05/2010)	10/05/2010	-	-
soort	Nr.	omschrijving afwerkingspatroon	datum	get.	revisie
		<b>MERCKMAN</b>			
		Kabelbaan ineenschuurbaar Perforatiepatronen			
		Schaal : 1/5			
		PLANNUMMER 44.001 / 4 / -			
		FORM GS/MS			
		Tel. 055/344335			
		Fax. 055/344338			
		Hoofdstraat 16			
		6705 Oudegraven			
				k. 11	
				12 p.	





**NOT FOR PRODUCTION**

Type	dim WT	dim WT(in)	dim WB	material thickness
KBSTI 60x150	154	125	85	0.6-0.75-1
KBSTI 60x200	204	175	135	0.6-0.75-1
KBSTI 60x250	254	225	185	0.6-0.75-1
KBSTI 60x300	304	275	235	0.75-1
KBSTI 60x400	404	375	335	0.75-1

**VERGOKAN**  
 Meer sbl oem Melden 16  
 9700 Oudenaarde  
 Tel: 055/31.83.35  
 Fax: 055/31.43.88

Schaal:    
 Tekening enkel m.b.v. CAD aangepast  
 PLANNUMMER: 4.54-60  
 FORM: A4  
 P. 10  
 12 P.

Daum:    
 Par.:    
 GE.T.: 24/06/2010  
 VISUM:    
 Materiaal:    
 1.0037 (Sandzink)

Benaming: **KBS cable tray clickable**  
 [KBSTI 60x---X---]  
 Norm: I.S.O. SYMBOL  
 IEC 61537  
 Toleranties:    
 -





KBSTI 300

KBSTI 400

KBSTI 150

KBSTI 200

KBSTI 250

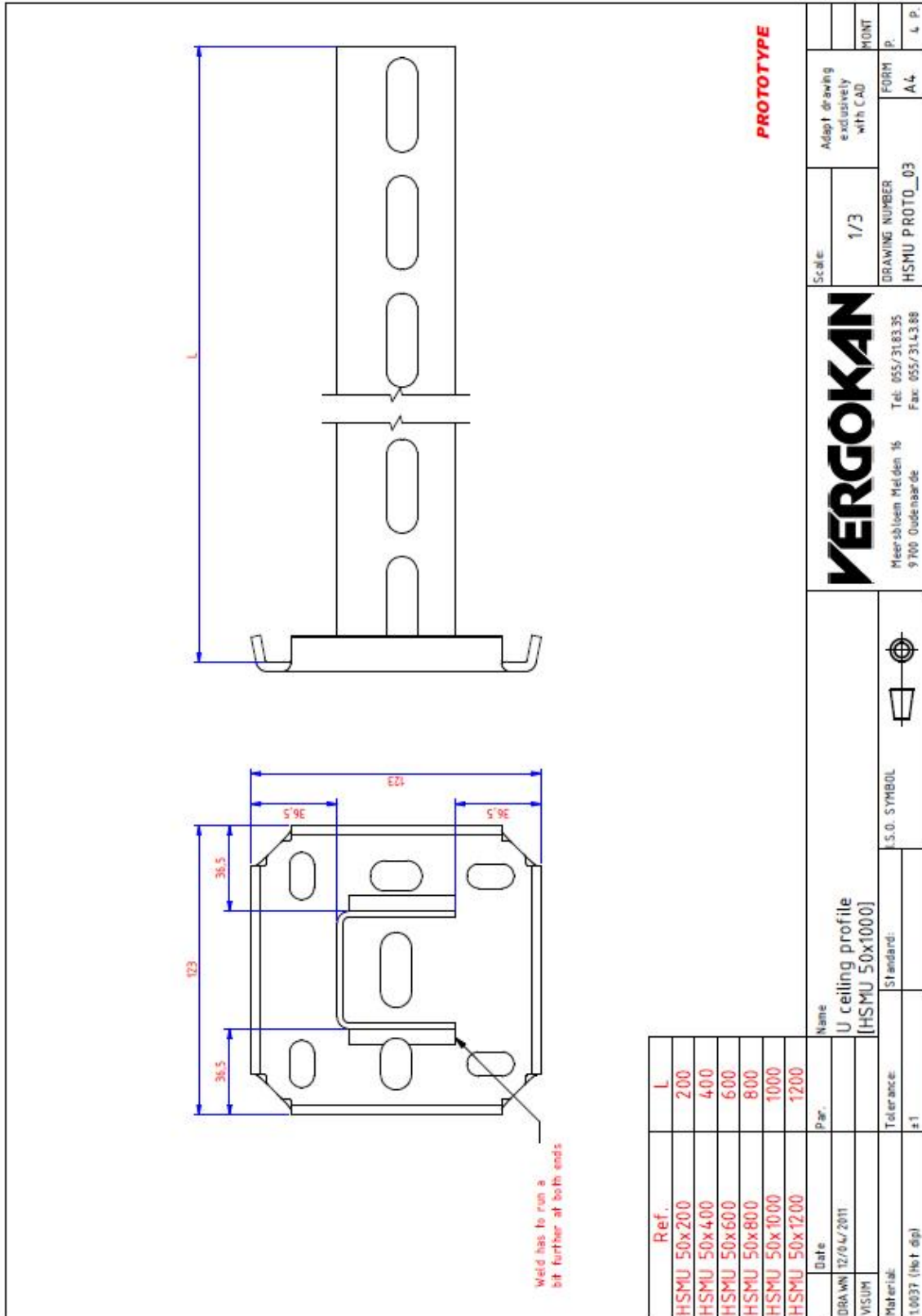
**NOT FOR PRODUCTION**

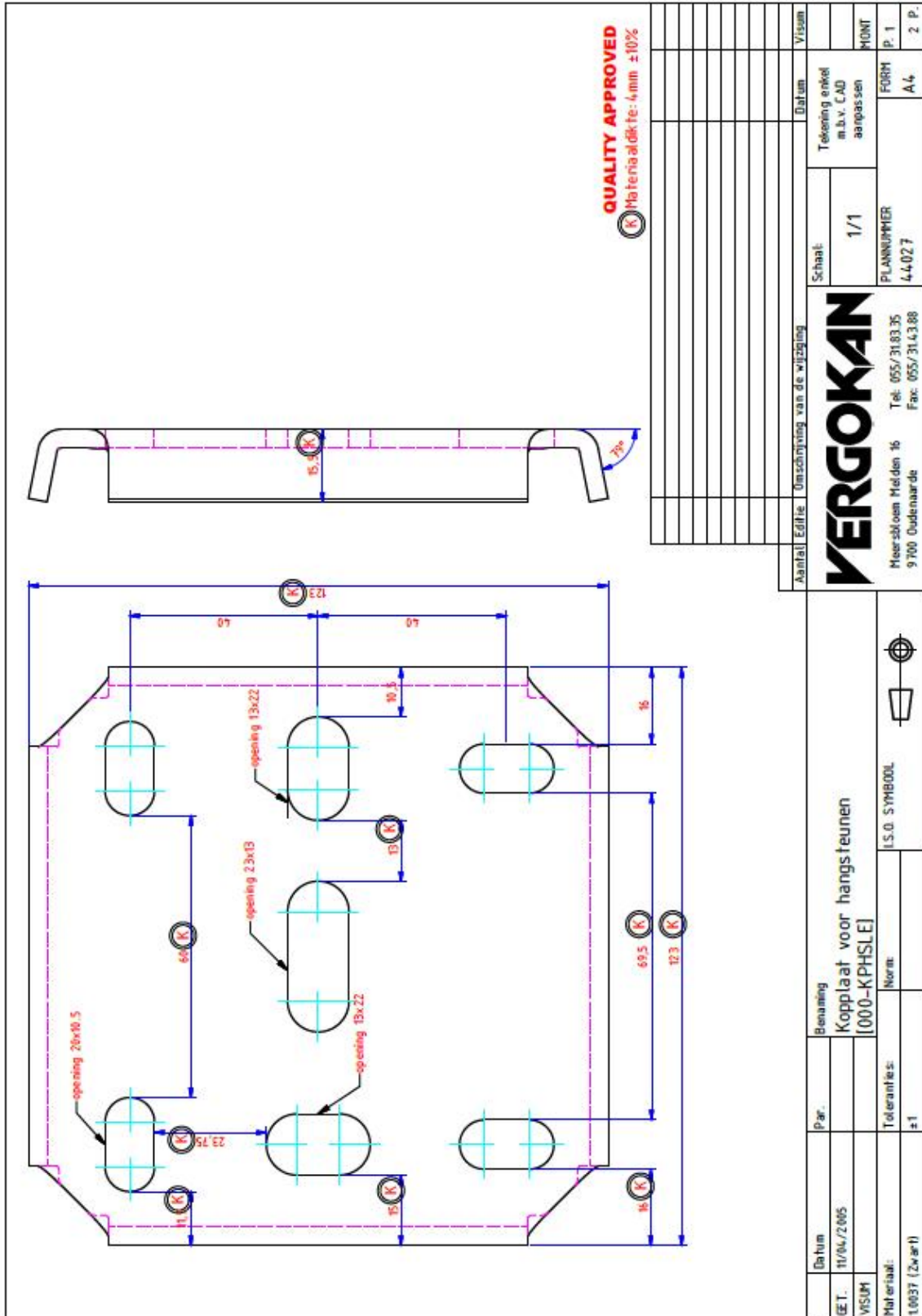
Revisie tabel : zie P1

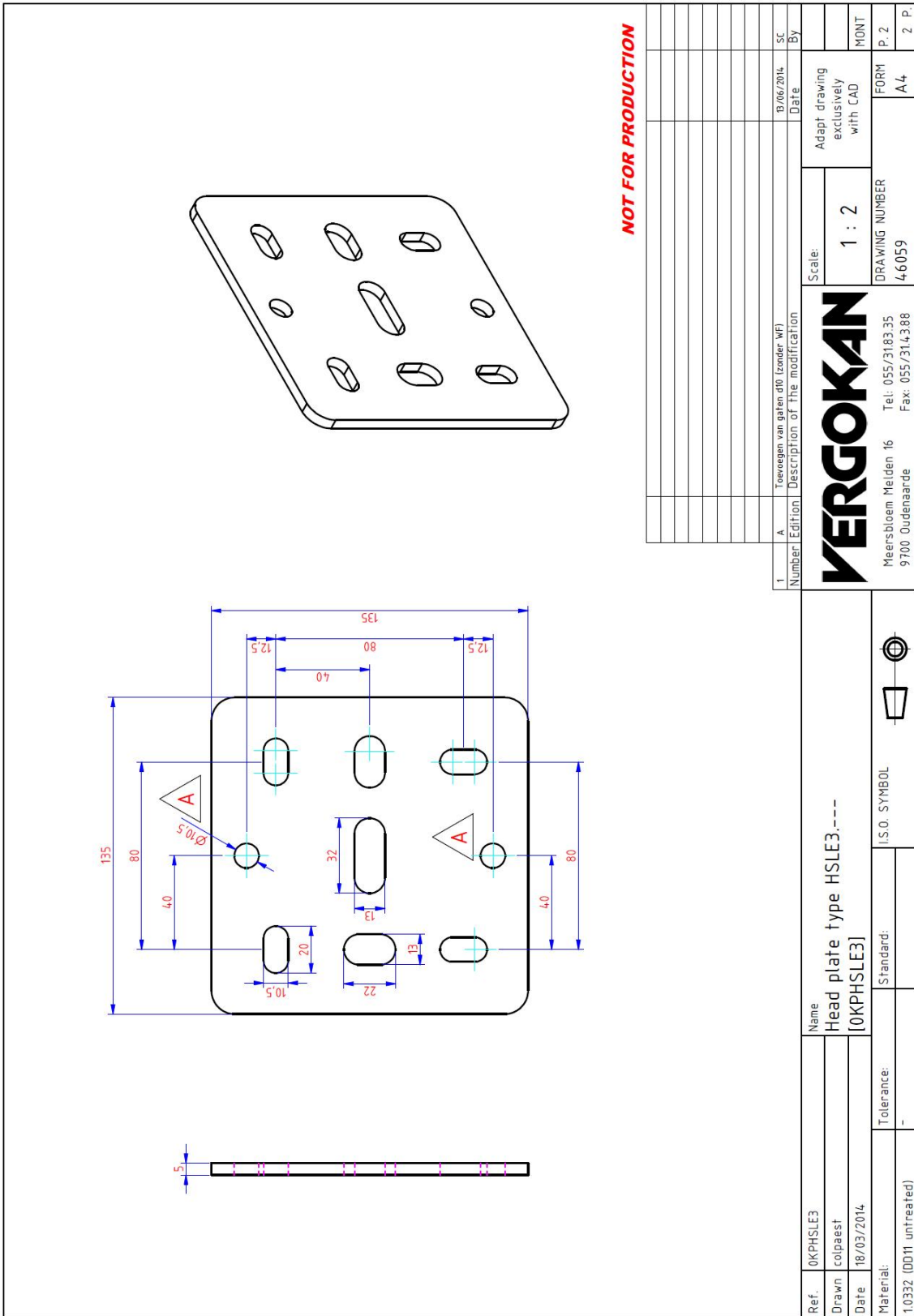
Datum	Par.	Benaming	Schaal:	Tekening eekst	KBAAN
GET. 3/03/2009		Bodemperforatie : KBSTI 60x x	1/5	m.b.v. CAD	
VISUM		Bottom perforation	PLAANNUMMER	aangepassen	FORM P. 12
Materiaal:		Norm:	45460		A4
1.0037 (Sendzimir)		S.S.O. SYMBOL			12 P.

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 9700 Oudenaarde Fax: 055/31.43.88







**NOT FOR PRODUCTION**

Ref.	0KPHSLE3	Name	Head plate type HSLE3:---
Drawn	colpaest		
Date	18/03/2014		
Material:	1.0332 (0011 untreated)	Tolerance:	-
		Standard:	I.S.O. SYMBOL
Number		Edition	
1	A	Toevoegen van gaten d10 (zonder wfi)	
Description of the modification			
18/06/2014	SC	Date	
	By		
Scale:		Adapt drawing exclusively with CAD	
1 : 2			
DRAWING NUMBER		FORM	
46059		A4	
		P. 2	
		2 P.	

**VERGOKAN**

Meersbloem Melden 16  
9700 Oudenaarde  
Tel: 055/318335  
Fax: 055/314388



**NOT FOR PRODUCTION**

1	A	vlakke kopplaat	Description of the modification
Number		Edition	
		Date	By
		11/03/2015	notepa

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  
9700 Oudenaarde

Tel: 055/3183.35  
Fax: 055/314.388

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

Standard: I.S.O. SYMBOL

Tolerance: -

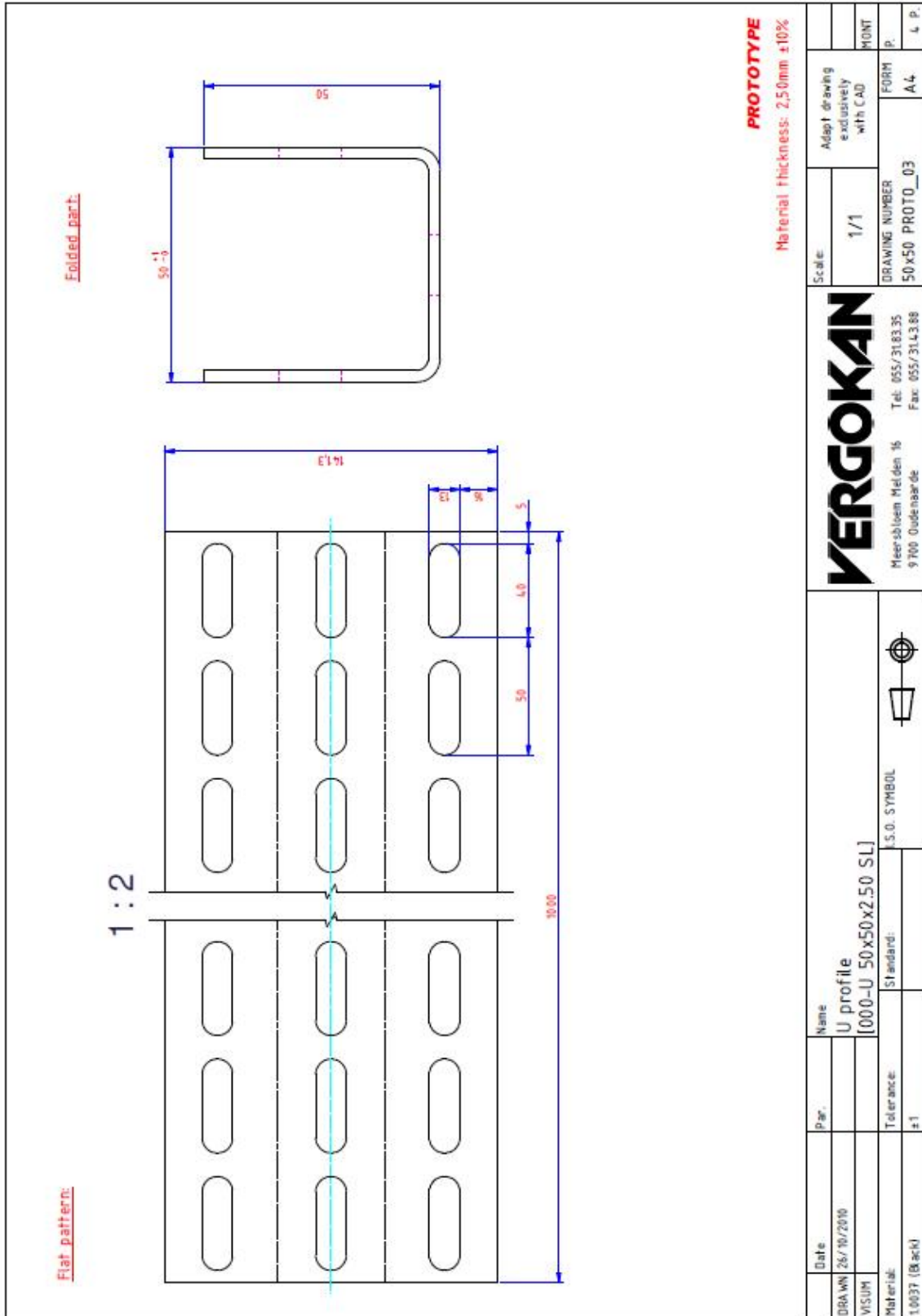
Material: 1.0332 (DD11 hot dip)

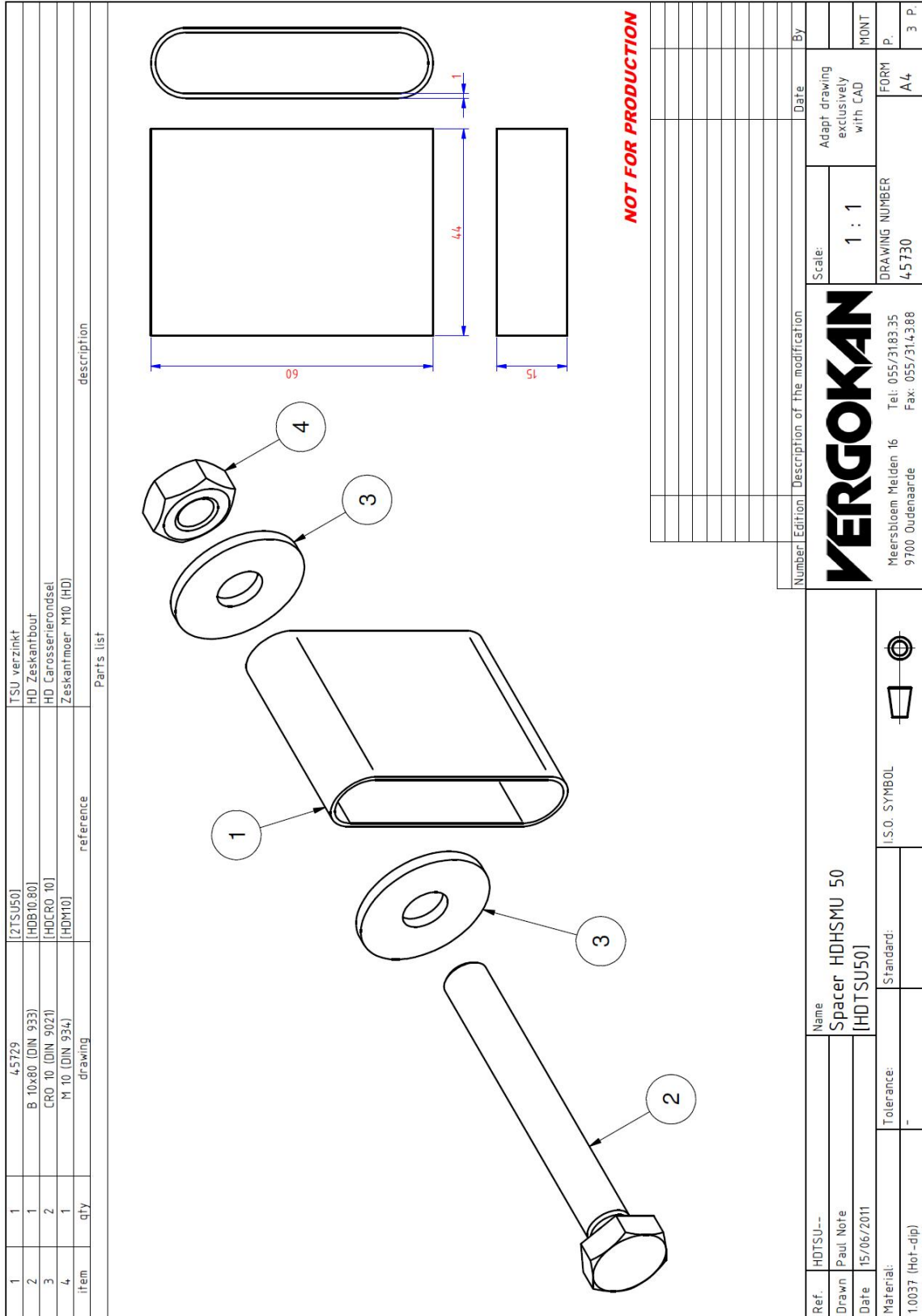
Scale: 1 : 2

DRAWING NUMBER: 45732

FORM: A4

P.1: 1 P.









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
Parts list			

**NOT FOR PRODUCTION**

1	A	Herontwerp naar aanleiding brandtesten 2015 (zie WF HDHSMU50.000 - 21 10 2015)	27/02/2015
Number	Edition	Description of the modification	Date
Adapt drawing exclusively with CAD Scale: 1 : 2 DRAWING NUMBER 45730 FORM A4 Meersbloem Meiden 16 Tel. 055/3183 35 9700 Oudenaarde Fax. 055/314388			

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	

By	Date	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:		Name:																	
DRAWN 21/03/2011		Heavy joined bracket																	
VSJUM		[WKM 400]																	
Material:		S.O. SYMBOL																	
1.0037 (Hot dip)																			
Tolerance:		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Adapt drawing exclusively with CAD</td> <td>Scale:</td> <td>1/5</td> <td>Adapt drawing exclusively with CAD</td> </tr> <tr> <td>±1</td> <td>DRAWING NUMBER</td> <td>WKM FIRES 05-2011</td> <td>FORM p.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>A4</td> </tr> <tr> <td></td> <td></td> <td></td> <td>11 p.</td> </tr> </table>		Adapt drawing exclusively with CAD	Scale:	1/5	Adapt drawing exclusively with CAD	±1	DRAWING NUMBER	WKM FIRES 05-2011	FORM p.				A4				11 p.
Adapt drawing exclusively with CAD	Scale:	1/5	Adapt drawing exclusively with CAD																
±1	DRAWING NUMBER	WKM FIRES 05-2011	FORM p.																
			A4																
			11 p.																

**VERGOKAN**  
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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 P. A4

PROTO\_05