

ZERTIFIKAT CERTIFICATE

Auftraggeber / Hersteller
Client / Manufacturer

BAKS – Kazimierz Sielski
ul. Jagodne 5
PL-05-480 Karczew

Erzeugnis
Product

Kabelträgersystem für elektrische Installation
Cable tray systems and cable ladder systems

Prüfbericht Nr. / *Report No.*

235963-CC4-1
235963-CC4-2

Typenbezeichnung
Type designation

Siehe Prüfbericht / see Report

Technische Merkmale
Technical characteristics

Siehe Prüfbericht / see Report

Angewandte Normen
Applied standards

DIN EN 61537 (VDE 0639):2007-9;
EN 61537:2007

Geprüfte Abschnitte
Tested clauses

Abschnitt 11.1: Elektrische Leiteigenschaften
Sub clause 11.1: Electrical continuity

Ein Muster dieses Erzeugnisses wurde geprüft und die Übereinstimmung mit den angewandten Normen festgestellt. Der oben genannte Prüfbericht ist Grundlage dieses Zertifikates.

A sample of the product has been tested and found to be in conformity with the applied standards. The above mentioned Report is part of this certificate.

Dieses Zertifikat darf Dritten nur in Verbindung mit dem oben genannten Prüfbericht im vollen Wortlaut und unter Angabe des Ausstellungsdatums zur Kenntnis gegeben werden.

This certificate may only be passed to a third party in combination with the above mentioned Test Report in its complete wording and the date of issue.

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute GmbH

Kategorie CC4

Category CC4



R. Lehrer

Für den Binnenmarkt der Europäischen Union (EU) ist das VDE-Prüfinstitut unter der Kenn-Nr. 0366 notifiziert worden.

The VDE Testing and Certification Institute has been notified with the Identification Number 0366 for the Internal Market of the European Union (EU).

D-63069 Offenbach am Main, **30. Mai 2017**
Merianstraße 28

**VDE Test Report**

Report No. :	235963-CC4-1
VDE File No. :	5018795-5430-0001/235963
Date of issue..... :	2017-05-22
Laboratory	VDE Testing and Certification Institute
Address	Merianstrasse 28 63069 Offenbach/Main; Germany
Testing location/ address	VDE Testing and Certification Institute Merianstrasse 28 63069 Offenbach/Main; Germany
Applicant's name	BAKS - Kazimierz Sielski
Applicant's address	ul. Jagodne 5; 05-480 KARCZEW; POLAND
Applied standard(s)	DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007
Test item description	Cable carrier systems for electrical installation
Type reference(s)	Long span cable ladder system Long span cable tray system

Test sample condition	<input checked="" type="checkbox"/> Non-damaged sample
	Remark:
Sample entry date	2017-04-21
Date (s) of performance of tests.....	2017-04-26 – 2017-05-22

Tested by.....	P. Hufner	
Name, Signature.....	(Authorization of test report)	
Function	Testing engineer	
Verified by.....	R. Lehrer	
Name, Signature.....		
Function	Reviewer	

Report No.:	235963-CC4-1	Page	1	of	7
Disclaimer:					
This test report contains the result of a singular investigation carried out on the product submitted. A sample of this product was tested to found the accordance with the thereafter listed standards or clauses of standards resp.					
The test report does not entitle for the use of a VDE Certification Mark and considers solely the requirements of the specifications mentioned below.					
Whenever reference is made to this test report towards third party, this test report shall be made available on the very spot in full length.					



Possible test case verdicts:	
Test case does not apply to the test object :	N/A
Test object does meet the requirement..... :	P (Pass)
Test object does not meet the requirement :	F (Fail)

Final Verdict:	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
Remark		

Environmental conditions (if applicable)	Ambient temperature	Atmospheric pressure	Relative humidity
Rated values..... :	15-35 °C	860-1060 hPa	30-60 %
Verified values	22 °C	N/A	N/A

**Description of testing samples:**

Representative for the cable carrier systems of manufacturer BAKS according to table 1, the listed types according to table 2 have been tested.

Table 1: Cable carrier systems of manufacturer BAKS			
Designation	Type	Height (mm)	Width (mm)
Long span cable ladder system	DSP	100, 110, 120, 150, 200	200, 300, 400, 500, 600
	DSC	100, 110, 120, 150, 200	200, 300, 400, 500, 600
	DST	100, 110, 120, 150, 200	200, 300, 400, 500, 600
Long span cable tray system	KSC	100, 110, 120, 150, 200	100, 200, 300, 400, 500, 600
	KSP	100, 110, 120, 150, 200	200, 300, 400, 500, 600
	KST	100, 110, 120, 150, 200	200, 300, 400, 500, 600

Table 2: Tested cable carrier systems

Designation	Type
Long span cable ladder system	DSP200H100
	DSP400H120
	DSP300H150
	DSP600H200
	DSC200H100
	DSC300H150
	DSC600H200
	DST200H100
	DST600H200
Long span cable tray system	KSC100H100
	KSC300H120
	KSC200H150
	KSC600H200
	KSP200H100
	KSP400H120
	KSP300H150
	KSP600H200
	KST200H100
	KST600H200



Test procedure:

On the request of the applicant the test of the electrical continuity was carried out on the selected samples according to DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007, Sub-clause 11.1.

Test conditions:

- Test arrangement acc. to figure 9 of. DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007
- Test current 25 A
- Frequency 50 Hz
- Measuring points in the distance of 50 mm to each side of the joint
- Measuring points without joint in a distance of 500 mm

Test results:

The calculated impedances shall not exceed 50 mΩ across the joint and 5 mΩ/m without joint.

The measured voltage drops and the calculated impedances are summarized in the tables 3 and 4.

Table 3: Impedance without joint

Type	Measured voltage drop	Calculated impedance
DSP200H100	3,5 mV	0,28 mΩ/m
DSP400H120	3,4 mV	0,27 mΩ/m
DSP300H150	3,0 mV	0,24 mΩ/m
DSP600H200	2,5 mV	0,2 mΩ/m
DSC200H100	3,3 mV	0,26 mΩ/m
DSC300H150	3,6 mV	0,29 mΩ/m
DSC600H200	1,0 mV	0,08 mΩ/m
DST200H100	3,2 mV	0,26 mΩ/m
DST600H200	0,9 mV	0,07 mΩ/m
KSC100H100	4,5 mV	0,36 mΩ/m
KSC300H120	2,4 mV	0,19 mΩ/m
KSC200H150	2,9 mV	0,23 mΩ/m
KSC600H200	2,1 mV	0,17 mΩ/m
KSP200H100	3,2 mV	0,26 mΩ/m
KSP400H120	1,4 mV	0,11 mΩ/m
KSP300H150	2,2 mV	0,18 mΩ/m
KSP600H200	2,0 mV	0,16 mΩ/m
KST200H100	3,8 mV	0,3 mΩ/m
KST600H200	1,8 mV	0,14 mΩ/m

**Table 4: Impedance across the joint**

Type	Measured voltage drop	Calculated impedance
DSP200H100	3,3 mV	0,13 mΩ
DSP400H120	3,3 mV	0,13 mΩ
DSP300H150	3,8 mV	0,15 mΩ
DSP600H200	2,9 mV	0,12 mΩ
DSC200H100	3,3 mV	0,13 mΩ
DSC300H150	3,9 mV	0,16 mΩ
DSC600H200	1,7 mV	0,07 mΩ
DST200H100	3,3 mV	0,13 mΩ
DST600H200	1,5 mV	0,06 mΩ
KSC100H100	2,7 mV	0,11 mΩ
KSC300H120	2,6 mV	0,1 mΩ
KSC200H150	2,3 mV	0,09 mΩ
KSC600H200	2,1 mV	0,08 mΩ
KSP200H100	3,2 mV	0,13 mΩ
KSP400H120	2,1 mV	0,08 mΩ
KSP300H150	2,7 mV	0,11 mΩ
KSP600H200	2,3 mV	0,09 mΩ
KST200H100	3,1 mV	0,12 mΩ
KST600H200	2,0 mV	0,08 mΩ

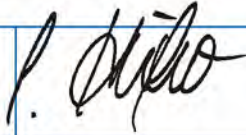

Testing and measuring equipment:

Description of test equipment	Inventory-Nr.	Manufacturer
Alternating-Current source	1430308	Reo
Current clamp	1090589	Chauvin Arnoux
Multimeter	1060697	Agilent
Multimeter	1060781	Agilent

**VDE Test Report**

Report No. :	235963-CC4-2
VDE File No. :	5018795-5430-0001/235963
Date of issue..... :	2017-05-30
Laboratory :	VDE Testing and Certification Institute
Address :	Merianstrasse 28 63069 Offenbach/Main; Germany
Testing location/ address :	VDE Testing and Certification Institute Merianstrasse 28 63069 Offenbach/Main; Germany
Applicant's name :	BAKS – Kazimierz Sielski
Applicant's address :	ul. Jagodne 5; 05-480 KARCZEW; POLAND
Applied standard(s) :	DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007
Test item description :	Cable carrier systems for electrical installation
Type reference(s) :	Lighting trunking system Marine cable tray system Marine cable ladder system Vertical cable ladder system Outdoor cable tray system

Test sample condition :	<input checked="" type="checkbox"/> Non-damaged sample
	Remark:
Sample entry date :	2017-04-21 and 2017-05-11
Date (s) of performance of tests..... :	2017-04-26 – 2017-05-30

Tested by..... :	P. Hufner	
Name, Signature..... :	(Authorization of test report)	
Function :	Testing engineer	
Verified by..... :	R. Lehrer	
Name, Signature..... :		
Function..... :	Reviewer	

Report No.:	235963-CC4-2	Page	1	of	9
-------------	--------------	------	---	----	---

Disclaimer:

This test report contains the result of a singular investigation carried out on the product submitted. A sample of this product was tested to found the accordance with the thereafter listed standards or clauses of standards resp.

The test report does not entitle for the use of a VDE Certification Mark and considers solely the requirements of the specifications mentioned below.

Whenever reference is made to this test report towards third party, this test report shall be made available on the very spot in full length.



Possible test case verdicts:	
Test case does not apply to the test object :	N/A
Test object does meet the requirement..... :	P (Pass)
Test object does not meet the requirement :	F (Fail)

Final Verdict:	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
Remark		

Environmental conditions (if applicable)	Ambient temperature	Atmospheric pressure	Relative humidity
Rated values..... :	15-35 °C	860-1060 hPa	30-60 %
Verified values	22 °C	N/A	N/A

**Description of testing samples:**

Representative for the cable carrier systems of manufacturer BAKS according to table 1, the listed types according to table 2 have been tested.

Table 1: Cable carrier systems of manufacturer BAKS			
Designation	Type	Height (mm)	Width (mm)
Lighting trunking system	KLL	60	75
	KLJ	60	120
	KLWL	60	75
	KLWJ	60	120
Marine cable tray system	KMSP	15	75, 100, 125, 150, 200, 250, 300
	KMSPP	15	75, 100, 125, 150, 200, 250, 300
Marine cable ladder system	DOPZ	30	100, 200, 300
	DOZ	30, 40	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000
Vertical cable ladder system	DMC	55	200, 300, 400, 500, 600, 700, 800, 900, 1000
	DM	55	200, 300, 400, 500, 600, 700, 800, 900, 1000
	DDMC	55	200, 300, 400, 500, 600, 700, 800, 900, 1000
	DDM	55	200, 300, 400, 500, 600, 700, 800, 900, 1000
	DSH	80	200, 300, 400, 500, 600, 700, 800, 900, 1000
	DDH	80	200, 300, 400, 500, 600, 700, 800, 900, 1000
Outdoor cable tray system	KZP	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZC	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZLP	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZLC	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZWP	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZWC	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZLWP	50, 100, 200	50, 100, 200, 300, 400, 500, 600
	KZLWC	50, 100, 200	50, 100, 200, 300, 400, 500, 600

**Table 2: Tested cable carrier systems**

Designation	Type
Lighting trunking system	KLL75H60
	KLJ120H60
	KLWL75H60
Marine cable tray system	KMSP75H15
	KMSP300H15
	KMSPP75H15
	KMSPP300H15
Marine cable ladder system	DOPZ100H30
	DOPZ300H30
	DOZ100H30
	DOZ500H30
	DOZ1000H30
	DOZ200H40
	DOZ800H40
Vertical cable ladder system	DMC200H55
	DMC1000H55
	DM400H55
	DDMC200H55
	DDMC1000H55
	DDM500H55
	DSH200H80
	DSH400H80
	DSH1000H80
	DDH200H80
	DDH400H80
	DDH700H80



Outdoor cable tray system	KZP300H100
	KZP600H200
	KZC100H50
	KZC500H200
	KZLP50H50
	KZLP300H100
	KZLP600H200
	KZWC500H200
	KZLWP300H100
	KZLWP600H200
	KZLWC100H50
	KZLWC500H200

**Test procedure:**

On the request of the applicant the test of the electrical continuity was carried out on the selected samples according to DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007, Sub-clause 11.1.

Test conditions:

- Test arrangement acc. to figure 9 of. DIN EN 61537 (VDE 0639):2007-09; EN 61537:2007
- Test current 25 A
- Frequency 50 Hz
- Measuring points in the distance of 50 mm to each side of the joint
- Measuring points without joint in a distance of 500 mm

Test results:

The calculated impedances shall not exceed 50 mΩ across the joint and 5 mΩ/m without joint.

The measured voltage drops and the calculated impedances are summarized in the tables 3 and 4.

Type	Measured voltage drop	Calculated impedance
KLL75H60	11,6 mV	0,93 mΩ/m
KLJ120H60	7,7 mV	0,62 mΩ/m
KLWL75H60	11,2 mV	0,9 mΩ/m
KMSP75H15	14,8 mV	1,18 mΩ/m
KMSP300H15	4,8 mV	0,38 mΩ/m
KMSPP75H15	16,6 mV	1,33 mΩ/m
KMSPP300H15	6,1 mV	0,49 mΩ/m
DOPZ100H30	10,3 mV	0,82 mΩ/m
DOPZ300H30	8,6 mV	0,69 mΩ/m
DOZ100H30	21,7 mV	1,74 mΩ/m
DOZ500H30	18,1 mV	1,45 mΩ/m
DOZ1000H30	21,4 mV	1,71 mΩ/m
DOZ200H40	8,0 mV	0,64 mΩ/m
DOZ800H40	6,7 mV	0,54 mΩ/m



DMC200H55	3,7 mV	0,3 mΩ/m
DMC1000H55	2,8 mV	0,22 mΩ/m
DM400H55	2,6 mV	0,21 mΩ/m
DDMC200H55	3,8 mV	0,3 mΩ/m
DDMC1000H55	3,3 mV	0,26 mΩ/m
DDM500H55	2,6 mV	0,21 mΩ/m
DSH200H80	3,8 mV	0,3 mΩ/m
DSH400H80	3,5 mV	0,28 mΩ/m
DSH1000H80	3,3 mV	0,26 mΩ/m
DDH200H80	4,3 mV	0,34 mΩ/m
DDH400H80	4,2 mV	0,34 mΩ/m
DDH700H80	3,5 mV	0,28 mΩ/m
KZP300H100	2,1 mV	0,17 mΩ/m
KZP600H200	1,2 mV	0,1 mΩ/m
KZC100H50	5,3 mV	0,42 mΩ/m
KZC500H200	1,1 mV	0,09 mΩ/m
KZLP50H50	7,4 mV	0,59 mΩ/m
KZLP300H100	2,4 mV	0,19 mΩ/m
KZLP600H200	1,2 mV	0,1 mΩ/m
KZWC500H200	1,0 mV	0,08 mΩ/m
KZLWP300H100	2,3 mV	0,18 mΩ/m
KZLWP600H200	1,8 mV	0,14 mΩ/m
KZLWC100H50	5,4 mV	0,43 mΩ/m
KZLWC500H200	1,0 mV	0,08 mΩ/m

Table 4: Impedance across the joint

Type	Measured voltage drop	Calculated impedance
KLL75H60	6,7 mV	0,27 mΩ
KLJ120H60	4,9 mV	0,2 mΩ
KLWL75H60	5,0 mV	0,2 mΩ
KMSP75H15	4,4 mV	0,18 mΩ
KMSP300H15	2,0 mV	0,08 mΩ
KMSPP75H15	5,8 mV	0,23 mΩ
KMSPP300H15	1,9 mV	0,08 mΩ
DOPZ100H30	8,9 mV	0,36 mΩ
DOPZ300H30	15,9 mV	0,64 mΩ
DOZ100H30	14,3 mV	0,57 mΩ
DOZ500H30	37,3 mV	1,49 mΩ
DOZ1000H30	26,2 mV	1,05 mΩ
DOZ200H40	13,1 mV	0,52 mΩ
DOZ800H40	16,7 mV	0,67 mΩ
DMC200H55	2,4 mV	0,1 mΩ
DMC1000H55	1,9 mV	0,08 mΩ
DM400H55	2,0 mV	0,08 mΩ
DDMC200H55	2,3 mV	0,09 mΩ
DDMC1000H55	2,2 mV	0,09 mΩ
DDM500H55	2,1 mV	0,08 mΩ
DSH200H80	2,5 mV	0,1 mΩ
DSH400H80	2,3 mV	0,09 mΩ
DSH1000H80	2,0 mV	0,08 mΩ
DDH200H80	2,3 mV	0,09 mΩ
DDH400H80	2,3 mV	0,09 mΩ
DDH700H80	2,2 mV	0,09 mΩ



KZP300H100	8,2 mV	0,33 mΩ
KZP600H200	1,3 mV	0,05 mΩ
KZC100H50	9,2 mV	0,37 mΩ
KZC500H200	1,1 mV	0,04 mΩ
KZLP50H50	3,8 mV	0,15 mΩ
KZLP300H100	1,5 mV	0,06 mΩ
KZLP600H200	0,9 mV	0,04 mΩ
KZWC500H200	1,2 mV	0,05 mΩ
KZLWP300H100	1,5 mV	0,06 mΩ
KZLWP600H200	0,9 mV	0,04 mΩ
KZLWC100H50	2,4 mV	0,1 mΩ
KZLWC500H200	0,9 mV	0,04 mΩ

Testing and measuring equipment:

Description of test equipment	Inventory-Nr.	Manufacturer
Alternating-Current source	1430308	Reo
Current clamp	1090589	Chauvin Arnoux
Multimeter	1060697	Agilent
Multimeter	1060781	Agilent