VDE Test Report

Report No. ..... :	250709-TL6-2
VDE File No. ..... :	5018795-5430-0001/250709
Date of issue..... :	2018-08-30
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 system KLL, KLJ, KLWL, KLWJ - Marine cable tray system KMSP, KMSPP - Marine cable ladder system DOPZ, DOZ - Vertical cable ladder system DMC, DM, DDMC, DDM, DSH, DDH - Outdoor cable tray system KZP, KZC, KZLP, KZLC, KZWP, KZWC, KZLWP, KZLWC

Test sample condition ..... :	☒	Non-damaged sample
	Remark:	
Sample entry date ..... :	2017-04-21	
Date (s) of performance of tests..... :	2017-04-26 – 2017-05-30	

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

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:	☒	**P**	☐	**F**
Remark..... :				

Environmental conditions (if applicable)	Ambient temperature	Atmospheric pressure	Relative humidity
Rated values..... :	15-25 °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, the following listed types have been tested.

Designation	Type
Lighting 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
Connectors	LPL
	LDOU
	LC
	PLH
	LZC
Screws	SGKM6
	SGKM8
	SGM10
	SGM12

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 following tables.

Table: Impedance without joint		
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: Impedance across the joint			
Type	**Connectors + Screws**	**Measured voltage drop**	**Calculated impedance**
KLL75H60	LPL + SGKM6	6,7 mV	0,27 mΩ
KLJ120H60	LPL + SGKM6	4,9 mV	0,2 mΩ
KLWL75H60	--- + SGKM6	5,0 mV	0,2 mΩ
KMSP75H15	--- + SGKM6	4,4 mV	0,18 mΩ
KMSP300H15	--- + SGKM6	2,0 mV	0,08 mΩ
KMSPP75H15	--- + SGKM6	5,8 mV	0,23 mΩ
KMSPP300H15	--- + SGKM6	1,9 mV	0,08 mΩ
DOPZ100H30	LDOU + SGKM8	8,9 mV	0,36 mΩ
DOPZ300H30	LDOU + SGKM8	15,9 mV	0,64 mΩ
DOZ100H30	LDOU + SGKM8	14,3 mV	0,57 mΩ
DOZ500H30	LDOU + SGKM8	37,3 mV	1,49 mΩ
DOZ1000H30	LDOU + SGKM8	26,2 mV	1,05 mΩ
DOZ200H40	LDOU + SGKM8	13,1 mV	0,52 mΩ
DOZ800H40	LDOU + SGKM8	16,7 mV	0,67 mΩ
DMC200H55	LC + SGM10	2,4 mV	0,1 mΩ
DMC1000H55	LC + SGM10	1,9 mV	0,08 mΩ
DM400H55	LC + SGM10	2,0 mV	0,08 mΩ
DDMC200H55	LC + SGM10	2,3 mV	0,09 mΩ
DDMC1000H55	LC + SGM10	2,2 mV	0,09 mΩ
DDM500H55	LC + SGM10	2,1 mV	0,08 mΩ
DSH200H80	PLH + SGM12	2,5 mV	0,1 mΩ
DSH400H80	PLH + SGM12	2,3 mV	0,09 mΩ
DSH1000H80	PLH + SGM12	2,0 mV	0,08 mΩ
DDH200H80	PLH + SGM12	2,3 mV	0,09 mΩ
DDH400H80	PLH + SGM12	2,3 mV	0,09 mΩ
DDH700H80	PLH + SGM12	2,2 mV	0,09 mΩ

KZP300H100	LZC + SGKM6	8,2 mV	0,33 mΩ
KZP600H200	LZC + SGKM6	1,3 mV	0,05 mΩ
KZC100H50	LZC + SGKM6	9,2 mV	0,37 mΩ
KZC500H200	LZC + SGKM6	1,1 mV	0,04 mΩ
KZLP50H50	--- + SGKM6	3,8 mV	0,15 mΩ
KZLP300H100	--- + SGKM6	1,5 mV	0,06 mΩ
KZLP600H200	--- + SGKM6	0,9 mV	0,04 mΩ
KZWC500H200	LZC + SGKM6	1,2 mV	0,05 mΩ
KZLWP300H100	--- + SGKM8	1,5 mV	0,06 mΩ
KZLWP600H200	--- + SGKM8	0,9 mV	0,04 mΩ
KZLWC100H50	--- + SGKM8	2,4 mV	0,1 mΩ
KZLWC500H200	--- + SGKM8	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