LOVAG

Low Voltage Agreement Group

Test Report No. 6990/VNL

Test Laboratory	:	VEIKI-VNL Electric Large Laboratories Ltd. H-1158 Budapest, Vasgolyó u. 2-4 HUNGARY Telephone: +36 141 73157 Fax: +36 141 73163 www.vnl.hu
Client	:	GERSAN ELEKTRIK Tic. ve San. A.Ş. Tuzla Mermerciler Organize Sanayi Bölgesi Gazi Bulvari No:37-39-41 P.K.:57 34953 Tuzla-Istanbul TURKEY
Manufacturer	:	GERSAN ELEKTRIK Tic. ve San. A.Ş. Tuzla Mermerciler Organize Sanayi Bölgesi Gazi Bulvari No:37-39-41 P.K.:57 34953 Tuzla-Istanbul TURKEY
Test object	:	Busbar Trunking System
Type designation	:	GS COMPACT GS-A/GS-C
Date(s) of test(s)	:	26.07.2012
Date of receipt	:	22.05.2012
Test specifications	:	IEC/EN 60439-2: Ed.3.0 (2000) + A1 (2005) IEC 61439-6: Ed.1.0 (2012) IEC 60331-21:1999 + A1: 2009
Test results	:	The tested busbar trunking system met the requirements of the relevant standard. Test under fire conditions – circuit integrity – PASSED

The Record of Proving Test consists of :

5 pages LOVAG test report forms	- oscillograms
- other pages	- drawings
- diagrams	1 photograph

Date of issue : 04.10.2012 Responsible Test Laboratory

Signatures:

.....	.....	.....	.....
/ Lajos Tóth /	/ Péter Szél /	/ Tibor Tóth /	/ Dr. László Varga /
Responsible for the test	Supervised by	Responsible observer	Managing director

Note:
The test results relate only to the items tested.
The test report shall not be reproduced except in full without the written approval of the test laboratory.

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VIZSGÁLÓ
NAT-1-1251/2011

Description and characteristics of the test object

Characteristics

a)	Manufacturer's name or trade mark		:	GERSAN
b)	Type designation		:	GS COMPACT GS-A/GS-C
c)	Specification(s)		:	IEC 60439-2
d)	Type of current		:	AC
dd)	Rated frequency		:	50 Hz
e)&g)	Rated operational voltage U_e			
	Main circuit		:	1000 V
	Auxiliary circuit		:	
f)&g)	Rated insulation voltage U_i			
	Main circuit		:	1000 V
	Auxiliary circuit		:	
f)&g)	Rated impulse voltage U_{imp}			
	Main circuit		:	-
	Auxiliary circuit		:	-
h)	Limits of operation		:	5 % overload only
j)	Rated current		:	all rating
l)	Degree of protection		:	IP X8 (with epoxy resin filling)
m)	Measures for protection of persons		:	Skilled persons and marking
n)	Service conditions		:	Disconnection from supply
	pollution degree		:	3
o)	Type of earthing system		:	TN-C
r)	Form of internal separation		:	FORM-4
s)	Types of electrical connections of functional units		:	by bolts
t)	Environment **A or B**		:	A
u)	Resistance, reactance and impedance	R	:	-
		X	:	-
		Z	:	-
v)	Resistance, reactance and impedance values of the system under fault conditions	R	:	-
		X	:	-
		Z		-

Standard and clause	Kind of tests and requirements	Test values Results
	Test under fire conditions – circuit integrity	
IEC 60331-21:1999 + A1: 2009	Test method for fire resistance at a temperature of at least 750 ° C, and voltage of 0.4 kV. Circuit integrity must not break.	
	Test #01	
	Flame application time	120 min
	Cooling period	15 min
	Circuit integrity	yes
	Test #02	
	Heating to reach the steady-state temperature	20 min
	Flame application time	360 min
	Cooling period	15 min
	Circuit integrity	yes
	<u>Result of the tests</u>	
	Total time	480+15 min cooling
	passed without failure yes/no	yes

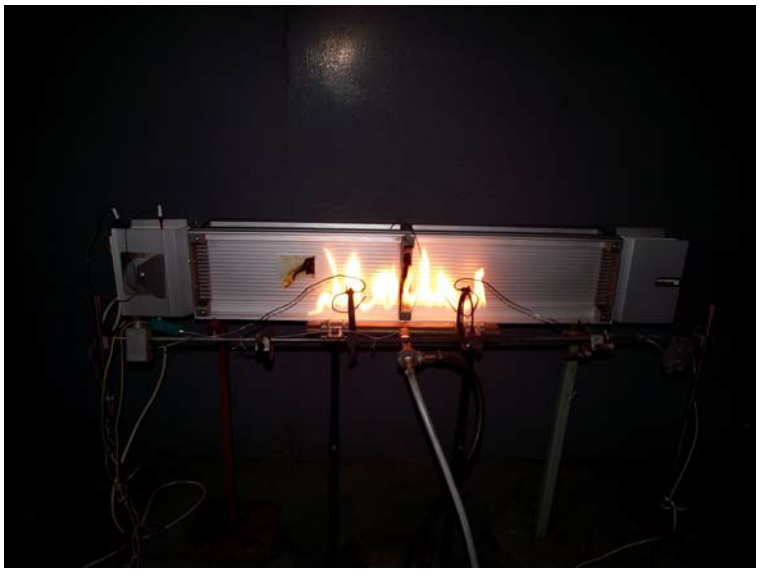

Photo 3
Circuit integrity test

Tests were made with the follows instruments:

Designation	Manufacturer	Type	Serial number
Data Logger	Fluke	Hydra II	8313016

Instrumental measurement uncertainly :

Measured parameter	Uncertainty
Temperature measurement:	± 2 °C
Voltage measurement for fire test	± 1.64 %

The uncertainty values given in this report are standard deviation values multiplied by k=2. Measurement uncertainty was estimated according to the method described in the EA-4/02 document.

VEIKI-VNL Ltd.
H-1158 Budapest, Vasgolyó u. 2-4
HUNGARY

04.10.2012
Date

Authorized Representative