



# **Test Report**

Project designation Type test according to IEC/EN 60269-1 and IEC/EN 60269-2

Product description Low-voltage fuse-links for use by authorized persons:

Fuse-links with blade contacts type NH000 (NV00C) / 690(500) V / aM

Client ETI Elektroelement d.d.

Obrezija 5 1411 Izlake SLOVENIA

Order from / No. 02/2015 / ---

Project number 2.03.02913.1.0/NH000/690(500)V/aM

Date of issue 10.08.2015 Test engineer H. Raheb, MSc

Total number of issues / No. 1 / 1

Number of pages 4

Annex: Number of pages CB - Test Report No. 2.03.02913.1.0/NH000/690(500)V/aM/CB/1 (48 pages)

CB - Test Report No. 2.03.02913.1.0/NH000/690(500)V/aM/CB/2 (20 pages) CCA - Test Report No. 2.03.02913.1.0/NH000/690(500)V/aM/CCA (2 pages)

The results relate exclusively to the items tested.

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# Test item

#### Identification:

Low-voltage fuse-links for use by authorized persons:

Fuse-links with blade contacts type NH000 (NV00C) / 690(500)V / aM

Manufacturer: ETI Elektroelement d.d.

Place of manufacture: Obrezija 5, 1411 Izlake, SLOVENIA

Trademark: ETI

Size: 000 (00C) Rated voltage(s): ~690V, ~500V\*

Rated current(s): 2A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A, 80A\*, 100A\*

Rated frequency: 45Hz to 62Hz

Utilization category: aM

# **Technical data and description:**

See page 4

# **Testing location, Period of testing**

# **Testing location:**

AIT Austrian Institute of Technology GmbH Business Unit Electric Energy Systems Giefinggasse 2 1210 Vienna AUSTRIA

# Period of testing:

02 to 07/2015

# Test(s)

# Test(s) performed:

Type test

#### Test standard(s):

IEC 60269-1:2009 (Ed. 4.1)+A2:2014 and EN 60269-1:2007+A1:2009+A2:2014 IEC 60269-2:2013 (Ed. 5.0) and HD 60269-2:2013

# Test procedure(s):

CB-Scheme and CCA-Scheme

# Result

The Low-voltage fuse-links for use by authorized persons:

Fuse-links with blade contacts type NH000 (NV00C) / 690(500)V / aM have passed the type test successfully.

Seal

Test engineer

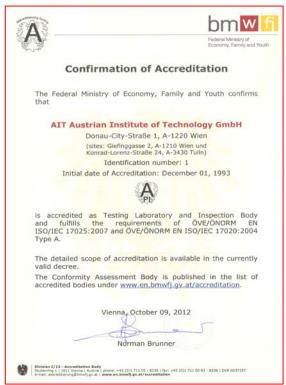
H.Raheb, MSc

Responsible for the content

Ing.J.Ainetter



# **Testing laboratory**



ACCREDITED
according to
EN ISO/IEC 17025
confirmed by
BMWFJ
with GZ 92714/237-IV/9/00



CERTIFIED according to ISO 9001 confirmed by Quality Austria with Reg. No. 00229/1



RECOGNIZED CB TESTING LABORATORY confirmed by International Electrotechnical Commission under the responsibility of OVE as the National Certification Body



# Technical data and description

Test item	Low-voltage fuse-links for use by authorized persons: Fuse-links with blade contacts				
Model/Type reference	NH000 (NV00C)				
Manufacturer	ETI Elektroelement d.d.				
Place of manufacture	Obrezija 5, 1411 Izlake, SLOVENIA				
Size	000 (00C)				
Nature of supply	AC				
Utilization category	аМ				
Rated voltage	~690V, ~500V*				
Rated current	2A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 35A, 40A, 50A, 63A, 80A*, 100A*				
Rated frequency	45Hz to 62Hz				
Rated breaking capacity	100kA, 120kA*				
Homogeneous series	2A 4A 6A 10A 16A 20A 25A 40A 50A 63A 80A* 100A*				
Indicating device	In the middle of ceramic body and on cover plate				
Type of gripping-lugs	Energized				
Material of fuse-link contacts	CuZn gal. Ag				
Material of fuse-link body	Steatit C221				
Material of cover plates	Al				
Extinguishing means	Quartzsand				





# TEST REPORT IEC 60269-1

# Low-voltage fuses Part 1: General requirements

Report Number.....: 2.03.02913.1.0/NH000/690(500)V/aM/CB/1

**Date of issue....:** 10.08.2015

Total number of pages .....: 48

Applicant's name .....: ETI Elektroelement d.d.

Address.....: Obrezija 5, 1411 Izlake, SLOVENIA

**Test specification:** 

**Standard** .....: IEC 60269-1:2006 (Fourth edition)+ A1:2009

Test procedure .....: CB Scheme

Non-standard test method .....: N/A

Test Report Form No. ....: IEC60269\_1B

Test Report Form(s) Originator ....: EZU

Master TRF .....: Dated 2010-08

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**Test item description....:** Low-voltage fuse-links for use by authorised persons - fuse-links

with blade contacts (NH fuse system)

Trade Mark....: ETI

Manufacturer .....: ETI Elektroelement d.d., Obrezija 5, SI-1411 Izlake, Slovenia

Model/Type reference.....: NH000 (NV00C)

Ratings.....: 2 A, 4 A, 6 A, 10 A, 16 A, 20 A, 25 A, 32 A, 35 A, 40 A, 50 A,

63 A, 80 A\*, 100 A\* / aM / ~690 V, ~500 V\* / 100 kA, 120 kA\*

Testing procedure and testing location:							
	alluke of Teog						
Testing location/ address:	AIT Austrian Institute of Technology GmbH, Giefinggasse 2, 1210 Vienna, AUSTRIA						
Associated CB Laboratory:		(36)					
Testing location/ address:	-						
Tested by (name + signature):	H.Raheb, MSc	fa he					
Approved by (name + signature):	Ing.J.Ainetter	loutte					
☐ Testing procedure: TMP							
Testing location/ address:	-						
Tested by (name + signature):	-						
Approved by (name + signature):	-						
☐ Testing procedure: WMT							
Testing location/ address:	-						
Tested by (name + signature):	-						
Witnessed by (name + signature) .:	-						
Approved by (name + signature):	-						
☐ Testing procedure: SMT							
Testing location/ address:							
Tested by (name + signature):	-						
Approved by (name + signature):	-						
Supervised by (name + signature):	-						
Testing procedure: RMT							
Testing location/ address:	-						
Tested by (name + signature):	-						
Approved by (name + signature):	-						
Supervised by (name + signature):	-						

# List of Attachments (including a total number of pages in each attachment):

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# **Summary of testing:**

#### Tests performed (name of test and test clause) acc. to IEC 60269-1 and IEC 60269-2:

Test	Sample No.													
rest	2A	4A	6A	10A	16A	20A	25A	32A	35A	40A	50A	63A	80A	100A
8.1.4 Dimensions	4-6	10-12	10-12	10-12	10-12	10-12	4-6	1-3	1-3	10-12	4-6	10-12	4-6	10-12
8.1.5.1 Resistance	1-13	1-19	1-19	1-19	1-19	1-19	1-13	1-7	1-7	1-19	1-13	1-19	1-13	1-19
8.3 Power dissipation / Temperature rise	1	19	19	19	19	19	1	1	1	19	1	19	1	19
8.4.3.3 Time- current characteristics, Gates	4-10	10-15	10-15	10-15	10-15	10-15	4-10	1-7	1-7	10-15	4-10	10-15	4-10	10-15
8.4.3.4 Overload	11-13	16-18	16-18	16-18	16-18	16-18	11-13	1	1	16-18	11-13	16-18	11-13	16-18
8.4.3.6 Indicating device	1-3	1-9	1-9	1-9	1-9	1-9	1-3	-	-	1-9	1-3	1-9	1-3	1-9
8.5 No.1 Breaking capacity	1-3	1-3	1-3	1-3	1-3	1-3	1-3	-	-	1-3	1-3	1-3	1-3	1-3
8.5 No.2 Breaking capacity	-	4-6	4-6	4-6	4-6	4-6	-	-	-	4-6	-	4-6	-	4-6
8.5 No.3 Breaking capacity	-	7	7	7	7	7	1	-	-	7	-	7	-	7
8.5 No.4 Breaking capacity	-	8	8	8	8	8	-	-	-	8	-	8	-	8
8.5 No.5 Breaking capacity	-	9	9	9	9	9	-	-	-	9	-	9	-	9

Remark: The Amendment 2:2014 of IEC 60269-1:2009 (Ed. 4.1) has been taken into consideration. No additional tests are necessary to perform at aM fuse-links.

# **Testing location:**

AIT Austrian Institute of Technology GmbH Business Unit Electric Energy Systems Giefinggasse 2 1210 Vienna AUSTRIA The AIT Austrian Institute of Technology GmbH is a recognized CB/CCA Testing Laboratory under the responsibility of OVE as the National Certification Body.

#### **Summary of compliance with National Differences:**

List of countries addressed:

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☑ The product fulfils the requirements of IEC 60269-1:2009 (Ed. 4.1) + A2:2014, IEC 60269-2:2013 and EN 60269-1:2007 + A1:2009 + A2:2014, HD 60269-2:2013

# Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks. NH000 NV00 C NV00 C 100A аМ 63A ~500V ~690V 100 kA 120 kA IEC / EN 60269 4181414 Made in Siovenia 4181412 Made in Sig