



# 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 NH2 (NV2) / 690V / aM**

Client **ETI Elektroelement d.d.  
Obrezija 5  
1411 Izlake  
SLOVENIA**

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

Project number **2.03.02913.1.0/NH2/690V/aM**

Date of issue **28.08.2015** 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/NH2/690V/aM/CB/1 (43 pages)  
CB - Test Report No. 2.03.02913.1.0/NH2/690V/aM/CB/2 (20 pages)  
CCA - Test Report No. 2.03.02913.1.0/NH2/690V/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 NH2 (NV2) / 690V / aM

Manufacturer: ETI Elektroelement d.d.  
Factory location: Gabersko 12, 1420 Trbovlje, SLOVENIA  
Trademark: ETI  
Size: 2  
Rated voltage(s): ~690V  
Rated current(s): 160A, 200A, 224A, 250A, 280A, 300A, 315A, 355A, 400A  
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 NH2 (NV2) / 690V / aM have passed the type test successfully.




Seal

Test engineer



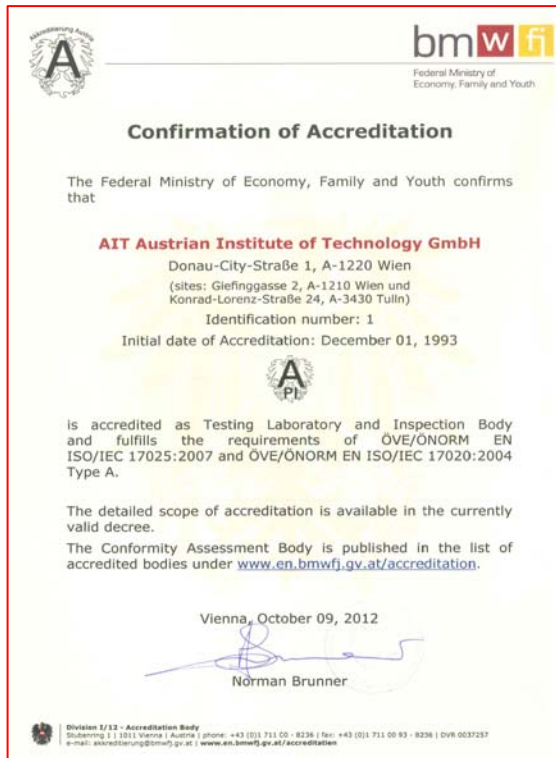
.....  
H. Raheb, MSc

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  
**ÖVE**  
 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	NH2 (NV2)
Manufacturer	ETI Elektroelement d.d.
Factory location	Gabersko 12, 1420 Trbovlje, SLOVENIA
Size	2
Nature of supply	AC
Utilization category	aM
Rated voltage	~690V
Rated current	160A, 200A, 224A, 250A, 280A, 300A, 315A, 355A, 400A
Rated frequency	45Hz to 62Hz
Rated breaking capacity	100kA
Homogeneous series	160A ... 224A 250A 280A ... 315A 355A 400A
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 issued under the responsibility of:



**TEST REPORT**  
**IEC 60269-1**  
**Low-voltage fuses**  
**Part 1: General requirements**

**Report Number**..... : 2.03.02913.1.0/NH2/690V/aM/CB/1  
**Date of issue**..... : 28.08.2015  
**Total number of pages** ..... : 43

**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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**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

**Test item description**..... : Low-voltage fuse-links for use by authorized 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**..... : NH2 (NV2)  
**Ratings**..... : 160 A, 200 A, 224 A, 250 A, 280 A, 300 A, 315 A, 355 A, 400 A / aM / ~690 V / 100 kA

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	
<b>Testing location/ address .....</b> :		AIT Austrian Institute of Technology GmbH, Giefinggasse 2, 1210 Vienna, AUSTRIA
<input type="checkbox"/>	<b>Associated CB Laboratory:</b>	
<b>Testing location/ address .....</b> :		-
	<b>Tested by (name + signature).....:</b>	H.Raheb, MSc 
	<b>Approved by (name + signature)....:</b>	Ing.J.Ainetter 
<input type="checkbox"/>	<b>Testing procedure: TMP</b>	
<b>Testing location/ address .....</b> :		-
	<b>Tested by (name + signature).....:</b>	-
	<b>Approved by (name + signature)....:</b>	-
<input type="checkbox"/>	<b>Testing procedure: WMT</b>	
<b>Testing location/ address .....</b> :		-
	<b>Tested by (name + signature).....:</b>	-
	<b>Witnessed by (name + signature) ..:</b>	-
	<b>Approved by (name + signature)....:</b>	-
<input type="checkbox"/>	<b>Testing procedure: SMT</b>	
<b>Testing location/ address .....</b> :		
	<b>Tested by (name + signature).....:</b>	-
	<b>Approved by (name + signature)....:</b>	-
	<b>Supervised by (name + signature):</b>	-
<input type="checkbox"/>	<b>Testing procedure: RMT</b>	
<b>Testing location/ address .....</b> :		-
	<b>Tested by (name + signature).....:</b>	-
	<b>Approved by (name + signature)....:</b>	-
	<b>Supervised by (name + signature):</b>	-



**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.								
	160A	200A	224A	250A	280A	300A	315A	355A	400A
8.1.4 Dimensions	4-6	1-3	10-12	10-12	4-6	1-3	10-12	10-12	10-12
8.1.5.1 Resistance	1-13	1-7	1-19	1-19	1-13	1-7	1-19	1-19	1-19
8.3 Power dissipation / Temperature rise	-	-	19	19	-	-	19	19	19
8.4.3.3 Time- current characteristics, Gates	4-10	1-7	10-15	10-15	4-10	1-7	10-15	10-15	10-15
8.4.3.4 Overload	11-13	-	16-18	16-18	11-13	-	16-18	16-18	16-18
8.4.3.6 Indicating device	1-3	-	1-9	1-9	1-3	-	1-9	1-9	1-9
8.5 No.1 Breaking capacity	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
8.5 No.3 Breaking capacity	-	-	7	7	-	-	7	7	7
8.5 No.4 Breaking capacity	-	-	8	8	-	-	8	8	8
8.5 No.5 Breaking capacity	-	-	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.

The logo for ETI, consisting of the letters 'E', 'T', and 'I' in a stylized, bold, green font.

NH2

NV2

400A aM

A green rectangular box containing the text '~690V' in white, indicating the rated voltage.

100 kA

IEC / EN 60269

41854242

Made in Slovenia

