Physical-Technical Testing Institute
Ostrava - Radvanice

(1) Supplementary EU - Type Examination Certificate No.3

(2) **Component Intended for use on/in an Equipment or Protective System Intended for use in Potentially Explosive Atmospheres (Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 10 ATEX 0086U

(4) Product: **Flameproof bushing type S...**

(5) Manufacturer: **Limatherm S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 10 ATEX 0086U to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018, EN 60079-1:2014

The sign „U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

(11) The marking of the product shall include the following:

Ex II 2G Ex db IIC Gb

(12) This certificate is valid till: **26.02.2026**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

Date of issue: 26.02.2021

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
tel.: +420 595 223 111, +420 604 203 525, e-mail: ftzu@ftzu.cz, www.ftzu.cz

(13) Schedule

(14) Supplementary EU - Type Examination Certificate No. 3 to FTZÚ 10 ATEX 0086U

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Evaluation according to the newest standards EN IEC 60079-0:2018, EN 60079-1:2014.
- Prolongation of certificate validity.
- Update of the documentation.

There were no changes in construction or electric parameters of the product. There were small corrections in documentation which are not relevant for construction of the product.

(16) Report Number: 10/0086/3

(17) Schedule of Limitations:

1. Cylindrical holes, in which bushings type S... with cylindrical joints are installed, shall meet the minimum requirements of IEC 60079-1, table 2 or 3 (cylindrical joints). The surface of joints shall be machined so their average roughness does not exceed 6.3 µm.
2. The line bushing have to be included in the type test performed in compliance with IEC 60079-1, section 15 for corresponding explosion group.
3. The bushing has to be fixed and secured in the electrical equipment against self-loosening and slewing.
4. Service temperature of the bushing is: -40 °C ≤ Tserv. ≤ +120 °C.
5. Bushings are not intended to be repaired.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

(19) Drawings and Documents:

Number	Revision	Sheets	Date	Description
3-Z-L2895	b	1	17.06.2016	Drawing
N-L3708	-	4	01.02.2021	Application manual
--	-	1	01.02.2021	Data sheet

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV AO 210 NB 1026

Date of issue: 26.02.2021

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
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Physical-Technical Testing Institute
Ostrava - Radvanice

(1) Supplementary EU - Type Examination Certificate No.2

(2) **Component Intended for use on/in an Equipment or Protective System Intended for use in Potentially Explosive Atmospheres (Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 10 ATEX 0086U

(4) Product: **Flameproof bushing type S ...**

(5) Manufacturer: **Limatherm S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 10 ATEX 0086U to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20.04.2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20.04.2016.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012, EN 60079-1:2014

(11) The marking of the product shall include the following:

Ex II 2G Ex db IIC Gb

(12) This certificate is valid till: **28.06.2021**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210 NB 1026

Date of issue: 28.06.2016

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
tel +420 595 223 111, fax +420 596 232 672, ftzu@ftzu.cz, www.ftzu.cz

(13) Schedule

(14) Supplementary EU - Type Examination Certificate No. 2 to FTZÚ 10 ATEX 0086U

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Evaluation according to the new standards;
- Prolongation of certificate validity.

The flameproof bushing type S ... are verified according to new editions of standards EN 60079-0:2012, EN 60079-1:2014.

Technical and construction parameters of component remain unchanged.

(16) Report Number.: 10/0036/2

(17) Schedule of Limitations:

1. Cylindrical holes, into which bushings type S... with cylindrical joint are installed, shall meet the minimum requirements of IEC 60079-1, table 2 or 3 (cylindrical joints). The surface of joints shall be machined so that their average roughness does not exceed 6.3 µm.
2. The line bushing have to be included in the type test performed in compliance with IEC 60079-1, section 15 for corresponding explosion group.
3. The bushing has to be fixed and secured in the electrical equipment against self – loosening and slewing.
4. Service temperature of the bushing is: -40 °C ≤ Tserv. ≤ +120 °C.
5. Bushings are not intended to be repaired.

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

Date of issue: 28.06.2016

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
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(13) Schedule

(14) Supplementary EU - Type Examination Certificate No. 2 to FTZÚ 10 ATEX 0086U

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

(19) Drawings and Documents:

Number	Issue	Sheets	Date	Description
N-L3708		5	03.03.2016	Application manual
--			03.03.2016	Data sheet of bushing type S
3-Z-L2895	b		17.06.2016	Drawing of bushing type S

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ EX AO 210 NB 1026

Date of issue: 28.06.2016

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
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Physical Technical Testing Institute

Ostrava-Radvanice

(1) # Supplement No. 1 to EC-Type Examination Certificate

(2) **Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 10 ATEX 0086U

(4) Component: **Flameproof bushing type S ...**

(5) Manufacturer: **Limatherm S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This supplement of certificate is valid for: - modification of certified component

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, a list of which is mentioned in the schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements which the manufacturer shall fulfil before products are placed on the market or introduce in service.

(10) Safety requirements of modified parts were fulfil by satisfying of following standards:

EN 60079-0:2009; EN 60079-1:2007

(11) Marking of component shall contain symbols:

Ex II 2G Ex d IIC Gb

(12) This type examination certificate is valid till: **31.07.2015**

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 15.07.2011

Number of pages: 2

FTZÚ, Pikartská 7, 716 07 Ostrava Radvanice, tel +420 595 223 111, fax +420 596 232 672, e-mail: ftzu@ftzu.cz

(13) **Schedule**

(14) # Supplement No. 1 to EC-Type Examination Certificate N° FTZÚ 10 ATEX 0086U

(15) Description of Component:

The label marking of component was changed. This change has no effect on the safety and on the explosion proof construction of component.

(16) Report No.: 10/0086-D1 dated 13.07.2011

(17) Schedule of limitations:

- Cylindrical holes, into which bushing type S... with cylindrical joint are installed, shall meet the minimum requirements og. IEC 60079-1, table 1 or 2 (cylindrical joints). The surface of joint shall be machined so that their average roughness does not exceed 6.3 µm.
- The line bushing have to be included in the type test performed in compliance with IEC 60079-1, section 15 for corresponding explosion group.
- The bushing has to be fixed and secured in the electrical equipment against self – loosening and slewing.
- Temperature range at the place of installation of bushing is -40 °C ≤ Tserv. ≤ +120 °C.

(18) Essential Health and Safety Requirements: Remain unchanged

(19) LIST OF DOCUMENTATION

Title:	Drawing No.:	Rev. Level:	Date:
Service manual	N-L3708	-	17.05.2011
Data sheet of bushing type S	-	-	17.05.2011
Drawing of bushing type S	3-Z-L2895	Rev. a	16.05.2011

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ EX AO 210 NB 1026

Date of issue: 15.07.2011

FTZÚ, Pikartská 7, 716 07 Ostrava Radvanice, tel +420 595 223 111, fax +420 596 232 672, e-mail: ftzu@ftzu.cz

Physical Technical Testing Institute

Ostrava-Radvanice

(1) # EC-Type Examination Certificate

(2) **Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

(3) EC-Type Examination Certificate Number:

FTZÚ 10 ATEX 0086U

(4) Component: **Flameproof bushing type S ...**

(5) Manufacturer: **Limatherm S.A.**

(6) Address: **ul. Tarnowska 1, 34-600 Limanowa, Poland**

(7) This Component and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

10/0086 dated 29 June 2010

(9) Compliance with Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009; EN 60079-1:2007;

(10) The sign „U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

(11) This EC-TYPE EXAMINATION CERTIFICATE relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.

(12) The marking of the component shall include following:

Ex II 2G Ex d IIC Gb

This EC-Type Examination Certificate is valid till: **31.07.2015**

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV AO 210 NB 1026

Date of issue: 01.07.2010

FTZÚ, Pikartská 7, 716 07 Ostrava Radvanice, tel +420 595 223 111, fax +420 596 232 672, e-mail: ftzu@ftzu.cz

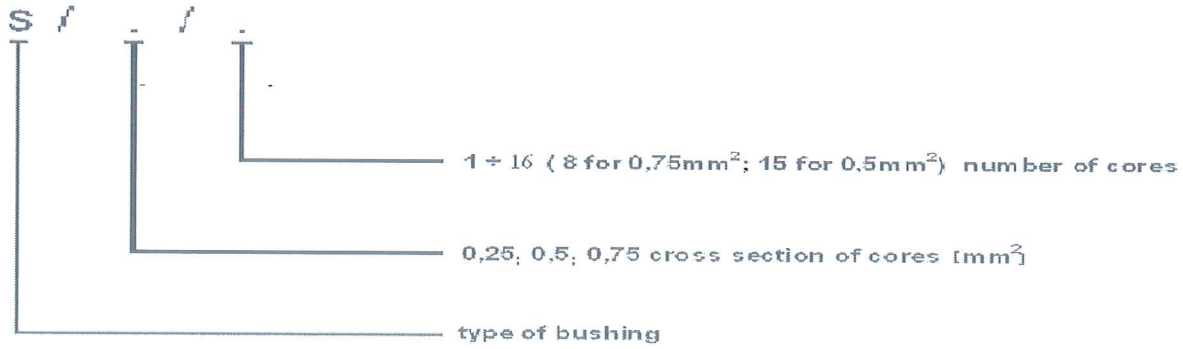
(13) **Schedule**

(14) EC-Type Examination Certificate N° FTZÚ 10 ATEX 0086U

(15) Description of Component:

Flameproof line bushings are intende for instalation in to flameproof enclosures of explosion-proof apparatus. The body of bushings are made of brass M058 and are nickel-plated. The body of bushings create cylindrical joint with wall of flame proof enclosure of relevant parameters. Bushings serves as electrical connection between flameproof enclosures or between flame proof enclosure and a terminal compartment with another type of protection, generally increased safety. Instalation of the bushing has to be done according to service manual N-L3708. Operating temperature range of bushings is **-40 °C ≤ Tserv. ≤ +120 °C**. Temperature rises of the bushing in case of worst conditions does not exceed 45K. (Max. Current see table below).

Type marking:



Technical parameters:

Max. Voltage: 500V

Type of bushing	Cross section of the cores [mm²]	Diameter of cylindrical joint of bushing	Number of conductors	Max. Rated current [A]	Marking of bushing
S	0,25	$\varnothing 22^{-0,03}_{-0,1}$	1 ÷ 16	3,8	S-025-1÷16
	0,5		1 ÷ 15	6.1	S-050-1÷15
	0,75		1 ÷ 8	9.3	S-075-1÷8

Responsible person:

Dipl. Ing. Šindler Jaroslav
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 01.07.2010

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(13) **Schedule**

(14) EC-Type Examination Certificate N° FTZÚ 10 ATEX 0086U

(16) Report No. : 10/0086 dated 29 June 2010

(17) Schedule of Limitations: --

(18) Essential Health and Safety Requirements:
They are included in standards, which are mentioned in clause (9) of this certificate. The product was approved in accordance with above mentioned standards.

(19) LIST OF DOCUMENTATION

Description	Number of drawing	Revision	Date
Service manual	N-L3708	-	29.01.2010
Data sheet of bushing type S	-	-	21.01.2010
Drawing of bushing type S	3-Z-L2895	-	10.02.2010

Data sheet of compound	U 232A
Data sheet of conductors	HELUTHERM 145

Responsible person:

Dipl. Ing. Sindler Jaroslav
Head of certification body

PHYSICAL-TECHNICAL TESTING INSTITUTE FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 01.07.2010

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