



## IA – CERTIFICATE

(Review required by MASC as per ARP 0108)  
(Supplement 6: To include ARP Review)

IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT (INCORPORATION THE MINE HEALTH AND SAFETY ACT) AND REGULATION 9 (1) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT

Ex – Type Examination

Certificate number:

**MASC S/18-0109X**

Equipment:

Terminal Boxes, Glands, Plugs and Terminals

Serial No:

(See “Conditions of Certification”)

Requested by:

R. STAHL South Africa

Address:

61 Ronald Ave  
Linbro Park  
Johannesburg  
South Africa

Applicant:

R. STAHL South Africa

Address:

61 Ronald Ave  
Linbro Park  
Johannesburg  
South Africa

Manufacturer:

R. Stahl Schaltgeräte GmbH

Address:

74638 Waldenburg (Württ)  
Germany

### DESCRIPTION:

The Terminal Boxes, Glands, Plugs and Terminals was previously certified by PTB as per table 1. The authenticity of the certificates as well as the marking of the Terminal Boxes, Glands and Plugs were individually assessed for compliance with the requirements against the certificates submitted.

The differences between the two standards was evaluated and found to comply.

/./ TABLE 1...

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# IA CERTIFICATE NUMBER: MASC S/18-0109X

## Terminal Boxes, Glands, Plugs and Terminals

TABLE 1

Equipment Part No	Ex Rating	Certification
<b>Terminal Boxes:</b>  <b>8118/***_**</b>	<u>Atex:</u> Ex e ia ib [ja Ga] mb IIC, IIB, IIA T6, T5, T4 Gb or Ex eb ia ib [ja] mb IIC, IIB, IIA T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db IP66 or Ex tb IIIC T80°C, T95°C, T130°C IP66  <u>IECEX:</u> Ex e mb IIC T6, T5, T4 GB or Ex eb mb IIC T6, T5, T4 Ex ia ib [ja Ga] IIA, IIB, IIC T6, T5, T4 Gb or Ex ia ib [ja] IIA, IIB, IIC T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db IP66 or Ex tb IIIC T80°C, T95°C, T130°C IP66	<b>PTB 99 ATEX 3103</b>  <b>IECEX PTB 06.0026</b>
<b>8125/1***_*** and 8125/2***_***</b>	<u>Atex:</u> Ex d e ia ib [ja Ga] mb IIA, IIB, IIC T6, T5, T4 Gb or Ex db eb ia ib [ja] mb IIA, IIB, IIC T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db IP66 or Ex tb IIIC T80°C, T95°C, T130°C IP66  <u>IECEX:</u> Ex d e ia ib [ja Ga] mb IIA, IIB, IIC T6, T5, T4 Gb or Ex db eb ia ib [ja] mb IIA, IIB, IIC T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db or Ex tb IIIC T80°C, T95°C, T130°C	<b>PTB 00 ATEX 3116</b>  <b>IECEX PTB 06.0060</b>
<b>8146/1***_*** and 8146/2***_***</b>	<u>Atex:</u> Ex d e ia ib [ja Ga] mb IIA, IIB, IIC T6, T5, T4 Gb or Ex db eb ia ib [ja] mb IIA, IIB, IIC T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db IP66 or Ex tb IIIC T80°C, T95°C, T130°C IP66  <u>IECEX:</u> Ex d e ia ib [ja Ga] mb IIA, IIB, IIC T6, T5, T4 Gb or Ex db eb ia ib [ja] mb IIA, IIB, IIC T6, T5, T4 Ex tb IIIC T80°C, T95°C, T130°C Db or Ex tb IIIC T80°C, T95°C, T130°C	<b>PTB 01 ATEX 1016</b>  <b>IECEX PTB 06.0046</b>
<b>8150/1-****_****_****_**** 8150/2-****_****_****_****</b>	<u>Atex:</u> Ex d e ia ib mb IIA, IIB, IIC T6, T5, T4, T3 Gb or Ex db eb ia ib mb IIA, IIB, IIC T6, T5, T4, T3 Ex tb IIIC T80°C, T95°C, T130°C, T135°C Db or Ex tb IIIC T80°C, T95°C, T130°C, T135°C (IP 66)  <u>IECEX:</u> Ex d e ia ib mb IIA, IIB, IIC T6, T5, T4, T3 Gb or Ex db eb ia ib mb IIA, IIB, IIC T6, T5, T4, T3 Ex tb IIIC T80°C, T95°C, T130°C, T135°C Db or Ex tb IIIC T80°C, T95°C, T130°C, T135°C (IP 66)	<b>PTB 09 ATEX 1108</b>  <b>IECEX PTB 09.0048</b>
<b>Glands:</b> <b>8161/*_***_****_*****</b>	<u>Atex:</u> Ex e IIC Gb	<b>PTB 14 ATEX 1008X</b>

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Terminal Boxes, Glands, Plugs and Terminals

8161/*-***_****_***_*****_*****_*****	Ex tb IIIC Db  <u>IECEX:</u> Ex eb IIC Gb Ex tb IIIC Db	IECEX PTB 14.0011X
8161/5 and 8161/6	<u>IECEX:</u> Ex e II Ex tD A21 IP66	IECEX PTB 05.0016X
8162 Breathing Gland: 8162/1-**-*	<u>Atex:</u> Ex eb IIC Gb Ex tb IIIC Db  <u>IECEX:</u> Ex eb IIC Gb Ex tb IIIC Db	PTB 01 ATEX 1018  IECEX PTB 06.0028
8290 Stopping Plug 8290/3-***	<u>Atex:</u> Ex e IIC Gb Ex tb IIIC Db  <u>IECEX:</u> Ex e IIC Gb Ex tb IIIC Db	PTB 99 ATEX 3133  IECEX PTB 05.0013
8102 Junction Box 8102/2*--**	<u>Atex:</u> II 2 G/D EEx e ia/ib II/IIA/IIB/IIC T6 or T5 IP66 T 80°C, T95°C	PTB 01 ATEX 1136
Terminal Blocks and Protective Conductor Terminal Blocks Series UT 2,5/4/6/10/16/35 and Pick-off Terminal Blocks AGK 4-UT 10; AGK 4-UT 16; AGK 4-UT 35	<u>IECEX:</u> Ex eb IIC Gb	IECEX KEM 06.0027U
Terminals SAK (Incl AKZ & DK); W; Z; I; P; MK; BK	Ex e II	S-XPL/07962 U
TOPJOB S, 2002-****/****_**** and 2002-****7/* PE & Through terminal blocks and Type 279, 280, 281, 282, 283	Ex eb IIC Gb or Ex eb I Mb	IECEX PTB 03.0004U

**MARKING**

The individual equipment markings and warnings remains applicable as per each relevant certificate. The following information must be clearly applied to the equipment.

Supplier : Esaco (Pty) Ltd.  
 Manufacturer : R. STAHL Schaltgeräte GmbH  
 Equipment : Terminal Boxes, Glands and Plugs  
 Model/Type : Refer to Table 1  
 Serial No : ---  
 Ex Rating : Refer to Table 1  
 IA No : MASC S/18-0109X

/ . The evaluation...

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# IA CERTIFICATE NUMBER: MASC S/18-0109X

## Terminal Boxes, Glands, Plugs and Terminals

The evaluation was conducted according to the requirements of:

<b>SANS 60079-0 Ed 5: 2012</b>	<b>Electrical apparatus for explosive gas atmospheres - Part 0: General requirements</b>
<b>SANS 60079-1 Ed 4: 2009</b>	<b>Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosures "d".</b>
<b>SANS 60079-7 Ed 3: 2007</b>	<b>Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety "e".</b>
<b>SANS 60079-11 Ed 3:2007</b>	<b>Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety "i".</b>
<b>SANS 60079-18 Ed 3:2009</b>	<b>Electrical apparatus for explosive gas atmospheres - Part 18: Equipment protection by encapsulation "m"</b>
<b>SANS 60079-31 Ed 1:2009</b>	<b>Electrical apparatus for explosive atmospheres - Part 31: Equipment protection by enclosure "t"</b>

Location	Zone 1 & 2 Zone 21 & 22	Gas – Surface (As Applicable – Table 1) Dust (Metallic & non-metallic) (As Applicable – Table 1)
Hazard Frequency	---	Intermittent as could occur under normal operating conditions in hazardous area
Environment	Group IIA,IIB,IIC Group IIIC	Propane to Ethylene and Hydrogen (As Applicable – Table 1) Conductive dust (As Applicable – Table 1)
Surface Temperature	T3,T4,T5,T6 T80°C, T95°C, T130°C, T135°C	(As Applicable – Table 1) Group III, Conductive Dust (As Applicable – Table 1)

Service/Ambient Temperature: Individual ratings – Table 1.

***The use of apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:***

- i. SANS 10086 requirements;
- ii. Any conditions mentioned in the above document;
- iii. Codes of Practice enforced in terms of Regulations 21.17.2 of Minerals Act, by Chief Inspector of Mines;
- iv. Any restrictions and conditions enforced by Chief Inspectors of Mines, Principal Inspector (Group I equipment) of Chief Inspector of Factories (Group II equipment);
- v. Any relevant requirements of the MHS Act or the OHS Act.

**/ . INSTALLATION...**

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## Terminal Boxes, Glands, Plugs and Terminals

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### INSTALLATION INSTRUCTIONS:

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

### SPECIAL CONDITIONS OF USE (X):

#### 8161/\*-\*\*\*-\*\*\*\*-\*\*\*\*\*

Only permanently wired cables may be entered. The user shall provide for the required strain relief.

Degree of protection will be safeguarded only when sealing and cable entry fittings are properly fitted. The manufacturer's instructions must be followed.

The ambient temperature range of the cable glands type 8161 / \*-M12-\*\*\*\*-\*\*\*-\*\*\*\*\*-\*\*\*\*\*-\*\*\*\*\* and 8161 / \*-M12-\*\*\*\*LT\*-\*\*\*\*\*-\*\*\*\*\*-\*\*\*\*\*, is restricted to +15°C up to +65°C.

The types with low impact energy are suitable in approved ambient temperature range for installation in apparatus with the risk of mechanical hazard "low" of groups II and III. Outside of this ambient temperature range these types must be mounted into an apparatus in such a way that they are adequately protected against mechanical hazard.

#### 8161/5 and 8161/6

The Cable glands are only suitable for fixed cable installation. The end user has to ensure that an appropriate strain relief is guaranteed. The maximum thermal ratings of the inserted cables are to be considered.

#### TOPJOB S, 2002-\*\*\*\*/\*\*\*-\*\*\* and 2002-\*\*\*7/\* PE & Through terminal blocks and Type 279, 280, 281, 282, 283

The terminals shall be mounted in an enclosure that meets the requirements of an approved type of protection as specified in IEC 60079-0, clause 1 or IEC 60079-31.

When installing the terminals in an enclosure designed to Increased Safety "e" type of protection as specified in IEC 60079-7, the clearance and creepage distances shown in table 2 shall be duly considered.

If accessories are used, the instructions for installation provided by the manufacturer shall be observed.

All technical specifications are contained in the technical data section of this certificate.

When the terminals are installed in a terminal compartment, the requirements according to IEC 60079-0 must be met.

Concerning the use of accessories, the instructions of the manufacturer shall be considered.

When feed-through terminals with earthing conductor terminal blocks are mounted side by side, end cover plates or adaptor plates are to be provided.

Installation of electrical components requires a further assessment by an ExCB.

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Terminal Boxes, Glands, Plugs and Terminals

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**CONDITIONS OF CERTIFICATION:**

1. This Certificate remains valid based on a three-yearly review covered by an official MASC letter.
2. The apparatus must be additionally marked with the MASC marking details above.
3. This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date.
4. The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the relevant authority (PTB) and in this approval.
5. The individual PTB certification must remain valid.
6. The extent of the requirements in the ARP 0108 (or regulations) and SANS 10108 on the certification of the equipment must remain unchanged.
7. The Ex quality assurance notification/report for the equipment must remain valid.



**N. Viljoen**  
TECHNICAL OFFICER



**C. Welthagen**  
TECHNICAL SPECIALIST

**Mining And Surface Certification**

*This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.*

*While every endeavour is made to ensure that a test / assessment is representative and accurately performed, and that a report is accurate in the quoted results and conclusions drawn from the test / assessment, MASC or its members/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report issued pursuant to a test / assessment.*

*MASC takes no responsibility for any non-conformances, exclusions or any results / assessments not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer attests on his own responsibility that the equipment has been constructed in accordance with the applicable requirements of the relevant standards and that the routine verifications and routine tests have been successfully completed and the product complies with the documentation and standard(s).*

*This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practises.*

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