Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 00 ATEX 1059

(4) Equipment: Cable gland, type 18***.**.** ** and sealing plug, type 8710.**

(5) Manufacturer: AGRO AG

(6) Address: CH-5502 Hunzenschwil

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 the confidential report PTB Ex 00-10119.

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

EN 50014:1997 **EN 50018:1994** **EN 50281:1998**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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

Ex II 2 G/D EEx d II T4/T6 IP 68 T 80 °C resp. 160 °C

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, November 30, 2000

i.V. Dr.-Ing. U. Klausewitz
In the absence of
Regierungsdirektor

(13) # SCHEDULE

(14) ## EC TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1059

(15) Description of equipment

The cable gland of type 18***.**.**.** is used as an entry fitting for permanent and non-permanent cables entering flameproof electrical apparatuses.
The sealing plug of type 8710.** is to close any cable entry openings that are not used.

Technical data

Rated cable diameter		7 to 44 mm
Type and size of thread		M16 x 1.5 to M 63 x 1.5 Conduit thread 9 to 48 NPT 3/8" to 1½ 3/8" to 2"
Type and size of sealing plug thread		M12 x 1.5 to M 63 x 1.5 Conduit thread 7 to 36
Max. local operating temperature of the cable entry for normal operation of the electrical apparatus	Sealing ring NBR Sealing ring FPM	-20 °C to 80 °C or -20 °C to 160 °C

The maximum ampacity of the cables shall be determined on the basis of the heating rate of the cables and that of the electrical apparatus at the field site, starting from the maximum admissible ambient temperature; due consideration shall also be given to the sealing ring temperatures under operating conditions **and** the cable quality.

(16) Test report PTB Ex 00-10119

(17) Special conditions for safe use

None

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1059

Notes for safe use

The tapped holes receiving the cable glands and the threaded sealing plug shall meet the minimum requirements as set forth in EN 50 018, section 5.3 (table 3). These cable entries are suited for use in electrical apparatuses designed to type of protection Flameproof Enclosure "d" of groups IIA, IIB or IIC.

In the event that the reference pressure should exceed 20 bar, the cable gland and the sealing plug shall be included in the type test according to EN 50 018, section 15.1.3 (overpressure test), due regard being given to the classification of the electrical appartus in question (grouping IIA, IIB, oder IIC).

The sealing ring used for the cable gland has to match the cable diameter; screw-down nut and clamping jaws to be tightened at the torque specified in the instructions for operation.

The cable gland and the sealing plug shall be fixed in the electrical apparatus in such a way that rotation and accidental loosening will be prevented.

The way in which temperature ranges will have to be associated with the temperature class of the cable gland and the sealing plug shall be specified in the type test of the electrical apparatus in question

(18) Essential health and safety requirements

The tests and the favourable results these have produced reveal that the cable gland and the sealing plug meets the requirements of directive 94/9/EC as well as those of the standards quoted on the cover sheet.

Zertifizierungsstelle Explosionsschutz
By order:

i. V.

In the absence of Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, November 30, 2000

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 00 ATEX 1059

The maximum current carrying capacity of cables has to be established on the basis of the self-heating rate and the heating rate of the installed electrical apparatus, starting from the maximum permissible ambient temperature; due consideration must also be given to the working temperatures of the sealing ring and to the quality of the cable.

Notes for safe operation

The tapped holes receiving the cable gland and the plug with its screw thread have to meet the minimum requirements as set forth in EN 60079-0, section 5.3 (table 3). These cable entry fittings are suited for use in electrical apparatus designed to type of protection Flameproof Enclosure "d" of groups IIA, IIB or IIC.

If the reference pressure exceeds 20 bar, the cable gland and the plug must be included in the type test of EN 60079-1, section 15.1.3 (overpressure test) as required for I, IIA, IIB or IIC classification of the corresponding operator/apparatus.

The sealing ring selected for the cable gland must match the cable diameter, and the forcing nut / the jaws must be tightened with the torque specified in the manual.

The cable gland and the plug must be fixed in the electrical apparatus so that accidental loosening and rotation will be prevented.

The assignment of the temperatures to the temperature class of the cable gland and the plug must be determined when type testing the corresponding electrical apparatus.

Applied standards

EN 60079-0:2006 **EN 60079-1:2004** **EN 61241-0:2006** **EN 61241-1:2004**

Test report: PTB Ex 08-18042

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 27, 2008

Dr.-Ing. M. Thedens
Oberregierungsrat