



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 10ATEX1307U** Issue: **2**

4 Component: **Type 781D Breather/Drain Plugs and Type 781E Breather/Drain Plugs**

5 Applicant: **CMP Products Limited**

6 Address: **Glasshouse Street  
St Peters  
Newcastle upon Tyne NE6 1BS  
UK**

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012          EN 60079-1:2007          EN 60079-7:2007          EN 60079-31:2009

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any special conditions for safe use are listed in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:

**Type 781D**



II 2G  
II 1D  
Ex d IIC Gb  
Ex ta IIIC Da

**Type 781E**



II 2G  
II 1D  
Ex e IIC Gb  
Ex ta IIIC Da

Project Number    31381

C Ellaby  
Deputy Certification Manager

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

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Issue 2

#### 13 DESCRIPTION OF COMPONENT

The Type 781D and 781E Breather Drain plugs are made in thread forms M20 x 1.5 and M25 x 1.5 (or equivalent) and are intended for mounting to an enclosure to permit the passage of the internal moisture out of the enclosure.

The Type 781D breather Drain is intended for installation to a threaded entry on an 'Ex d' enclosure and the Type 781E can be fitted to a threaded entry or a clearance hole on an 'Ex e' enclosure. The 781E is supplied with a locknut which is castellated to facilitate draining when fitted to a clearance hole.

Each device comprises a metallic, hexagonal bar with a cylindrical portion at one end and a male entry thread fitted with an O ring at the other. The Breather Drain Plugs contain two through holes which interface at right angles, one located on the cylindrical portion and the other penetrating, axially to the hollow section below the threaded portion. The hollow section contains a 5 mm thick 0.36 sg felt plug which is a press fit.

The entry thread of the Type 781E drain plug has two axial slots cut along its length 180° opposed to each other. The drainage channels through the body allow for the passage of moisture through the felt pad.

The Type 781D plug has a threaded inner portion into which is screwed a plug to form a threaded flamepath. Moisture is allowed to drain through this flamepath.

The Type 781D plug can be used with enclosures up to 30 litres for group IIB gases and enclosures up to 2.5 litres for group IIC gases.

#### Entry Thread options:

Metric to BS 3643:1981	ET to BS 31: 1940
PG to DIN 40430:1971	BSPP to BS 2779:1973
BSPT to BS 21:1985	ISO to ISO 7/1:1982
NPT to USAS B2.1-1968	NPT to ANSI/ASME B1.20.1-1983
NPSM to ANSI/ASME B1.20.1-1983	BSW to BS84:1956

#### Material options for metallic parts:

Brass (standard)  
Mild steel  
Stainless steel or  
Aluminium with a magnesium content less than 6% by weight

#### Variation 1 - This variation introduced the following changes:

- i. The following modifications of the 781E Breather Drain were acknowledged:
  - A minor alteration of the threaded section was permitted.
  - The introduction of Nylon 6 as an alternative material of construction, the general design being the same as the metallic versions. As a result of this change, the associated Special Condition for Safe Use was amended and a Condition of Certification was added.
- ii. The ATEX making for dust that is applied to the products was changed from 2D to 1D.

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

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**Variation 2** - This variation introduced the following changes:

- i. As an alternative to the existing Viton O-ring, the metallic Type 781E Breather/Drain Plugs are now allowed to be fitted with a silicone O-ring enabling the lower service temperature of this version to be reduced from -20°C to -60°C; the relevant condition was amended accordingly.
- ii. Following appropriate assessment to demonstrate compliance with the requirements of the latest technical knowledge, EN 60079-0:2009, was replaced by EN 60079-0:2012.

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	14 April 2011	R23362A/00	The release of the prime certificate.
1	12 June 2013	R26728A/00	The introduction of Variation 1.
2	19 September 2013	R31381A/00	The introduction of Variation 2.

#### 15 SPECIAL CONDITIONS FOR SAFE USE

15.1 The products are approved for the following temperature ranges at their point of mounting:

Type 781D:	Type 781E (Metallic body/Viton O-ring):	Type 781E (Metallic body/silicone O-ring):	Type 781E (Nylon body):
-60°C to +130°C	-20°C to +130°C	-60°C to +130°C	-20°C to +105°C

15.2 The following service temperatures were observed during testing of the Type 781D Draining Devices:

Temperature increase expected above temperature as a result of fitting the Type 781D drains	
Maximum 2.5L volume enclosure for IIC	4°C
Maximum 30L volume enclosure for IIB	42°C

15.3 The Type 781 Breather Drain Plugs shall be installed on the bottom of enclosures only.

15.4 The Type 781 Breather Drain Plugs shall not to be used with any form of adaptors or reducers.

15.5 The Type 781D Draining Devices have undergone overpressure testing at 160 bar (4 x 40 bar).

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 The Type 781D shall not be made from Nylon 6.

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### Sira Certification Service

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# Certificate Annexe

Certificate Number: Sira 10ATEX1307U  
Component: Type 781D Breather/Drain Plugs and Type 781E Breather/Drain Plugs  
Applicant: CMP Products Limited

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## Issue 0

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
GA295	1 of 1	00	28 Jan 2011	Type 781 Breather/Drain Plug

## Issue 1

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
GA295	1 of 1	01	07 Jun 13	Type 781 Breather/Drain Plug

## Issue 2

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
GA295	1 of 1	02	29 Aug 13	Type 781 breather / drain plug

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