

**GOVERNMENT APPROVED TEST LABORATORY**  
 IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

**IA CERTIFICATE**

Date Issued: **24 Jan 2024**  
 \*Expiry date: **24 Jan 2027**  
**Page 1 of 4**  
**Issue: 2**

**Ex – Type Examination Certificate**

Certificate Number: **S-XPL/21.0304 U**  
 Equipment: **Breather/Drain Plugs**  
 Model / Type: **781D and Type 781E**  
 Applicant: **CMP Products Limited**  
**Glasshouse Street**  
**St Peters**  
**Newcastle Upon Tyne**  
**NE6 1BS**  
**United Kingdom**  
 Manufacturer: **CMP Products Ltd**  
 Serial No: All serial numbers imported between issued- and expire date and all serial numbers covered by a valid report or acceptable product certification mark.

Supplied by  
**CMP Products Limited**  
 Identified by Inspection Authority number  
**S-XPL/21.0304 U**

And as described in the Explolabs file number **XPL/21962/21.0304** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.

- SANS 60079-0: 2019 Ed 6** Explosive atmospheres Part 0: Equipment — General requirements
- IEC 60079-0: 2017 Ed 7**
- SANS 60079-1: 2015 Ed 5** Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"
- IEC 60079-1: 2014 Ed 7**
- SANS 60079-7: 2019 Ed 4** Explosive atmospheres Part 7: Equipment protection by increased safety "e"
- IEC 60079-7:2015 Ed 5**
- SANS 60079-31: 2014 Ed 2** Explosive atmospheres Part 31: Equipment dust ignition protection by enclosure "t"
- IEC 60079-31: 2013 Ed 2**

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL)	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
	Group			
High	Gb Group II	Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account	Equipment remains functioning in zones 1 and 2	Not Applicable
High	Db Group III		Equipment remains functioning in zones 21 and 22	

## 1. GENERAL

The marking of the Breather/Drain Plugs shall include the following:

**Ex db IIC Gb (781D)**

**Ex eb IIC Gb (781E)**

**Ex ta IIIC Da**

**Description**

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 into a threaded entry on a flameproof enclosure and the Type 781E is intended for installation into a threaded entry or a clearance hole on an increased safety enclosure, both are suitable for installation into a threaded or clearance hole on an enclosure providing the type of protection 'dust protection by 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 allows 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 enclosure up to 2.5 litres for Group IIC gases.

**Materials of manufacture:**

The standard material supplied is:

Brass	BS EN 12164:2011/ BS EN 12168:2011 Grade CuZn39Pb3 (CW614N) All brass manufactured component parts can be optionally nickel plated to a maximum of 0.008mm
-------	---

Alternate materials are:

Stainless steel	BS EN 10088-3:2014 Grades 316S11, 316S13, 316S31, 316S33, 316L
Mild steel	BS EN 10277-2:2008 Grades 220M07, 230M07 (EN1A) / 220M07Pb, 230M07Pb (EN1APb)
Aluminium	BS EN 573-3:2013 / BS EN 755-1-3:2008 Grade 6082 T6, 6262 T6 / BS EN 1676:2010 Grade LM25 TF

**Alternative entry component thread forms:**

Metric	ISO 965-1, ISO 965-3 medium fit (6g) for external threads
ET (Conduit)	BS31:1940 (1979), Table A
PG	DIN 40430:1971
BSPP	BS2779:1986 class A full form for external threads
BSPT	BS21:1985 standard threads only as clause 5.4, gauging to clause 5.2 system A
ISO	ISO 7/1:1994, gauging to ISO 7/2 clause 6.3 for external threads
NPT	ANSI/ASME B1.20.1-2013 gauging to clause 3.2 for external threads
NPSM	ANSI/ASME B1.20.1-2013 gauging to clause 6.4 for external threads

This certificate supersedes all previous documents bearing the reference no XPL/21962/21.0304 Issue 1.

DOCUMENT No: XPL0213

RELEASE DATE: 29/05/2018

REV: 7



**6. MARKING**

The following (or similar) information have to be clearly and permanently marked on all units:

Supplier : CMP Products Limited  
 Manufacturer : CMP Products Ltd  
 Equipment : Breather/Drain Plugs  
 Model/Type : 781D and Type 781E  
 Serial No. : ---  
 Ex Rating : Ex db IIC Gb (781D)  
               Ex eb IIC Gb (781E)  
               Ex ta IIIC Da  
 IA Certificate No : S-XPL/21.0304 U

*This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:*

- i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
- ii) Any conditions mentioned in the above report;
- iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act, and
- iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
- v) A revision certificate replaces all previous version of the certificate.
- vi) \* - Only covers equipment Imported between the "Issued" and "Expire" dates.
- vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

**Responsible Testing Officer:**

**D Maree****Technical Specialist****EXPLOLABS EXPLOSION PREVENTION SERVICES**

*This report/certificate shall not be reproduced except in full without the written approval of the company Explolabs (Pty) Ltd shall not be liable for any losses or damages sustained on account of any failure or omission to properly perform our duties in terms of any contract undertaken by us. This disclaimer is immutable and automatically incorporated in any contract undertaken by us; notwithstanding anything to the contrary, save for the express written waiver of our managing director. 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 tests have been successfully completed and that the product complies with the documentation and standard(s). The contents of electronic reports/certificates cannot be guaranteed. Original certification documents will be kept on file at Explolabs (Pty) Ltd*

This certificate supersedes all previous documents bearing the reference no XPL/21962/21.0304 Issue 1

DOCUMENT No: XPL0213

RELEASE DATE: 29/05/2018

REV: 7