



# Mining And Surface Certification CC

CC 2008/202081/23



**Certificate Number:** MASC MS/13-594X  
**Issue:** 15 August 2013  
**Expire:** 15 August 2023  
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## IA – CERTIFICATE

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:

Equipment:

Serial No:

Applicant:

Address:

**MASC MS/13-594X**

Ex Blanking elements, Threaded Couplings, Threaded Adaptors  
(including Reducers)

(See “Conditions of Certification”)

CCG

P.O Box 193

Kempton Park

1620

South Africa

Manufacturer:

Address:

CCG

P.O Box 193

Kempton Park

1620

South Africa

### DESCRIPTION:

See Schedule Below

### MARKING

TÜV RHEINLAND AUSTRALIA marking remains applicable. The following MASC Certificate number (IA number) must be additionally applied to the equipment

IA No: MASC MS/13-594X

### COMPLIANCE:

The equipment as described above and in MASC letter 13-594 is hereby certified “Explosion Protected Ex d I/IIC MbGb, Ex e I/IIC MbGb, Ex t IIIC Db, IP65/66/67/68 (2m cont.) (as applicable)” and is suitable for use in hazardous locations as stated below and as tested, assessed and inspected in accordance with the relevant requirements of SANS/IEC Standards:

**The evaluation was conducted according to the requirements of:**

- i) IEC 60079-0:2011 (Edition 6.0) Explosive atmospheres - Part 0: General requirements

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- ii) IEC 60079-1:2007-04 (Edition 6) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
- iii) IEC 60079-7:2006-07 (Edition 4) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
- iv) IEC 60079-31:2008 (Edition 1) Explosive atmospheres – Part 31 : Equipment dust ignition protection by enclosure "t"

Location	Zone 1,2,21,22	Surface and Underground
Hazard Frequency	---	Intermittent as could occur under normal operating conditions in hazardous area
Environment	Group I / IIC Group IIIC	Propane to Hydrogen and Acetylene Non-metallic and metallic dusts
Surface Temperature	N/A	Component
Service Temperature	-20 to 95°C	Service Temperature

**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 report;
- 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.

## CONDITIONS OF MANUFACTURE:

None

## SPECIAL CONDITIONS OF USE (X):

1. An IP rating of P66/67/68 is maintained for all units with parallel threads when used with the supplied washer and for units with tapered thread when thread seal is conducted as indicated in IEC60079-14. Alternatively an IP65 rating is applicable.
2. A service temperature range of -20°C to 95°C is applicable if the washers are utilised to maintain the IP rating (IP65/66/67/68(2m)).
3. A blanking element may not be installed on an adaptor.

## CONDITIONS OF CERTIFICATION / MANUFACTURE:

1. The unit is acceptable if manufactured under the CCG existing TÜV RHEINLAND AUSTRALIA quality assurance system and a valid South African Mark Scheme.
2. The apparatus must be additionally marked in a clear, legible, visible and indelible manner 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 TÜV RHEINLAND AUSTRALIA and in this approval.
5. The TÜV RHEINLAND AUSTRALIA certification must remain valid.

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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.

Yours faithfully



**R Viljoen**  
**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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**IA CERTIFICATE NUMBER: MASC MS/13-594X**  
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**Schedule**

**Description of equipment**

<p><b>Nomenclature for adaptors, reducers, unions and couplers:</b></p> <p>CCG AGZZZGYYYYE (Adaptors)                  CCG RGZZZGYYYYE (Reducers)                  CCG UGYYYYGYYYYE (Union)                  CCG CGZZZGZZZE (Coupler)</p> <p>A: ADAPTOR                  R: REDUCER                  U: UNION                  C: COUPLER                  G: M – METRIC                  N – NPT                  B – BSP                  BSPT – BSPT                  P – PG                  G – EUROPE G (PARALLEL)                  GK – GK (TAPER)                  R – R (PARALLEL)                  RK – RK (TAPER)                  PF – JAPAN PF (PARALLEL)                  K – K mpy (TAPER)                  ZZZ - MALE THREAD SIZE                  YYY - FEMALE THREAD SIZE                  E - Ex COMPONENT                  (Example :- RM020M016E)</p> <p>For metric thread the pitch is:</p> <ul style="list-style-type: none"> <li>• M75 and smaller has 1.5mm pitch.</li> <li>• M80 and larger has 2mm pitch.</li> </ul>	<p><b>Nomenclature for threaded blanking elements:</b></p> <p>CCG PFGZZZE</p> <p>P: PLUG (Blanking element)                  F: D – DOME HEAD or H – Hex Head or S – Stopper plug                  G: M – METRIC                  N – NPT                  B – BSP                  BSPT – BSPT                  P – PG                  G – EUROPE G (PARALLEL)                  GK – GK (TAPER)                  R – R (PARALLEL)                  RK – RK (TAPER)                  PF – JAPAN PF (PARALLEL)                  K – K mpy (TAPER)                  ZZZ THREAD SIZE                  E - Ex COMPONENT</p> <p>For metric thread the pitch is:</p> <ul style="list-style-type: none"> <li>• M75 and smaller has 1.5mm pitch.</li> <li>• M80 and larger has 2mm pitch.</li> </ul>
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**Note: NPT and BSP designations in the tables below may be replaced with the applicable alternate ISO pipe thread designations as in the marking above.**

**Threaded Adaptors and Reducers:**

The range of threaded adaptors is suitable for inserting certified glands into enclosures having threaded entries, as appropriate for the type of protection. The equipment is manufactured from brass (nickel plated), stainless steel, mild steel or bronze. A non-metallic washer may be utilised on all non-tapered threads to ensure an IP65/66/67/68(2m cont.) rating. The parallel threaded and NPT units will maintain an IP65 rating with no washer fitted.

**Metric to Metric:**

Female \ Male	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
	M16	A	A	A							

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M20	R	A	A	A							
M25	R	R	A	A	A						
M32	R	R	R	A	A	A					
M40	R	R	R	R	A	A	A				
M50	R	R	R	R	R	A	A	A			
M63	R	R	R	R	R	R	A	A	A		
M75	R	R	R	R	R	R	R	A	A	A	
M80	R	R	R	R	R	R	R	R	A	A	A
M90	R	R	R	R	R	R	R	R	R	A	A
M100	R	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

### Metric to BSP/NPT:

Female Male	1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP	3 1/2" BSP	4" BSP
	1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT	3 1/2" NPT	4" NPT
M16	A	A								
M20	A/R'	A	A							
M25	R	A/R'	A	A						
M32	R	R	A/R'	A	A					
M40	R	R	R	A/R'	A	A				
M50	R	R	R	R	A/R'	A	A			
M63	R	R	R	R	R	A/R'	A	A		
M75	R	R	R	R	R	R	A/R'	A	A	
M80	R	R	R	R	R	R	R	A/R'	A	A
M90	R	R	R	R	R	R	R	R	A/R'	A
M100	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer, R' = Metric to NPT reducers only

### BSP/NPT to Metric:

Female Male		M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
		1/2" BSP	1/2" NPT	3/4" BSP	3/4" NPT	1" BSP	1" NPT	1 1/4" BSP	1 1/4" NPT	1 1/2" BSP	1 1/2" NPT	2" BSP
1/2" BSP	1/2" NPT	R	A	A	A							
3/4" BSP	3/4" NPT	R	R	A	A	A						
1" BSP	1" NPT	R	R	R	A	A	A					
1 1/4" BSP	1 1/4" NPT	R	R	R	R	A	A	A				
1 1/2" BSP	1 1/2" NPT	R	R	R	R	R	A	A	A			
2" BSP	2" NPT	R	R	R	R	R	R	A	A	A		

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2 1/2" BSP	2 1/2" NPT	R	R	R	R	R	R	R	A	A	A	
3" BSP	3" NPT	R	R	R	R	R	R	R	R	A	A	A
3 1/2" BSP	3 1/2" NPT	R	R	R	R	R	R	R	R	R	A	A
4" BSP	4" NPT	R	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

### NPT to BSP, NPT to NPT, BSP to NPT and BSP to BSP:

Female \ Male		1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP	3 1/2" BSP	4" BSP
		1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT	3 1/2" NPT	4" NPT
1/2" BSP	1/2" NPT	A	A	A							
3/4" BSP	3/4" NPT	R	A	A	A						
1" BSP	1" NPT	R	R	A	A	A					
1 1/4" BSP	1 1/4" NPT	R	R	R	A	A	A				
1 1/2" BSP	1 1/2" NPT	R	R	R	R	A	A	A			
2" BSP	2" NPT	R	R	R	R	R	A	A	A		
2 1/2" BSP	2 1/2" NPT	R	R	R	R	R	R	A	A	A	
3" BSP	3" NPT	R	R	R	R	R	R	R	A	A	A
3 1/2" BSP	3 1/2" NPT	R	R	R	R	R	R	R	R	A	A
4" BSP	4" NPT	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

### Threaded Couplings / Unions:

The range of threaded couplings / Unions is suitable as intermediate parts or for matching different types of threads by introducing an intermediate part, as appropriate for the type of protection. The equipment is manufactured from brass (nickel plated), stainless steel, mild steel or bronze. A non-metallic washer may be utilised on the coupling / union, except for NPT threads, to ensure an IP65/66/67/68(2m cont.) rating. Parallel threaded units without the washer and NPT thread maintains an IP65 rating.

### Couplers – Male to Male – Metric to Metric

Male to Male	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
M16	X										
M20	X	X									
M25	X	X	X								
M32		X	X	X							
M40		X	X	X	X						
M50			X	X	X	X					
M63				X	X	X	X				

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M75					X	X	X	X			
M80						X	X	X	X		
M90							X	X	X	X	
M100								X	X	X	X

### Unions – Female to Female – Metric to Metric

Female to Female	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
M16	X										
M20	X	X									
M25	X	X	X								
M32	X	X	X	X							
M40	X	X	X	X	X						
M50		X	X	X	X	X					
M63			X	X	X	X	X				
M75				X	X	X	X	X			
M80					X	X	X	X	X		
M90						X	X	X	X	X	
M100							X	X	X	X	X

### Couplers – Male to Male - BSP and NPT combinations

		Male									
		1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP	3 1/2" BSP	4" BSP
Male		1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT	3 1/2" NPT	4" NPT
		1/2" BSP	1/2" NPT	X							
3/4" BSP	3/4" NPT	X	X								
1" BSP	1" NPT	X	X	X							
1 1/4" BSP	1 1/4" NPT		X	X	X						
1 1/2" BSP	1 1/2" NPT		X	X	X	X					
2" BSP	2" NPT			X	X	X	X				
2 1/2" BSP	2 1/2" NPT				X	X	X	X			
3" BSP	3" NPT					X	X	X	X		
3 1/2" BSP	3 1/2" NPT						X	X	X	X	
4" BSP	4" NPT							X	X	X	X

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**Unions – Female to Female – BSP and NPT combinations:**

Female Female		1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP	3 1/2" BSP	4" BSP
		1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT	3 1/2" NPT	4" NPT
1/2" BSP	1/2" NPT	X									
3/4" BSP	3/4" NPT	X	X								
1" BSP	1" NPT	X	X	X							
1 1/4" BSP	1 1/4" NPT	X	X	X	X						
1 1/2" BSP	1 1/2" NPT	X	X	X	X	X					
2" BSP	2" NPT		X	X	X	X	X				
2 1/2" BSP	2 1/2" NPT			X	X	X	X	X			
3" BSP	3" NPT				X	X	X	X	X		
3 1/2" BSP	3 1/2" NPT					X	X	X	X	X	
4" BSP	4" NPT						X	X	X	X	X

**Couplers – Male to Male - BSP/NPT and Metric combinations**

Male Male		M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100
		1/2" BSP	1/2" NPT	X	X	X						
3/4" BSP	3/4" NPT	X	X	X	X	X						
1" BSP	1" NPT	X	X	X	X	X	X					
1 1/4" BSP	1 1/4" NPT		X	X	X	X	X	X				
1 1/2" BSP	1 1/2" NPT		X	X	X	X	X	X	X			
2" BSP	2" NPT			X	X	X	X	X	X	X		
2 1/2" BSP	2 1/2" NPT				X	X	X	X	X	X	X	
3" BSP	3" NPT					X	X	X	X	X	X	X
3 1/2" BSP	3 1/2" NPT						X	X	X	X	X	X
4" BSP	4" NPT							X	X	X	X	X

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## Unions – Female to Female – Metric and BSP/NPT combinations

Female Female	1/2" BSP	3/4" BSP	1" BSP	1 1/4" BSP	1 1/2" BSP	2" BSP	2 1/2" BSP	3" BSP	3 1/2" BSP	4" BSP
	1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	3" NPT	3 1/2" NPT	4" NPT
M16	X	X	X	X						
M20	X	X	X	X	X					
M25	X	X	X	X	X	X				
M32	X	X	X	X	X	X	X			
M40	X	X	X	X	X	X	X	X		
M50		X	X	X	X	X	X	X	X	
M63			X	X	X	X	X	X	X	X
M75				X	X	X	X	X	X	X
M80					X	X	X	X	X	X
M90						X	X	X	X	X
M100							X	X	X	X

### Threaded Blanking Elements:

The range of threaded blanking elements is suitable for blanking off threaded entries in enclosures, as appropriate for the type of protection. The equipment is manufactured from brass (nickel plated), stainless steel, mild steel or bronze. A non-metallic washer may be utilised on all non-tapered threads to ensure an IP65/66/67/68(2m cont.) rating. The parallel threaded and NPT units will maintain an IP65 rating with no washer fitted.

The range of threaded blanking elements covered by this approval is as follows:

PLUGS HEX / DOME HEAD and STOPPER PLUG - METRIC	PLUGS HEX / DOME HEAD and STOPPER PLUG - NPT	PLUGS HEX / DOME HEAD and STOPPER PLUG - BSP
M16	1/2"NPT	1/2" BSP
M20	3/4" NPT	3/4" BSP
M25	1" NPT	1" BSP
M32	1 1/4" NPT	1 1/4" BSP
M40	1 1/2" NPT	1 1/2" BSP
M50	2" NPT	2" BSP
M63	2 1/2" NPT	2 1/2" BSP
M75	3" NPT	3" BSP
M80	3 1/2" NPT	3 1/2" BSP
M90	4" NPT	4" BSP
M100	---	---

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