



Mining And Surface Certification (Pty) Ltd

2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS

IA CERTIFICATE	MASC MS/23-9594X	Issue	0
Issue Date	26 October 2023	Expiry Date	26 October 2023
Applicant	CCG Cable Terminations (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa		
Manufacturer	CCG Cable Terminations (Pty) Ltd 33-37 Forge Road, Spartan Industrial Area, Kempton Park, 1619, South Africa		
Description (See "Annex A" below)			
Equipment	Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs	Type	Refer to description below
MARKING: <i>Must be additionally applied to the equipment</i>	Applicant / Manufacturer	CCG Cable Terminations (Pty) Ltd	
	Type	Refer to description below	
	Ex Marking	Ex db IIC Gb Ex db I Mb Ex eb IIC Gb Ex eb I Mb *Ex nR IIC Gc Ex ta IIIC Da IP65/66/67/68 (2m continuous) (Refer to Annex for service temperature range) *Threaded Adaptors, Reducers, Unions, Couplers, Blanking Plugs, Insulated Adaptors	
	IA Number	MASC MS/23-9594X	
	Serial Number	See "Annex A" below	
Rating	As per description below		
WARNING(S)	As per conditions below		
Compliance:			
The equipment as described above and in report GB/CML/ExTR23.0055/00 & certificate IECEx CML 16.0062X Issue 5 has been allocated the rating <u>Explosion Protected as above</u> utilizing the SANS/IEC Standards:			
<ul style="list-style-type: none"> SANS (IEC) 60079-0: 2019 (2017) Explosive atmospheres - Part 0: Equipment - General requirements SANS (IEC) 60079-1: 2015 (2014) Explosive atmospheres - Equipment protection by flameproof enclosures "d" SANS (IEC) 60079-7: 2019 (including IEC AMD1:2017 (Edition 5.1)) Explosive Atmospheres – Part 7: Equipment protection by increased safety "e" SANS (IEC) 60079-15: 2022 (2017) Explosive atmospheres - Equipment protection by flameproof enclosures "d" SANS (IEC) 60079-31: 2014 (2013) Equipment dust ignition protection by enclosure "t" ARP 0108: 2018 Regulatory requirements for explosion protected apparatus NCoP 2022: National Code of Practice for Electrical Machinery in Hazardous Locations <p><i>Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.</i></p>			
Special conditions of safe use X:			
<ul style="list-style-type: none"> See below 			
Conditions of manufacture:			
<ul style="list-style-type: none"> See below 			
Mark Sadler		Regardt Zeelie	
TECHNICAL SPECIALIST		TECHNICAL SPECIALIST	
This certificate only covers the sample submitted and does not cover production units.			
According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).			



Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:

- SANS 10086 requirements;
- Any conditions mentioned in the above certificate;
- Any relevant requirements of the MHS Act;
- Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).



This certificate may only be reproduced in full
The certificate is not transferable and remains the property of the issuing body.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Page 2 of 10

ANNEX A

Description	The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection. Refer to Annex B for full description																												
Standard compliance	See "certificate" above																												
Warnings	See "certificate" above																												
Conditions of Certification																													
Special Conditions of safe use (X)																													
The following conditions relate to safe installation and/or use of the equipment.																													
General Conditions																													
<ul style="list-style-type: none"> i. To maintain the IP rating, the installer shall ensure that the surface of the enclosure against which the sealing gasket seals is in good condition. ii. The sealing arrangement of the gland into the adaptor / reducer shall conform to the gland certification and IP rating requirements (as applicable). iii. When supplied with a washer/gasket, the following service temperatures apply: <ul style="list-style-type: none"> • HDPE gasket – T_{service} = -60°C to +95°C • Nylon gasket – T_{service} = -60°C to +100°C • PTFE gasket – T_{service} = -60°C to +160°C 																													
Conditions for specific products																													
<ul style="list-style-type: none"> i. A service temperature range of -20°C to +95°C shall not be exceeded for the insulated adaptor. ii. The tightening torque for the glands installed in the insulated adaptors may not exceed: <table border="1" style="margin-left: 20px; border-collapse: collapse; width: 100%;"> <thead> <tr> <th>Thread Size and Form</th> <th>Tightening torque (Nm)</th> <th>Thread Size and Form</th> <th>Tightening torque (Nm)</th> </tr> </thead> <tbody> <tr> <td>M16</td> <td>40</td> <td>M63 and 2"NPT</td> <td>115</td> </tr> <tr> <td>M20 and ½"NPT</td> <td>40</td> <td>M75 and 2 ½"NPT</td> <td>140</td> </tr> <tr> <td>M25 and ¾"NPT</td> <td>55</td> <td>M80</td> <td>160</td> </tr> <tr> <td>M32 and 1"NPT</td> <td>65</td> <td>M90 and 3"NPT</td> <td>180</td> </tr> <tr> <td>M40 and 1 ¼"NPT</td> <td>80</td> <td>>M90 and >3"NPT</td> <td>200</td> </tr> <tr> <td>M50 and 1 ½"NPT</td> <td>100</td> <td></td> <td></td> </tr> </tbody> </table> <p style="margin-left: 20px;">Note: Non-metric NPT size torque values also apply to the equivalent BSP, BSPT and NPSM sizes.</p>		Thread Size and Form	Tightening torque (Nm)	Thread Size and Form	Tightening torque (Nm)	M16	40	M63 and 2"NPT	115	M20 and ½"NPT	40	M75 and 2 ½"NPT	140	M25 and ¾"NPT	55	M80	160	M32 and 1"NPT	65	M90 and 3"NPT	180	M40 and 1 ¼"NPT	80	>M90 and >3"NPT	200	M50 and 1 ½"NPT	100		
Thread Size and Form	Tightening torque (Nm)	Thread Size and Form	Tightening torque (Nm)																										
M16	40	M63 and 2"NPT	115																										
M20 and ½"NPT	40	M75 and 2 ½"NPT	140																										
M25 and ¾"NPT	55	M80	160																										
M32 and 1"NPT	65	M90 and 3"NPT	180																										
M40 and 1 ¼"NPT	80	>M90 and >3"NPT	200																										
M50 and 1 ½"NPT	100																												
<ul style="list-style-type: none"> iii. A service temperature range of -20°C and +95°C (HDPE sealing gasket) or -20°C and +106°C (Nylon sealing gasket) shall not be exceeded for the plastic blanking plug. iv. The Swivel Adaptors, Swivel Couplers and Swivel Elbow / 45° Adaptors are only to be used in Group I applications where the risk of mechanical impact is low. v. The Swivel Barrier products shall only be used where the temperature is between: <ul style="list-style-type: none"> • Quickstop or Vortex resin type S50 / EPA: (-50°C and +95°C) • Quickstop or Vortex resin type FR/846: (-60°C and +100°C) 																													
Conditions of manufacture	The following conditions are required of the manufacturing process for compliance with the certification. <ul style="list-style-type: none"> i. Insulated and Posi adaptors shall not be marked for Group I applications. ii. Products made from aluminium shall not be marked for Group I. iii. The products listed in this certificate with intermediate metric entry thread sizes shall be constructed by enlarging the entry thread size of the standard size product immediately below the intermediate thread size. The minimum entry wall thickness and constructional parts utilised (other than the entry thread component) shall not differ from that of the standard size used. 																												

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 / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/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 / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation 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 practices.

This document may only be reproduced in full.

This certificate is not transferable and remains the property of the issuing body.

This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Page 3 of 10

ANNEX B

Description

The Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs are designed for inserting into enclosures having threaded entries, as appropriate for the type of protection.

The following details the Model Nomenclature:

Product Name	Model Nomenclature	Product Name	Model Nomenclature
Threaded Adaptors	AGZZZGYYYYE	Threaded Blanking Plugs	PFGZZZER
Integral Earth Adaptors	AGZZZGYYYYE - IE	Plastic blanking plugs	3527ZZZ
Threaded Reducers	RGZZZGYYYYE	Where: P = METAL PLUG (Blanking element) 3527= PLASTIC PLUG (Blanking element)	
Threaded Unions	UGZZZGYYYYE		
Threaded Couplers	CGZZZGYYYYE		
Insulated Adaptors	AGZZZGYYYYE -INSA		
Posi Adaptors	PAGZZZGYYYYE		
Adjustable Elbow	AELBGZZZGYYYYE		
Adjustable 'T' Adaptor	ATGZZZGYYYYE		
Adjustable 'Y' Adaptor	AYGZZZGYYYYE		
Swivel Adaptor	SAGZZZGYYYYE		
Swivel Coupler	SCGZZZGYYYYE		
Swivel Elbow Adaptor	SELBGZZZGYYYYE		
Swivel 45° Adaptor	S45GZZZGYYYYE		
Swivel Barrier Adaptor	SBAGZZZGYYYYE		
Swivel Barrier Coupler	SBCGZZZGYYYYE		
Swivel Barrier Elbow Adaptor	SBELBGZZZGYYYYE		
Swivel Barrier 45° Adaptor	SB45GZZZGYYYYE		

<p>Where:</p> <p>A = ADAPTOR R = REDUCER U = UNION C = COUPLER PA = POSI ADAPTOR AELB = ADJUSTABLE ELBOW AT = ADJUSTABLE 'T' ADAPTOR AY = ADJUSTABLE 'Y' ADAPTOR SA = SWIVEL ADAPTOR SC = SWIVEL COUPLER SELB = SWIVEL ELBOW ADAPTOR S45 = SWIVEL 45° ADAPTOR SBA = SWIVEL BARRIER ADAPTOR SBC = SWIVEL BARRIER COUPLER SBELB = SWIVEL BARRIER ELBOW ADAPTOR SB45 = SWIVEL BARRIER 45° ADAPTOR G = THREADFORM M = METRIC N = NPT NPSM = NPSM = B = BSPP 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) ET= ET ZZZ = MALE THREAD SIZE YYY = FEMALE THREAD SIZE E = Ex COMPONENT IE = INTEGRAL EARTH INSA = INSULATED ADAPTOR</p>	<p>F = TYPE S = STOPPER D = DOME HEAD H = HEX HEAD G = THREADFORM M = METRIC N = NPT B = BSPP BSPT = BSPT NPSM = NPSM P = PG G = EUROPE G (PARALLEL) GK = GK (TAPER) R = R (PARALLEL) RK = RK (TAPER) PF = JAPAN PF (PARALLEL) K = K mpy (TAPER) ET= ET ZZZ = THREAD SIZE E = Ex COMPONENT R = HEX ON REVERSE FACE</p>
---	--

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Where the thread size coding is as follows:

Metric sizes			BSP/NPT/NPSM sizes	
016 = M16	020 = M20	100 = M100	012 = 1/2"	034 = 3/4"
025 = M25	032 = M32	110 = M110	001 = 1"	114 = 1 1/4"
040 = M40	050 = M50	120 = M120	112 = 1 1/2"	002 = 2"
063 = M63	075 = M75	130 = M130	212 = 2 1/2"	003 = 3"
080 = M80	090 = M90		312 = 3 1/2"	004 = 4"

For metric threads the pitch is:-

- M75 and smaller has 1.5mm pitch (minimum thread length 12mm) as standard with an optional pitch of 2mm (minimum thread length 16mm)
- M80 and larger has 2 mm pitch (minimum thread length 16mm) as standard with an optional pitch of 1,5mm (minimum thread length 12mm).
- Note: Intermediate metric thread sizes are allowed and use the same format of product and size coding, e.g., 033 = M33

Threaded Adaptors and Reducers

The Range of Threaded Adaptors and Reducers are used to convert a threaded entry from one thread size or type to another. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 1 to 4:

Table 1, Metric to Metric

Male (Metric) Size	Female (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
M16	A	A	A											
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	A		
M100	R	R	R	R	R	R	R	R	R	R	A	A	A	
M110	R	R	R	R	R	R	R	R	R	R	R	A	A	A
M120	R	R	R	R	R	R	R	R	R	R	R	R	A	A
M130	R	R	R	R	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Table 2, Metric to BSP/NPT

Male (Metric) Size	Female (BSP/NPT/NPSM) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
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
M110	R	R	R	R	R	R	R	R	R	R
M120	R	R	R	R	R	R	R	R	R	R
M130	R	R	R	R	R	R	R	R	R	R

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

Table 3, BSP/NPT/NPSM to Metric:

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

A = Adaptor, R = Reducer

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Table 4, BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

Male (BSP/NPT/NPSM) Size	Female (BSP/NPT/NPSM) Size									
	½"	¾"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	3 ½"	4"
½"	A	A	A							
¾"	R	A	A	A						
1"	R	R	A	A	A					
1 ¼"	R	R	R	A	A	A				
1 ½"	R	R	R	R	A	A	A			
2"	R	R	R	R	R	A	A	A		
2 ½"	R	R	R	R	R	R	A	A	A	
3"	R	R	R	R	R	R	R	A	A	A
3 ½"	R	R	R	R	R	R	R	R	A	A
4"	R	R	R	R	R	R	R	R	R	A

A = Adaptor, R = Reducer

Integral Earth Adaptors

Integral Earth Adaptors have identical male and female threads and are fitted with an earth stud to provide an earth connection for the cable gland fitted to them. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are M20 to M100 (metric) and ½" to 4" NPT.

Threaded Couplings/Unions

The Range of Threaded Couplings and Unions is designed to provide an intermediate part for fitting between certified cable glands and threaded entries of the same or different form and/or sizes of threads (Male to male – Couplings and female to female – Unions). The devices are manufactured from brass (nickel plated), stainless steel, aluminium, mild steel or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted. The size and thread forms are shown in Tables 5 to 10:

Table 5, Couplings – Metric to Metric

Male (Metric) Size	Male (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
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							
M75					X	X	X	X						
M80						X	X	X	X					
M90							X	X	X	X				
M100								X	X	X	X			
M110									X	X	X	X		
M120										X	X	X	X	
M130											X	X	X	X

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Table 6, Couplings - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP and NPT to NPT, NPT to NPSM and NPSM to NPSM

Male (BSP/NPT/NPSM) Size	Male (BSP/NPT/NPSM) Size									
	½"	¾"	1"	1 ¼"	1 ½"	2"	2 ½"	3"	3 ½"	4"
½"	X									
¾"	X	X								
1"	X	X	X							
1 ¼"		X	X	X						
1 ½"		X	X	X	X					
2"			X	X	X	X				
2 ½"				X	X	X	X			
3"					X	X	X	X		
3 ½"						X	X	X	X	
4"								X	X	X

Table 7, Coupling - BSP to Metric, NPSM to Metric and NPT to Metric

Male (BSP/NPT/NPSM) Size	Male (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
½"	X	X	X											
¾"	X	X	X	X	X									
1"	X	X	X	X	X	X								
1 ¼"		X	X	X	X	X	X							
1 ½"			X	X	X	X	X	X						
2"				X	X	X	X	X	X					
2 ½"					X	X	X	X	X	X				
3"						X	X	X	X	X	X	X	X	X
3 ½"							X	X	X	X	X	X	X	X
4"								X	X	X	X	X	X	X

Table 8, Unions - Metric to Metric

Female (Metric) Size	Female (Metric) Size													
	M16	M20	M25	M32	M40	M50	M63	M75	M80	M90	M100	M110	M120	M130
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			
M110								X	X	X	X	X		
M120									X	X	X	X	X	
M130										X	X	X	X	X

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Page 8 of 10

Table 9, Unions - BSP to BSP, BSP to NPT, BSP to NPSM, NPT to BSP, NPT to NPT, NPT to NPSM and NPSM to NPSM

Female (BSP/NPT/NPSM) Size	Female (BSP/NPT/NPSM) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
1/2"	X									
3/4"	X	X								
1"	X	X	X							
1 1/4"	X	X	X	X						
1 1/2"	X	X	X	X	X					
2"		X	X	X	X	X				
2 1/2"			X	X	X	X	X			
3"				X	X	X	X	X		
3 1/2"					X	X	X	X	X	
4"						X	X	X	X	X

Table 10, Union - Metric to BSP/NPT/NPSM

Female (Metric) Size	Female (BSP/NPT/NPSM) Size									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
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
M110								X	X	X
M120									X	X
M130										X

Threaded Metallic Blanking Plugs

The Range of Threaded Metallic Blanking Plugs are designed for blanking off threaded entries in enclosures. The devices are manufactured from brass (nickel plated), stainless steel, mild steel, aluminium or bronze. A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

The size and thread forms are shown in Table below:

This document may only be reproduced in full.
 This certificate is not transferable and remains the property of the issuing body.
 This document will not be supported by MASC for certification purposes outside the borders of South Africa.

Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
 Directors: Roelof Viljoen & Francoius du Toit
 Unit #5, Lelyta Park, 45 Jurg Avenue, Hennopspark Ext 87, Centurion, 0157
 P.O. Box 14344, Clubview, 0014
 Tel: 012 653 2959 ♦ Fax: 086 605 8568
 e-mail: info@masc-ex.co.za

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Page 9 of 10

Hex. head		Dome head		Stopper (External Hex. Keyway)		Stopper (Internal. Hex. Keyway)	
Metric	BSP/NPT/ NPSM	Metric	BSP/NPT/ NPSM	Metric	BSP/NPT/ NPSM	Metric	BSP/NPT/ NPSM
M16	1/2"	M16	1/2"	M16	1/2"	M16	1/2"
M20	3/4"	M20	3/4"	M20	3/4"	M20	3/4"
M25	1"	M25	1"	M25	1"	M25	1"
M32	1 1/4"	M32	1 1/4"	M32	1 1/4"	M32	1 1/4"
M40	1 1/2"	M40	1 1/2"	M40	1 1/2"	M40	1 1/2"
M50	2"	M50	2"	M50	2"	M50	2"
M63	2 1/2"	M63	2 1/2"	M63	2 1/2"	M63	2 1/2"
M75	3"	M75	3"	M75	3"	M75	3"
M80	3 1/2"	M80	3 1/2"	M80	3 1/2"	M80	3 1/2"
M90	4"	M90	4"	M90	4"	M90	4"
M100	-	M100	-	M100	-	M100	-
M110	-	M110	-	M110	-	M110	-
M120	-	M120	-	M120	-	M120	-
M130	-	M130	-	M130	-	M130	-

Threaded Non-metallic Blanking Plugs

The Range of Threaded Non-metallic Blanking Plugs are designed for inserting into enclosures having metric threaded entries, as appropriate for the type of protection. A sealing gasket is used to maintain the IP rating.

The following sizes are covered by this approval:

M20 x 1.5
M25 x 1.5
M32 x 1.5
M40 x 1.5

Insulated Adaptors

The range of insulated adaptors are manufactured from a hollow cylindrical non-metallic insulated body with two metallic parts on opposite ends for male and female metric engagement with typically an enclosure and gland.

The insulated adaptor provides electrical insulation from one end to the other. The adaptor thread sizes are the same on both ends, e.g., M16 x 1.5 to M16 x 1.5. The following sizes are included in the range:

M16, M20, M25, M32, M40, M50, M63, M75, M80, M90, M100, M110, M120 & M130 (All 1.5 or 2.0 pitch, 6H/6g tolerance).

A sealing gasket is utilised on the male threaded part to maintain the IP rating.

Posi Adaptors

The Posi adaptor has a brass core with a corrosion-protecting outer skin compression moulded around it. The Posi adaptor also has an earthing stud connected through the corrosion protection (and insulating) skin.

The Posi Adaptor is an adaptor available only in the sizes

MALE THREAD	FEMALE THREAD
M20 x 1.5 – 6g	M20 x 1.5 – 6g
M20 x 1.5 – 6g	M25 x 1.5 – 6g
M25 x 1.5 – 6g	M20 x 1.5 – 6g
M25 x 1.5 – 6g	M25 x 1.5 – 6g

Adjustable Elbow, 'T' and 'Y' Adaptors

The Adjustable Elbow (90°), 'T' and 'Y' Adaptors are manufactured from brass or stainless steel with a male threaded portion at one end. The 90° adaptors have a single female thread, and the 'T' and 'Y' adaptors have two female threads. The 'T' adaptor has its male thread at 90° to each of the female threads and the female threads are at 180° to each other. The 'Y' adaptors have their threads spaced at 120° to each other.

This document may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body.
This document will not be supported by MASC for certification purposes outside the borders of South Africa.

Mining And Surface Certification (Pty) Ltd Reg No: 2015/021934/07
Directors: Roelof Viljoen & Francoius du Toit
Unit #5, Lelyta Park, 45 Jurg Avenue, Hennospark Ext 87, Centurion, 0157
P.O. Box 14344, Clubview, 0014
Tel: 012 653 2959 ♦ Fax: 086 605 8568
e-mail: info@masc-ex.co.za

IA CERTIFICATE: MASC MS/23-9594X

Equipment: Range of Threaded Adaptors, Reducers, Unions, Couplers, Adjustable Elbows, 'T' or 'Y' Adaptors, Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors and Blanking Plugs

Page 10 of 10

90° adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner. 'T' and 'Y' adaptors are used where two cable glands or a cable gland and another device (e.g. a breather drain plug) need to be fitted to a single entry hole.

The Adjustable 90°, 'T' and 'Y' adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications. The Adjustable Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Adjustable 90°, 'T' and 'Y' Adaptors are available with Metric or BSPP male threads and either metric, NPT, ET, BSPP or BSPT female threads the same size or any size smaller than the male thread.

On the Adjustable 'T' and 'Y' adaptors the female threads do not need to be the same size as each other.

The Adjustable Adaptors are available with thread sizes M20, M25 & M32 or equivalent size in the other thread types.

A non-metallic washer/gasket may be utilised on all non-tapered threads to ensure IP66/67/68 (2 m cont.) ratings. The devices maintain an IP65 rating with no washer fitted.

Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are manufactured from brass, bronze, aluminium or stainless steel with a male threaded portion at one end. They are made in two parts connected together with a nut, and the junction between the two parts forms a serrated flamepath. The Swivel Adaptor, Swivel Elbow and Swivel 45° Adaptors have a single male and a single female thread, and the Swivel Coupler has two male threads.

The Swivel Adaptor or Coupler can be used to connect two pieces of Ex Equipment. The Swivel Elbow and 45° Adaptors are intended for use where space is limited and there may not be room to fit a gland and cable in the conventional manner.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are intended for fitting to a threaded hole for Ex db or Ex eb applications or to a plain hole, secured with a locknut, for Ex eb applications.

The Swivel Elbow / 45° Adaptors allow repositioning to align the cable in the desired direction when the adaptor is fully tightened.

The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors are available with Metric, NPT, ET, BSPP or BSPT threads the same size or with the female thread any size smaller than the male thread. The Swivel Coupler can also have one male thread smaller than the other,

The Swivel Adaptor or Swivel Coupler are available with thread sizes from M20 to M100, or equivalent size in the other thread types. The Swivel Elbow / 45° Adaptors are available with thread sizes from M20 to M63, or equivalent size in the other thread types. The Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors can also be supplied with the male thread size one size larger. For example, a Swivel Elbow Adaptor body size that would normally have M50 male and female threads can also be supplied with an M63 male and an M50 female thread.

A non-metallic washer/gasket may be utilised on all parallel threads to ensure an IP66 rating. The devices maintain an IP65 rating with no washer fitted.

Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors

The Swivel Barrier Adaptor, Swivel Barrier Coupler and Swivel Barrier Elbow / 45° Adaptors are the same basic construction as their equivalent non-barrier versions but additionally have a resin sleeve inside the male thread. The resin sleeve forms a flamepath with its mating part and is filled with 'Quickstop Ex' or 'Vortex' resin to form a barrier around the cable conductors.

Notes

1. All units are rated IP65 for any sealing arrangement. Units with parallel threads shall be used with the supplied washer if an IP rating of IP66/67/68 is required (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) NPT threads are at least IP65 as standard, but IP68 (2m) (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) can be achieved if one of the following grease types is applied to the NPT thread before fitting:- Renolit Lubrene CA 700, Renolit LC-WP2, Renolit Lubrene LX 220 EP2, Renolit Moly LX 2 or Dow Corning 4 Electrical Compound.
2. RE-FLEEx sealing cord can be used as an alternative to a standard sealing gasket to achieve IP66/68 (IP66 for the Swivel Adaptor, Swivel Coupler, Swivel Elbow / 45° Adaptors.) It is intended as a retro-fit solution and must be installed according to the fitting instructions supplied with it.

This document may only be reproduced in full.

This certificate is not transferable and remains the property of the issuing body.

This document will not be supported by MASC for certification purposes outside the borders of South Africa.