GOVERNMENT APPROVED INSPECTION AUTHORITY

Mining And Surface Certification (Pty) Ltd

(Pty) Ltd: 2015/021934/07

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

IA CERTIFICATE	MASC 16-1787	**Issue**	2
Issue Date	20 May 2021	**Expiry Date**	05 July 2027
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	Non-metallic Industrial Junction Box series	**Type**	See Annex B below
MARKING:	**Applicant / Manufacturer** **Type** **Ex Marking** **IA Number** **Serial Number**	CCG Cable Terminations (Pty) Ltd See schedule below See Annex B below MASC 16-1787 N/A	

Compliance:

Samples of the non-metallic Industrial Junction Box Series as described above / below have been tested and assessed according to the relevant clauses of below standard(s) and therefore are deemed to be in compliance with above standard(s).

- IEC 62208, Ed. 2 (2011): Empty enclosures for low-voltage switchgear and control gear assemblies—General requirements
- IEC62262, Ed. 1.0 (2002): Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (code IK)

Special conditions of safe use:

- Terminal blocks and glands as prescribed by CCG must be used inside the junction boxes with a maximum voltage rating up to 690Vrms.
- The box with the clear lid option must be installed to prevent direct UV exposure to internal component(s).
- The end user must comply with installation rules / de-ratings of conductors / cables as applicable to general installations as per instructions.

Conditions of manufacture:

- See "Annex A" below

Terine Orsmond
TECHNICAL OFFICER

Regardt Zeelie
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 and code of practice enforced in terms of regulations 21.17.2 of the minerals 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).

Mining And Surface Certification (Pty) Ltd
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Centurion, 0157

sanas Testing Laboratory T0444

ANNEX A

Description	Refer to Annex B below. Rev 1: Additional terminal blocks and rectangular box configuration Rev 2: Include Posi Fit enclosure range. The Posi Fit enclosures utilises the same DMC material as the other enclosures. The only variation is the flame retardant and anti-static properties introduced into the material.
Safety Parameters	N/A
Standard compliance	See "certificate" above
Warnings	None
Conditions of Certification 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.) and be identifiable and traceable.	
Conditions of manufacture	• The apparatus must be additionally marked in a clear, legible, visible and indelible manner with the marking details as described above. • All production units must be conducted under a third party quality system. • This certificate relates only to the equipment specified herein as executed to the samples supplied for evaluation. • In affixing the marking to the component, the manufacturer attests on its own responsibility that the equipment conforms to the documents listed herein. • It is a condition of certification that a copy of the certificate and instructions must be made available for the equipment. The instructions must comply with the requirements of the standard.

Annex B

All Junction boxes:

- Are manufactured from DMC (Dough Moulding Compound).
- Comprises pressed metallic inserts in the side of the enclosure with threaded entries for sufficiently IP rated glands or plugs.
- Have an o-ring(s) which is utilized between the housing and the cover of the enclosure to maintain the IP rating.
- Can be manufactured in various types and sizes. (See table below).
- Are intended to be used for terminal blocks located on the internal rail, fitted to the base of the junction box.

Handifit boxes:

The Handifit enclosures have a cylindrical shaped body with a screw on cover, secured / opened with a special tool that engages into splines on the cover of the enclosure.

An optional polycarbonate / DMC cover (Adaptalid) may be screwed on with four M5 countersink screws into metallic inserts in a DMC adaptor, which is threaded to replace the normal threaded cover.
An o-ring is utilised between the polycarbonate section and adaptor to maintain the IP rating.

Handifit Screw Fit boxes:

The Screw Fit non-metallic junction box enclosure has a cylindrical shaped body with a cover, secured with four M5 stainless steel pan-pozi screws in metallic threaded inserts moulded in the base of the enclosure.

An o-ring is utilised with the cover to maintain the IP rating.

Multi Boxes:

The Multi non-metallic box enclosure has a rectangular shaped body with a cover, secured with four M6 stainless steel pan-pozi screws in metallic threaded inserts moulded in the base of the enclosure. Internal earth plates are used to secure the glands in threaded entries in the plates. All internal plates are electrically connected. The external earth stud is threaded into the internal earthing plate and fitted with an o-ring to maintain the IP rating.
An o-ring is utilised with the cover to maintain the IP rating.

Posi Fit Boxes:

The Posi Fit enclosures are non-metallic enclosures are manufactured from DMC (Dow Moulding Compound). The enclosures have a cylindrical shaped body with a screw-on cover, which is secured with a special tool that engages into the spines on the cover enclosure and have an O-ring between the housing and cover to maintain the IP rating.

An optional polycarbonate/DMC cover may be screwed with four countersunk M5 screws into metallic inserts in a DMC adaptor, which is threaded to replace normal threaded cover.

A special tool is supplied, which fits in the grooves on the round cover for opening and closing the enclosure.

The range of enclosures consists of the following:

Type	Box size	Dimensions (Dia. X height) (mm)	Gland entry sizes	Maximum Gland entry amount and arrangement
Handifit Junction box	0	100 x 78	M16-M20	Four entries positioned orthogonal around the side walls with multiple gland entry sizes.
	1	118 x 91	M16- M20	
	2	140 x 114	M16-M25	
	3	203 x 142	M16-M32	
	4	298 x 186	M16-M40	
Handifit Bottom entry angle Box	1	118 x 98	M20- M25	Three entries positioned at the bottom of the box: - one entry closest to the base of the box and two entries closest to the rim of the box.
	2	140 x 105	M16- M32	
	3	202 x 140		
Handifit 3 Way Bottom entry box	1	128 x 112	M16- M20	Three entries positioned at the bottom of the box: - one entry closest to the base of the box and two entries closest to the rim of the box.
	2	162 x 160	M16-M25	
Handifit Y Box	0	102 x 81	M16-M20	Two entries positioned on the side of the box and one entry positioned on the opposite side of the box.
	1	118 x 111	M16-M20	
	2	138 x 123	M16-M25	
	3	200 x 150	M16-M32	
Handifit H Box	1	118 x 94	M16- M20	Two entries positioned on the side of the box and two entries positioned on the opposite side of the box.
	2	138.5 x 100	M16- M25	
Handifit ST Box strut box	1	158 x 104	M16- M20	Four entries positioned on opposite sides with multiple gland entry sizes.
Handifit Angle Box	2	121 x 100	M20-M25	Two entries on flat section and two on cylindrical side.
Handifit Screw Fit Box	All	Similar to above	As above	Same options as for above types.

Multi Box	B	196 x 132 x 109	Various Sizes up to M40	Entries positioned in the side walls of the base.
Multi Box	C	278 x 200 x 117	Various Sizes up to M40	Entries positioned in the side walls of the base.
Posi Fit / Tx box	0	100 x 78	M16-M20	CCG Posi Fit 4 Way box 4 entries positioned orthogonal around the side walls with multiple gland entry sizes.
	1	118 x 91	M16-M20	
	2	140 x 114	M16-M25	
	3	203 x 142	M16-M32	
	4	298 x 186	M16-M40	
Posi Fit Bottom entry angle box	1	118 x 98	M16-M20	CCG Bottom entry angle box 3 entries positioned at the bottom of the box. One entry closest to the rim of the box and two entries to the base of the box
	2	140 x 105	M16-M25	
		202 x 140	M16-M32	
Posi Fit 3 way bottom entry box	1	128 x 112	M16-M20	CCG Bottom entry angle box 3 entries positioned at the bottom of the box. One entry closest to the rim of the box and two entries to the base of the box
	2	162 x 160	M16-M25	
Posi Fit Y box	0	102 x 81	M16-M20	CCG Posi Fit Y box – 2 entries positioned on the side of the box and 1 entry positioned on the opposite side of the box.
	1	118 x 111	M16-M20	
	2	138 x 123	M16-M25	
	3	200 x 150	M16-M32	
Posi Fit H box	1	118 x 94	M16-M20	CCG Posi Fit H box – 2 entries positioned on the side of the box and 2 entries positioned on the opposite side of the box.
	2	138.5 x 100	M16-M25	
Posi Fit ST Box Strut box	1	100 x 96	M16-M20	CCG Posi ST Box strut box – 2 entries positioned on opposite sides with multiple gland entry sizes.
Posi Fit Angle Box	2	121 x 100	M20-M25	CCG Angle Box 3 entries positioned at the bottom of the box.
Multi Box PosiFit	Assembly B	(Rectangular) 196 x 132 x 109	See entry amount and arrangement	The entries could vary, with the A/C of the gland being the min distance between the entries.
Multi Box PosiFit	Assembly C	(Rectangular) 278 x 200 x 117	See entry amount and arrangement	The entries could vary, with the A/C of the gland being the min distance between the entries.

The earthing construction of the junction boxes were tested:

- Max continuous current (Catapult test report OR/15/11677_1, dated March 2016, according to IEC 60947-7-2)

Item	**Plate thickness**	**Rated Current (Amps)**
Box size No. 0	0.3mm brass	32.8
Box size No. 1	0.3mm brass	76.1
Box size No. 2	0.3mm brass	127.0
Box size No. 3	N/A	192.8
Box size No. 4	N/A	192.8

- Short circuit current (Catapult test report OR/15/11677_2, dated March 2016, according to IEC 62444 and IEC 60947-7-2)

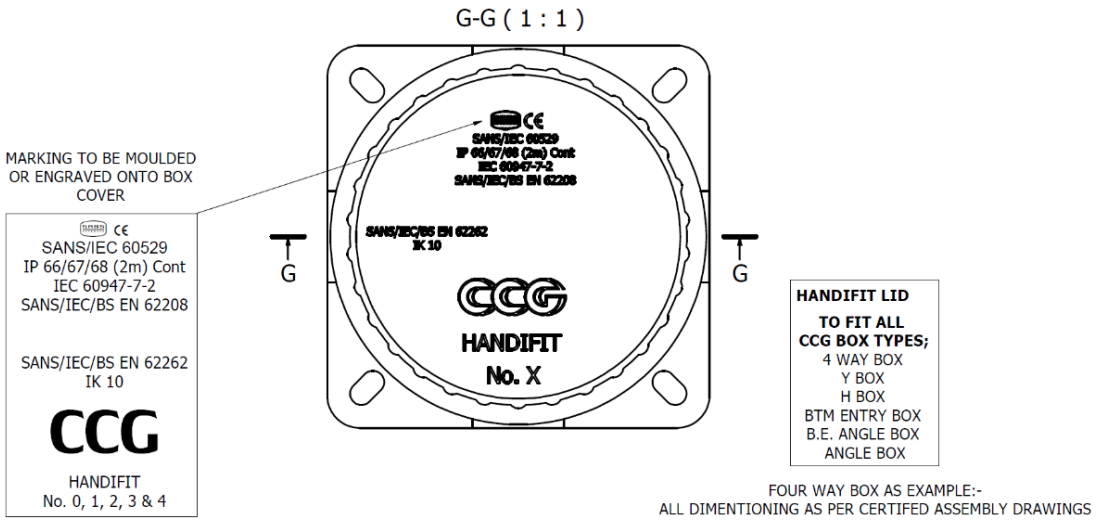
Box size	**Plate thickness**	**Continuous current**	**IEC 62444 Short circuit (1 sec)**	**IEC 60947 Short Circuit (1 sec)**
No. 0	0.5mm brass	32A	500A	480A
No. 1	0.5mm brass	76A	500A	1920A
No. 2	0.5mm brass	125A	500A	1920A
No. 3	N/A	192A	500A	1920A
No. 4	N/A	192A	500A	1920A

The internal configurations are directly correlated to volume when comparing the “B” size Multi box with the original number 3 box and then the “C” size multi box is comparable with the original number 4 box.

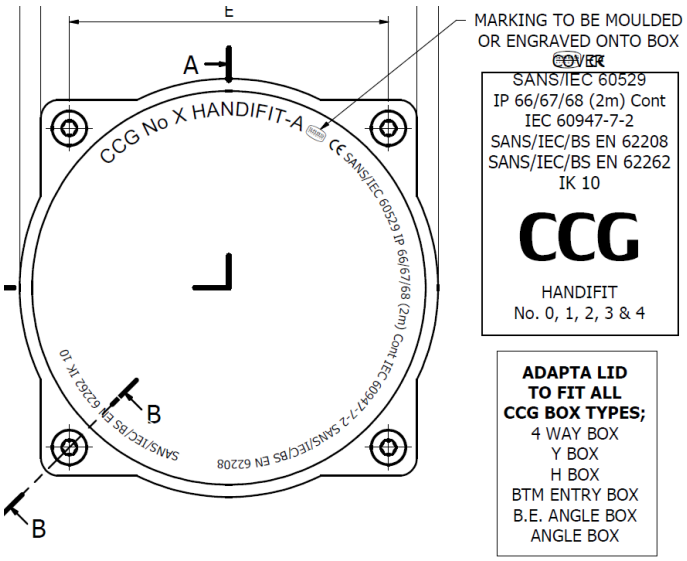
MARKING:

Note: The marking of the IEC 60947 does not form part of this approval

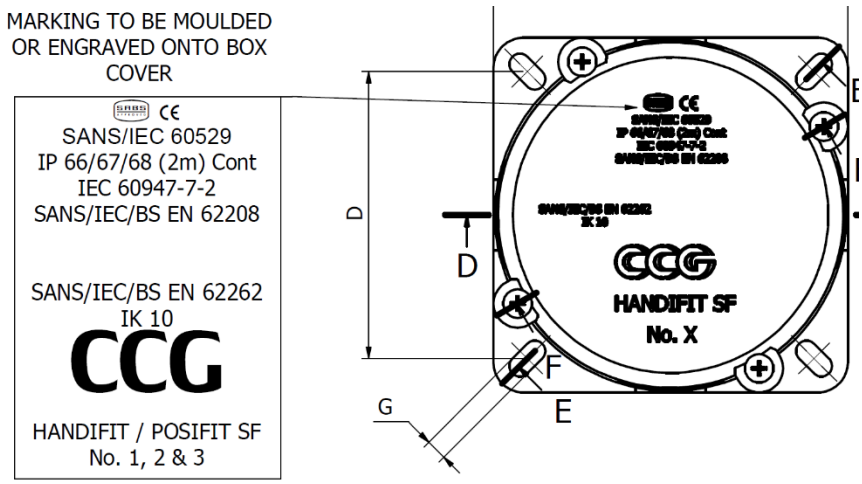
General boxes:



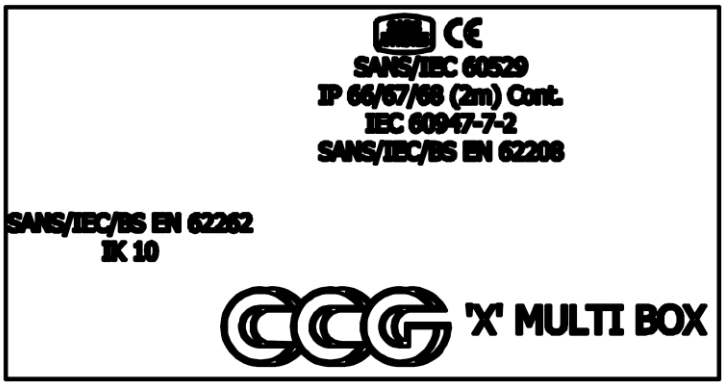
Adaptalid:



Screw fit Boxes:



Multi boxes:



MARKING TO BE MOULDED OR
ENGRAVED ONTO BOX COVER

C (1 : 1.25)

Posi Fit boxes: