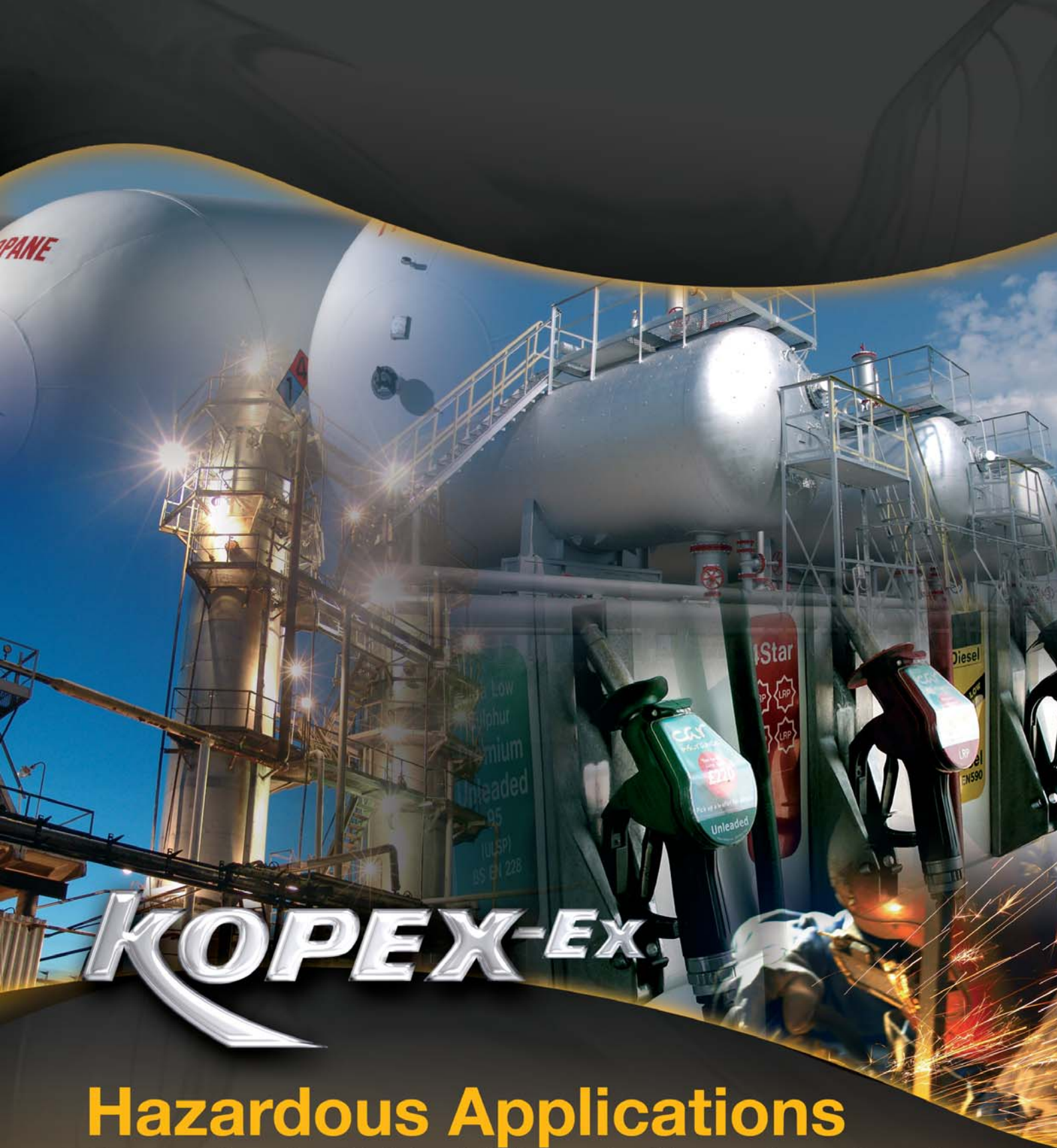

Hazardous Applications

Protection for Critical Wiring in Hazardous Area's

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KOPEX

Contents

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Protection for Critical Wiring in Hazardous Area's

From its UK based facility Kopex International manufactures a wide range of ATEX and IECEx approved products including metallic and non metallic conduit and fittings along with a full range of conduit accessories, DIN rail terminals and non metallic cable glands.

Kopex is committed to an extensive and on going R&D programmme, which will deliver innovative and high performance products for safety critical areas.

Our current range of high performance products are designed for many market sectors including petrochemical, pharmaceutical and offshore environments or indeed any ATEX / IECEx area.

Kopex is renowned for its high quality manufacture and ethical standards conforming to both ISO 9001:2000 and the EU directive 2002/95/EC ISO 9001:2004, which is so vital within today's high performance marketplace.

The ATEX Directives

ATEX requires employers to eliminate or control risks from dangerous substances and to classify areas where explosive atmospheres may occur into zones, as laid down in regulations. (See below)

ATEX Directives are designed to protect employees, the public and the environment from accidents owing to explosive atmospheres and since July 1st 2006 all existing sites, as well as new sites, must be fully ATEX compliant. Directive ATEX 100 a applies to equipment suppliers and manufacturers and ATEX 137 applies to end users. These directives are complementary, but have different purposes.

ATEX 100 a covers both electrical and non-electrical products intended for use in hazardous areas, including mechanical equipment. The Directive came into existence in 2003 and products sold within the European Union designed for use in hazardous areas must have ATEX certification and bear the ATEX marking on the certificate plate. The obligation is placed upon the manufacturer or supplier of the product and the intention is to facilitate free movement of goods within the EU.

Products are categorised 1, 2 and 3 with category 1 meaning the product employs a very high level of protection; category 2, a high level of protection; category 3, a normal level of protection.

The ATEX 137 Directive is implemented in the UK by DSEAR and sets out to improve the heath and safety protection of all workers potentially at risk from explosive atmospheres with duties placed upon the employer. The directive is designed to harmonise the law of EU member states concerning equipment and protective systems intended for use in potentially explosive areas.

Its main requirements are the need to classify areas as Zones 0, 1 and 2 for gases and vapours and Zones 20, 21, 22 for dusts. Equipment for use in these areas must be selected in accordance with ATEX 100 a and marked with an EX sign. In workplaces where safety restrictions apply throughout the site, such as refineries, the sign must be applied at the entrance of the site – individual signs would not be required.

A mixture of air and hazardous gases may ignite by coming into contact with a hot surface. Ignition depends on surface area, temperature and concentration of the gases. Certified equipment, tested by approved agencies, receives a temperature code (T1-T6) indicating the maximum surface temperature where it can be used.

Kopex International, with its extensive ranges of specialist electrical conduit systems, is renowned for its experience with and supply of ATEX approved products for use within hazardous areas. The latest addition to the company's range are HAM, HAMM and HAMS ATEX flameproof glands for use in Zones 1, 2, 21 and 22 classifications. Designed for use in conjunction with Kopex Liquid Tight flexibile metallic conduits, Kopex is unique as a supplier in offering a combination of glands and conduits which are third party approved or self certified.

The IECEx Certified Equipment Program

Meeting the requirements of international standards such as those prepared by TC31, the IECEx Certified Equipment Program provides a certificate of conformity that includes testing and assessment of samples, compliance of samples with IEC standards, assessment of manufacturing premises and ongoing surveillance audits.

All the products specified as IECEx compliant have been certified through the program and Kopex remains the only provider of this range of cable management products to carry the scheme certification.

HAZARDOUS AREAS – A GUIDE TO THE USE OF EQUIPMENT AND COMPONENTS IN AREAS HAVING THE POTENTIAL FOR EXPLOSION

Wherever there is a risk of gas/air or dust/air mixtures or other flammable combinations giving rise to a risk of explosion, the law and specific regulations necessitate the elimination of sources of ignition. Areas must be assessed for the level of risk and equipment used in each area certified by an authorised body as suitable for that area.

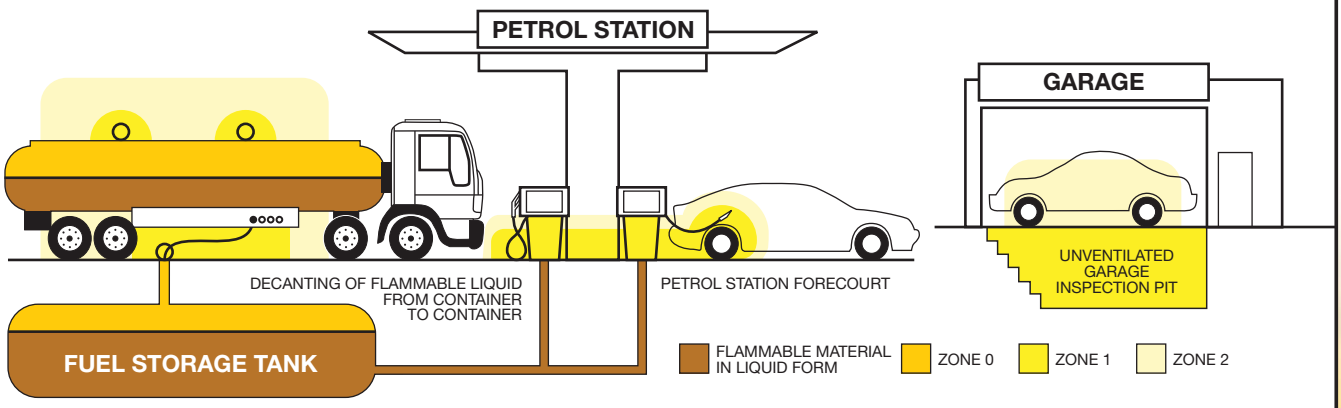
The information below sets out in simple terms what is required under the various regulations but should be used only as a guide. Expert guidance should always be sought when assessing areas and when choosing materials and equipment for use in those areas.

Technical Support

Kopex International can provide technical assistance in the selection of the appropriate product from its range. For help please contact our technical department on 01675 468213.

EXAMPLE OF HAZARDOUS AREA ZONES

This diagram shows how hazardous area zones may occur in typical circumstances.



Ex Environment

Classification of equipment for use in potentially explosive atmospheres

Classification of hazardous areas		European/IEC or NEC classifications		
Flammable substances	Temporary behaviour of flammable substances in hazardous places	**Subdivision** of hazardous places	**Required marking** for installation: equipment group	category group
gases vapours	is present continuously or for long periods or frequently	zone 0	**II**	**1G**
	is likely to occur in normal operation occasionally	zone 1	**II**	**2G** or **1G**
	is not likely to occur in normal opration but, if it does occur, will persist for a short period only	zone 2	**II**	**3G** or **2G** or **1G**
dusts	is present continuously or for for long periods or frequently	zone 20	**II**	**1D**
	is likely to occur in normal operation occasionally	zone 21	**II**	**2D** or **1D**
	it is not likely to occur in normal operation but, if it does occur, will persist for a short period only	zone 22	**II**	**3D** or **2D** or **1D**
methane dusts	-	mines	**I**	**M1**
	-	mines	**I**	**M2** or **M1**

Subdivision of gases and vapours

Apparatus may be used in: IIA, IIB, IIC

Explosion subgroup	Gases and vapours					
IIA	ammonia methane ethane propane	ethyl alcohol cyclohexane n-butane	galsoline n-hexane	acetaldehyde		
IIB	town gas, acrylnitril	ethylene ethylene oxide	ethylene glycol hydrogen sulphide	ethyl-ether		
IIC	hydrogen	ethine (acetylene)				sulphide of carbon

Restriction for using apparatus	
Requirements	**Marking**
without restriction	-
special condition may be noted	**X**
Ex component, which is not intended to be used alone and requires additional certification. CE-Conformity of the component is certified when installed in a complete equipment or protective system.	**U**

CE **1180** Ex **II** **2GD** **Ex d** **IIC** **BASEEFA** **08 ATEX 1234** **X**

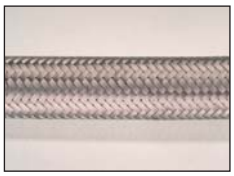
(EU-Directives compliant) (Notified body Code) (Ex certification) (Equipment Category) (Category group) (Marking) (Gas group) (Accredited test centre Notified body) (Year of Certification) (Certification number) (Restriction)

Notified Bodies	Country	Code
LCIE	France	**0081**
INERIS	France	**0080**
BAM	Germany	**0589**
DMT	Germany	**0158**
DQS	Germany	**0297**
FSA	Germany	**0588**
IBExU	Germany	**0637**
PTB	Germany	**0102**
TÜV (Nord Cert)	Germany	**0044**
SEE	Luxembourg	**0499**
KEMA	Netherlands	**0344**
SP	Sweden	**0402**
LOM	Spain	**0163**
EECS (BASEEFA)	UK	**1180**
SCS	UK	**0518**

Accredited test centre

Application	Principle of protection	Type of protection	Symbol	Marking	May be used in **zone**	CENELEC	IEC
all applications	-	general requirements		-	-	EN 50014	IEC 60079-0
control stations, motors, fuses, switchgear, power electronics	an propagation of an explosion inside to the outside is excluded	flameproof enclosure		**Ex d**	1 or 2	EN 50018	IEC 60079-1
installation materials, motors, luminaries	avoidance of arcs, sparks and excessive temperature	increased safety		**Ex e**	1 or 2	EN 50019	IEC 60079-7
measurement and control, automation technology, sensors, actuators	limitation of energy as well as arcs and temperature	intrinsic safety		**Ex i**	0, 1 or 2***	EN 50020* EN 50039**	IEC 60079-11
switch- and control cupboards, analyse-apparatus, computers	ex-atmosphere keep at a distance from the ignition source	pressurisation		**Ex p**	1 or 2	EN 50016**	IEC 60079-2
coils of motors or relays, solenoid valves	ex-atmosphere keep at a distance from the ignition	encapsulation		**Ex m**	1 or 2	EN 50028	IEC 60079-18
transformers, relays, control stations, magnetic contactors	ex-atmosphere keep at a distance from the ignition source	oil immersion		**Ex o**	1 or 2	EN 50015	IEC 60079-6
capacitors, transformers	an propagation of an ignition inside to the outside is excluded	powder filling		**Ex q**	1 or 2	EN 50017	IEC 60079-5
see at the top - only for zone 2	see at the top - only for zone 2	'non sparking'		**Ex n**	2	EN 50021	IEC 60079-15

Protection types

		Temp. Rating	Special Characteristics	Approvals	Material
Anti-Static Polyamide 12		**Static** -20°C to +80°C	Specialist Anti-Static Grade Surface Resistivity $10^6\Omega$ RTI 110°C to EN60079-0	Baseefa08 ATEX0003X IECEx BAS08.0001X	Anti Static Nylon 12
Overbraided Polyamide 12		**Static** -20°C to +80°C	EMC Screening level: 60dB at 1MHz RTI 110°C to EN60079-0	Baseefa08 ATEX0003X IECEx BAS08.0001X	Anti Static Nylon 12 with Stainless Steel Overbraid

		Temp. Rating	Suitable Conduit	Approvals	IP Rating
Straight male (Nickel Plated Brass)		**Static** -20°C to +80°C	Unbraided Nylon Conduit EXB	Baseefa08 ATEX0003X IECEx BAS08.0001X	IP66
Fixed, straight male (Nickel Plated Brass)		**Static** -20°C to +80°C	Overbraided EXBB	Baseefa08 ATEX0003X IECEx BAS08.0001X	IP66

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Non-Metallic Nylon Conduit System

BRITISH CONDUIT SIZE (mm)	16	20	25	32	40	50
PITCH (T=fine, G=coarse)	T	T	T	T	G	G
COIL LENGTHS (m)	10/30/50	10/30/50	10/30/50	10/30/50	10/30/50	10/30/50
MINIMUM BORE (mm)	11.15	16.45	21.5	27.5	35.2	46.2
OUTSIDE DIAMETER (mm)	16.5	21.20	28.35	34.5	42.4	54.3
Colour BLACK	EXB03*	EXB04*	EXB05*	EXB06*	EXB07*	EXB08*

COIL LENGTHS (m)	10/30	10/30	10/30	10/20	10/20	10/20
INSIDE DIAMETER (mm)	11.15	16.45	21.5	27.5	35.2	46.2
SELF	EXBB03*	EXBB04*	EXBB05*	EXBB06*	EXBB07*	EXBB08*

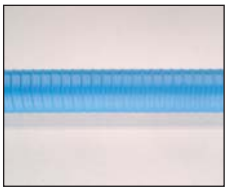
* add coil length to complete part number e.g 10 metres = EXB0510

METRIC THREAD SIZE (mm)	16	20	25	32	40	50
NPT THREAD SIZE (in)	1/2”	1/2”	3/4”	1”	1 1/4”	1 1/2”
METRIC	EXPQM0303	EXPQM0404	EXPQM0505	EXPQM0606	EXPQM0707	EXPQM00808
NPT	EXPQA0304	EXPQA0404	EXPQA0505	EXPQA0606	EXPQA0707	EXPQA00808
METRIC FIXED	EXBQM0303	EXBQM0404	EXBQM0505	EXBQM0606	EXBQM0707	EXBQM00808
NPT FIXED	EXBQA0304	EXBQA0404	EXBQA0505	EXPBQA0606	EXBQA0707	EXBQA00808

LOCKNUTS & SEALS PAGE 16 & 17

CONDUIT SELECTION

See pages 10 & 11 for suitable connectors

GALVANISED STEEL		General Temp. Rating	Flame Propogation	Special Characteristics	Approvals
General Oil Resistant		**Static** –25°C to +105°C **Flexing** –5°C to +105°C	Flame dies in less than 30 seconds after ignition source is removed	Flame retardant PVC covering	IEC 61386
Low Fire Hazard		**Static** –25°C to +90°C **Flexing** –5°C to +90°C	Flame dies in less than 30 seconds after ignition source is removed	Limited Fire Hazard, zero halogen (BS6425 Pt 1)	LUL Fully Compliant (E1042A6), MOD to NES 518:Issue 3 DEF STAN 61-12 (Part 31) Issue 1, IEC 61386
High Temperature		**Static** –50°C to +130°C **Flexing** –5°C to +130°C	Flame dies in less than 30 seconds after ignition source is removed	Flame resistance: UL94 V_2 Chemical and oil resistant	IEC 61386

STAINLESS STEEL 316		General Temp. Rating	Flame Propogation	Special Characteristics	Approvals
General Oil Resistant		**Static** –25°C to +105°C **Flexing** –5°C to +105°C	Flame dies in less than 30 seconds after ignition source is removed	Flame retardant PVC covering	IEC 61386
Low Fire Hazard		**Static** –25°C to +90°C **Flexing** –5°C to +90°C	Flame dies in less than 30 seconds after ignition source is removed	Limited Fire Hazard, zero halogen (BS6425 Pt 1)	LUL Fully Compliant (E1042A6), MOD to NES 518:Issue 3 DEF STAN 61-12 (Part 31) Issue 1, IEC 61386
High Temperature		**Static** –50°C to +130°C **Flexing** –5°C to +130°C	Flame dies in less than 30 seconds after ignition source is removed	Flame resistance: UL94 V_2 Chemical and oil resistant	IEC 61386

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Liquid Tight Flexible Metallic Conduit System

BRITISH CONDUIT SIZE (mm)	10	12	16	20	25	32	40	50	63
US TRADE SIZE (INCHES)	1/4	5/16	3/8	1/2	3/4	1	1 1/4	1 1/2	2
INSIDE DIAMETER (mm)	7.1	10.0	12.5	16.0	21.0	26.4	35.3	40.4	51.6
COIL LENGTHS (m)	10/30	10/30	10/30	10/30	10/30	10/20	10/20	10/20	10/20
Colour									
BLACK	EXLB01*	EXLB02*	EXLB03*	EXLB04*	EXLB05*	EXLB06*	EXLB07*	EXLB08*	EXLB09*
BLACK	-	-	EXLT03*	EXLT04*	EXLT05*	EXLT06*	EXLT07*	EXLT08*	EXLT09*
BLACK	-	-	EXLH03*	EXLH04*	EXLH05*	EXLH06*	EXLH07*	EXLH08*	EXLH09*
BLUE	-	-	EXLLH03*	EXLLH04*	EXLLH05*	EXLLH06*	EXLLH07*	EXLLH08*	EXLLH09*

COIL LENGTHS (m)	10/30	10/30	10/30	10/30	10/30	10/20	10/20	10/20	10/20
Colour									
BLACK	-	-	EXSB03*	EXSB04*	EXSB05*	EXSB06*	EXSB07*	EXSB08*	EXSB09*
BLACK	-	-	EXST03*	EXST04*	EXST05*	EXST06*	EXST07*	EXST08*	EXST09*
BLACK	-	-	EXSH03*	EXSH04*	EXSH05*	EXSH06*	EXSH07*	EXSH08*	EXSH09*

CONNECTOR SELECTION

See pages 8 - 9 for suitable conduits

	Connector Description	Suitable Conduits & IP Rating			BRITISH CONDUIT SIZE (mm) US TRADE SIZE (INCHES)
Fixed Straight	Straight male, brass/nickel plated 	EXLB EXLT EXLH EXLLH	IP66 & 67	IEC 61386	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Thread Size - NPT (in.)** **Ordering Code**
Fixed Straight ST/ST	Straight male, stainless steel 316 	EXST EXSH EXSB	IP66 & 67	IEC 61386	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Thread Size - NPT (in.)** **Ordering Code**
45°	45° male elbow, brass/nickel plated 	EXLB EXLT EXLH EXLLH	IP66 & 67	IEC 61386	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Thread Size - NPT (in.)** **Ordering Code**
90°	90° male elbow, brass/nickel plated 	EXLB EXLT EXLH EXLLH	IP66 & 67	IEC 61386	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Thread Size - NPT (in.)** **Ordering Code**
Swivel Straight	Straight male, black PVC sleeve, brass/nickel plated body 	EXLB EXLT EXLH EXLLH	IP66 & 67	IEC 61386	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Thread Size - NPT (in.)** **Ordering Code**

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10	12	16	16	20	25	32	40	50	63
1/4	5/16	3/8	3/8	1/2	3/4	1	1 1/4	1 1/2	2
25	25	25	25	25	10	5	5	2	1
16	16	16	20	20	25	32	40	50	63
EXQM0103	EXQM0203	EXQM0303	EXQM0304	EXQM0404	EXQM0505	EXQM0606	EXQM0707	EXQM0808	EXQM0909
-	-	-	1/2	1/2	3/4	1	1 1/4	1 1/2	2
-	-	-	EXQA0304	EXQA0404	EXQA0505	EXQA0606	EXQA0707	EXQA0808	EXQA0909
-	-	1	1	1	1	1	1	1	1
-	-	16	20	20	25	32	40	50	63
-	-	EXQMS0303	EXQMS0304	EXQMS0404	EXQMS0505	EXQMS0606	EXQMS0707	EXQMS0808	EXQMS0909
-	-	-	1/2	1/2	3/4	1	1 1/4	1 1/2	2
-	-	-	EXQAS0304	EXQAS0404	EXQAS0505	EXQAS0606	EXQAS0707	EXQAS0808	EXQAS0909
-	-	10	10	10	10	5	5	2	1
-	-	16	20	20	25	32	40	50	63
-	-	EXRM0303	EXRM0304	EXRM0404	EXRM0505	EXRM0606	EXRM0707	EXRM0808	EXRM0909
-	-	-	1/2	1/2	3/4	1	1 1/4	1 1/2	2
-	-	-	EXRA0304	EXRA0404	EXRA0505	EXRA0606	EXRA0707	EXRA0808	EXRA0909 -
-	10	10	10	10	5	5	2	1	
-	-	16	20	20	25	32	40	50	63
-	-	EXSM0303	EXSM0304	EXSM0404	EXSM0505	EXSM0606	EXSM0707	EXSM0808	EXSM0909
-	-	-	1/2	1/2	3/4	1	1 1/4	1 1/2	2
-	-	-	EXSA0304	EXSA0404	EXSA0505	EXSA0606	EXSA0707	EXSA0808	EXSA0909
-	-	25	25	25	10	5	5	2	1
-	-	16	-	20	25	32	40	50	63
-	-	EXMM0303	EXMM0304	EXMM0404	EXMM0505	EXMM0606	EXMM0707	EXMM0808	EXMM0909
-	-	-	1/2	1/2	3/4	1	1 1/4	1 1/2	2
-	-	-	EXMA0304	EXMA0404	EXMA0505	EXMA0606	EXMA0707	EXMA0808	EXMA0909

N.B. PG VERSIONS ON REQUEST

ATEX FLAMEPROOF GLAND SELECTION

See pages 8 - 9 for suitable conduits

Constructed from either brass or stainless steel, with a nylon seal and epoxy resin, the ATEX FLAMEPROOF GLAND is high quality, high specification, ideal for Ex II 2 GD gas and dust, EExd IIC and EExe II applications.

Material	Brass (BS12168)
Connector Type	Straight, male
Temperature Range	-60°C to +80°C (depending on conduit type)
Approvals	Full BASEEFA certification to the requirements of EN60079-0:2004; EN60079-1:2004; EN60079-7:2003 + Amendment 1; IEC61241-0:2004; IEC61241-1:2004. BASEEFA certificated to Ex II 2 GD, EExd IIC & EExe II. BASEEFA Certificate number 06ATEX0256X for use in Zones 1 & 2 Gas and Dust. Certificate number IECEx Bas060059X

BRITISH CONDUIT SIZE (mm)	**16**	**20**	**25**	**32**	**40**	**50**	**63**
US Trade Size (in.)	**3/8**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**
Suitable Conduits & IP Rating							
EXLB, EXLT, EXLH, EXLLH – IP66							
Thread Size - Metric (mm)	20	20	25	32	40	50	63
Ordering Code	**HAM0304**	**HAM0404**	**HAM0505**	**HAM0606**	**HAM0707**	**HAM0808**	**HAM0909**
Nickel Plated	**HAMM0304**	**HAMM0404**	**HAMM0505**	**HAMM0606**	**HAMM0707**	**HAMM0808**	**HAMM0909**
Thread Size - NPT (in)	1/2	1/2	3/4	1	1 1/4	1 1/2	2
Ordering Code	**HAA0304**	**HAA0404**	**HAA0505**	**HAA0606**	**HAA0707**	**HAA0808**	**HAA0909**
Nickel Plated	**HAAM0304**	**HAAM0404**	**HAAM0505**	**HAAM0606**	**HAAM0707**	**HAAM0808**	**HAAM0909**

Material	316 Stainless Steel
Connector Type	Straight, male
Temperature Range	-60°C to +80°C (depending on conduit type)
Approvals	Full BASEEFA certification to the requirements of EN60079-0:2004; EN60079-1:2004; EN60079-7:2003 + Amendment 1; IEC61241-0:2004; IEC61241-1:2004. BASEEFA certificated to Ex II 2 GD, EExd IIC & EExe II. BASEEFA Certificate number 06ATEX0256X for use in Zones 1 & 2 Gas and Dust. Certificate number IECEx Bas060059X

BRITISH CONDUIT SIZE (mm)	**16**	**20**	**25**	**32**	**40**	**50**	**63**
US Trade Size (in.)	**3/8**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**
Suitable Conduits & IP Rating							
EXLB, EXLT, EXLH, EXLLH – IP66							
Thread Size - Metric (mm)	-	20	25	32	40	50	63
Ordering Code	-	**HAMS0404**	**HAMS0505**	**HAMS0606**	**HAMS0707**	**HAMS0808**	**HAMS0909**
Thread Size - NPT (in)	-	1/2	3/4	1	1 1/4	1 1/2	2
Ordering Code	-	**HAAS0404**	**HAAS0505**	**HAAS0606**	**HAAS0707**	**HAAS0808**	**HAAS0909**

Additional epoxy resin packs available.	**35g**	**55g**	**90g**	**135g**
	EX35PUTTY	**EX55PUTTY**	**EX90PUTTY**	**EX135PUTTY**

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Convertors & Accessories
Intro Page

Exd "Flameproof" & Exe Increased Safety Enlargers, Reducers. And Thread convertors

Kopex's range of Adaptors and Reducers provide a method of matching threadforms on hazardous area approved equipment whilst ensuring the integrity and Ex approval of the installation is maintained.

Manufactured in the UK, this new range of converters meets the latest ATEX / IECEx standards. This means that all the standards are marked on the product around the main body. This allows for them to be seen easily once installed, a key component of the new standard.

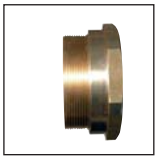
Enlargers (/E) are used where the thread size of the Female side of the device is larger than the male side

Reducers (/R) are used where the thread size of the female side of device is smaller than the male side

Thread Converters (/TC) are used where a conversion is required between thread types e.g Metric to PG

Kopex's Enlargers, Reducers and thread converters are designed for hazardous area applications and are certified to protection concepts Exd "Flameproof" and Exe "Increased Safety" for use in Zone 1, 2, 2.1, 2.2 applications.

Approved to the latest international standards adaptors and reducers can be supplied with ATEX, and IECEx Certification. For downloads of all IECEx certification visit www.iecex.com

		Connector Description	IP Rating	Approvals
Enlargers, Reducers & Convertors	  	EX - Brass EXN - Nickel Plated Brass EXS - Stainless Steel 316	**IP66**	ATEX Certification. BASEEFA07 ATEX 0247X IECEx Certification. IECEx BAS07.0090X

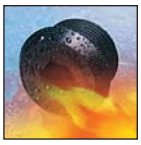
MALE EXTERNAL THREAD	METRIC FEMALE INTERNAL THREAD							
	M16	**M20**	**M25**	**M32**	**M40**	**M50**	**M63**	**M75**
M16		EX/M16-M20/E	EX/M16-M25/E					
M20	EX/M20-M16/R		EX/M20-M25/E	EX/M20-M32/E				
M25	EX/M25-M16/R	EX/M25-M20/R		EX/M25-M32/E	EX/M25-M40/E			
M32	EX/M32-M16/R	EX/M32-M20/R	EX/M32-M25/R		EX/M32-M40/E	EX/M32-M50/E		
M40	EX/M40-M16/R	EX/M40-M20/R	EX/M40-M25/R	EX/M40-M32/R		EX/M40-M50/E	EX/M40-M63/E	
M50	EX/M50-M16/R	EX/M50-M20/R	EX/M50-M25/R	EX/M50-M32/R	EX/M50-M40/R		EX/M50-M63/E	EX/M50-M75/E
M63	EX/M63-M16/R	EX/M63-M20/R	EX/M63-M25/R	EX/M63-M32/R	EX/M63-M40/R	EX/M63-M50/R		EX/M63-M75/E
M75	EX/M75-M16/R	EX/M75-M20/R	EX/M75-M25/R	EX/M75-M32/R	EX/M75-M40/R	EX/M75-M50/R	EX/M75-M63/R	
PG9	EX/PG9-M16/TC	EX/PG9-M20/TC						
PG11	EX/PG11-M16/TC	EX/PG11-M20/TC						
PG13	EX/PG13-M16/TC	EX/PG13-M20/TC						
PG16	EX/PG16-M16/TC	EX/PG16-M20/TC	EX/PG16-M25/TC					
PG21	EX/PG21-M16/TC	EX/PG21-M20/TC	EX/PG21-M25/TC	EX/PG21-M32/TC				
PG29	EX/PG29-M16/TC	EX/PG29-M20/TC	EX/PG29-M25/TC	EX/PG29-M32/TC	EX/PG29-M40/TC			
PG36	EX/PG36-M16/TC	EX/PG36-M20/TC	EX/PG36-M25/TC	EX/PG36-M32/TC	EX/PG36-M40/TC	EX/PG36-M50/TC		
PG42	EX/PG42-M16/TC	EX/PG42-M20/TC	EX/PG42-M25/TC	EX/PG42-M32/TC	EX/PG42-M40/TC	EX/PG42-M50/TC	EX/PG42-M63/TC	
PG48	EX/PG48-M16/TC	EX/PG48-M20/TC	EX/PG48-M25/TC	EX/PG48-M32/TC	EX/PG48-M40/TC	EX/PG48-M50/TC	EX/PG48-M63/TC	
NPT 3/8	EX/038-M16/TC							
NPT 1/2	EX/050-M16/TC	EX/050-M20/TC	EX/050-M25/TC					
NPT 3/4	EX/075-M16/TC	EX/075-M20/TC	EX/075-M25/TC	EX/075-M32/TC				
NPT 1	EX/100-M16/TC	EX/100-M20/TC	EX/100-M25/TC	EX/100-M32/TC	EX/100-M40/TC			
NPT 1 1/4	EX/125-M16/TC	EX/125-M20/TC	EX/125-M25/TC	EX/125-M32/TC	EX/125-M40/TC	EX/125-M50/TC		
NPT 1 1/2	EX/150-M16/TC	EX/150-M20/TC	EX/150-M25/TC	EX/150-M32/TC	EX/150-M40/TC	EX/150-M50/TC	EX/150-M63/TC	
NPT 2	EX/200-M16/TC	EX/200-M20/TC	EX/200-M25/TC	EX/200-M32/TC	EX/200-M40/TC	EX/200-M50/TC	EX/200-M63/TC	

Thread Converters

MALE EXTERNAL THREAD	PG FEMALE INTERNAL THREAD								
	PG9	**PG11**	**PG13**	**PG16**	**PG21**	**PG29**	**PG36**	**PG42**	**PG48**
M16	EX/M16-PG9/TC	EX/M16-PG11/TC	EX/M16-PG13/TC						
M20	EX/M20-PG9/TC	EX/M20-PG11/TC	EX/M20-PG13/TC	EX/M20-PG16/TC					
M25	EX/M25-PG9/TC	EX/M25-PG11/TC	EX/M25-PG13/TC	EX/M25-PG16/TC	EX/M25-PG21/TC				
M32	EX/M32-PG9/TC	EX/M32-PG11/TC	EX/M32-PG13/TC	EX/M32-PG16/TC	EX/M32-PG21/TC	EX/M32-PG29/TC			
M40	EX/M40-PG9/TC	EX/M40-PG11/TC	EX/M40-PG13/TC	EX/M40-PG16/TC	EX/M40-PG21/TC	EX/M40-PG29/TC	EX/M40-PG36/TC		
M50	EX/M50-PG9/TC	EX/M50-PG11/TC	EX/M50-PG13/TC	EX/M50-PG16/TC	EX/M50-PG21/TC	EX/M50-PG29/TC	EX/M50-PG36/TC	EX/M50-PG42/TC	
M63	EX/M63-PG9/TC	EX/M63-PG11/TC	EX/M63-PG13/TC	EX/M63-PG16/TC	EX/M63-PG21/TC	EX/M63-PG29/TC	EX/M63-PG36/TC	EX/M63-PG42/TC	EX/M63-PG48/TC
M75	EX/M75-PG9/TC	EX/M75-PG11/TC	EX/M75-PG13/TC	EX/M75-PG16/TC	EX/M75-PG21/TC	EX/M75-PG29/TC	EX/M75-PG36/TC	EX/M75-PG42/TC	EX/M75-PG48/TC
PG9									
PG11	EX/PG11-PG9/TC								
PG13	EX/PG13-PG9/TC	EX/PG13-PG11/TC							
PG16	EX/PG16-PG9/TC	EX/PG16-PG11/TC	EX/PG16-PG13/R		EX/P16-PG21/E				
PG21	EX/PG21-PG9/TC	EX/PG21-PG11/TC	EX/PG21-PG13/R	EX/PG21-PG16/R		EX/PG21-PG29/E			
PG29	EX/PG29-PG9/TC	EX/PG29-PG11/TC	EX/PG29-PG13/R	EX/PG29-PG16/R	EX/PG29-PG21/R		EX/PG29-PG36/E		
PG36	EX/PG36-PG9/TC	EX/PG36-PG11/TC	EX/PG36-PG13/R	EX/PG36-PG16/R	EX/PG36-PG21/R	EX/PG36-PG29/R		EX/PG36-PG48/E	
PG42	EX/PG42-PG9/TC	EX/PG42-PG11/TC	EX/PG42-PG13/R	EX/PG42-PG16/R	EX/PG42-PG21/R	EX/PG42-PG29/R	EX/PG42-PG36/R		EX/PG42-PG48/E
PG48	EX/PG48-PG9/TC	EX/PG48-PG11/TC	EX/PG48-PG13/R	EX/PG48-PG16/R	EX/PG48-PG21/R	EX/PG48-PG29/R	EX/PG48-PG36/R	EX/PG48-PG42/R	
NPT 3/8									
NPT 1/2	EX/050-PG9/TC	EX/050-PG11/TC	EX/050-PG13/TC	EX/050-PG16/TC					
NPT 3/4	EX/075-PG9/TC	EX/075-PG11/TC	EX/075-PG13/TC	EX/075-PG16/TC	EX/075-PG21/TC				
NPT 1	EX/100-PG9/TC	EX/100-PG11/TC	EX/100-PG13/TC	EX/100-PG16/TC	EX/100-PG21/TC	EX/100-PG29/TC			
NPT 1 1/4	EX/125-PG9/TC	EX/125-PG11/TC	EX/125-PG13/TC	EX/125-PG16/TC	EX/125-PG21/TC	EX/125-PG29/TC	EX/125-PG36/TC		
NPT 1 1/2	EX/150-PG9/TC	EX/150-PG11/TC	EX/150-PG13/TC	EX/150-PG16/TC	EX/150-PG21/TC	EX/150-PG29/TC	EX/150-PG36/TC	EX/150-PG42/TC	
NPT 2	EX/200-PG9/TC	EX/200-PG11/TC	EX/200-PG13/TC	EX/200-PG16/TC	EX/200-PG21/TC	EX/200-PG29/TC	EX/200-PG36/TC	EX/200-PG42/TC	EX/200-PG48/TC

MALE EXTERNAL THREAD	NPT FEMALE INTERNAL THREAD						
	NPT 3/8	**NPT 1/2**	**NPT 3/4**	**NPT 1**	**NPT 1 1/4**	**NPT 1 1/2**	**NPT 2**
M16	EX/M16-038/TC	EX/M16-050/TC					
M20		EX/M20-050/TC	EX/M20-075/TC				
M25		EX/M25-050/TC	EX/M25-075/TC	EX/M25-100/TC			
M32		EX/M32-050/TC	EX/M32-075/TC	EX/M32-100/TC	EX/M32-125/TC		
M40		EX/M40-050/TC	EX/M40-075/TC	EX/M40-100/TC	EX/M40-125/TC	EX/M40-150/TC	
M50		EX/M50-050/TC	EX/M50-075/TC	EX/M50-100/TC	EX/M50-125/TC	EX/M50-150/TC	EX/M50-200/TC
M63		EX/M63-050/TC	EX/M63-075/TC	EX/M63-100/TC	EX/M63-125/TC	EX/M63-150/TC	EX/M63-200/TC
M75		EX/M75-050/TC	EX/M75-075/TC	EX/M75-100/TC	EX/M75-125/TC	EX/M75-150/TC	EX/M75-200/TC
PG9		EX/PG9-050/TC					
PG11		EX/PG11-050/TC					
PG13		EX/PG13-050/TC					
PG16		EX/PG16-050/TC	EX/PG16-075/TC				
PG21		EX/PG21-050/TC	EX/PG21-075/TC	EX/PG21-100/TC			
PG29		EX/PG29-050/TC	EX/PG29-075/TC	EX/PG29-100/TC	EX/PG29-125/TC	EX/PG29-150/TC	
PG36		EX/PG36-050/TC	EX/PG36-075/TC	EX/PG36-100/TC	EX/PG36-125/TC	EX/PG36-150/TC	
PG42		EX/PG42-050/TC	EX/PG42-075/TC	EX/PG42-100/TC	EX/PG42-125/TC	EX/PG42-150/TC	EX/PG42-200/TC
PG48		EX/PG48-050/TC	EX/PG48-075/TC	EX/PG48-100/TC	EX/PG48-125/TC	EX/PG48-150/TC	EX/PG48-200/TC
NPT 3/8							
NPT 1/2			EX/050-075/E				
NPT 3/4		EX/075-050/R		EX/075-100/E			
NPT 1		EX/100-050/R	EX/100-075/R		EX/100-125/E		
NPT 1 1/4		EX/125-050/R	EX/125-075/R	EX/125-100/R		EX/125-150/E	
NPT 1 1/2		EX/150-050/R	EX/150-075/R	EX/150-100/R	EX/150-125/R		EX/150-200/E
NPT 2		EX/200-050/R	EX/200-075/R	EX/200-100/R	EX/200-125/R	EX/200-150/R	

Index EExe Cable Gland, Stopping Plug & Locknuts

		Connector Description	IP Rating	Approvals	CONDUIT SIZE (mm)
Hazardous Area Index EExe Cable Gland		Grilon 2 R40 GM Santroprene Seal	**IP68**	SIRA 00 ATEX 1072X  II2GD EExeII	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code** **Sealing Washer** **Locknut**
Hazardous Area Stopping Plug		Polyamide 6.6 30% Glass Filled with Rubber Seal	**IP66**	SIRA 00 ATEX 1074X 	**Pack Quantity** **Thread Size - Metric (mm)** **Ordering Code**
Hex Locknut Metric				**Material** Stainless Steel Brass Nickel plated brass	**Thread Type - Metric** **Colour** Dimension Across Flats (mm) Thickness (mm) **SELF** Dimension Across Flats (mm) Thickness (mm) **SELF** Dimension Across Flats (mm) Thickness (mm) **NICKEL**
Sealing Joint Washer Metric				Nylon	Outside Diameter (mm) Thickness (mm) **BLACK**
Hex Locknut PG				**Material** Brass / Nickel plated	**Thread Type - PG** Dimension Across Flats (mm) Thickness (mm) **NICKEL**
Sealing Joint Washer PG				Nylon	Outside Diameter (mm) Thickness (mm) **BLACK**
Hex Locknut NPT				**Material** Brass / Nickel plated	**Thread Type - NPT** Dimension Across Flats (mm) Thickness (mm) **NICKEL**
'Tiger Tail' Locknut NPT				Steel	Lug Diameter (mm) Thickness (mm) **SELF**
P Clip		Galvanised Steel/ PVC insert			
Couplers		Brass Nickel plated Brass	**IP66**		

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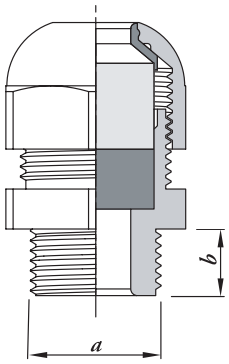
Index EExe Cable Gland, Stopping Plug & Locknuts

16	20	25	32	40	50	63			
25	20	10	5	2	1	-			
M16	M20	M25	M32	M40	M50	-			
EX-8160	EX-8240	EX-8560	EX-8640	EX-8720	EX-8800	-			
EXFM03	EXFM04	EXFM05	EXFM06	EXFM07	EXFM08	-			
EXFP03	EXFP04	EXFP05	EXFP06	EXFP07	EXFP08	-			
100	100	100	50	10	10	10			
M16	M20	M25	M32	M40	M50	M63			
EX-M16	EX-M20	EX-M25	EX-M32	EX-M40	EX-M50	EX-M63			
16	**20**	**25**	**32**	**40**	**50**	**63**			
-	28.0	28.0	38.0	-	-	-			
-	3.5	4.0	5.0	-	-	-			
-	MXWH04	MXWH05	MXWH06	-	-	-			
22.0	27.0	33.0	41.0	47.0	64.0	-			
2.0	2.0	2.0	4.3	3.0	3.0	-			
WHMB03	WHMB04	WHMB05	WHMB06	WHMB07	WHMB08	-			
22.0	24.0	30.0	35.0	44.0	55.0	70.0			
3.0	3.5	3.5	4.5	4.5	7.0	7.5			
WHMM03	WHMM04	WHMM05	WHMM06	WHMM07	WHMM08	WHMM09			
22.0	26.0	31.5	41.5	52.0	66.5	84.5	-	-	
1.6	1.6	1.7	1.7	2.0	2.0	2.0	-	-	
EXFM02	EXFM03	EXFM04	EXFM05	EXFM06	EXFM07	EXFM08	-	-	
7	**9**	**11**	**13.5**	**16**	**21**	**29**	**36**	**42**	**48**
15.0	18.0	21.0	23.0	26.0	32.0	41.0	51.0	60.0	64.0
3.0	3.0	3.0	3.0	3.0	3.5	4.0	5.0	5.0	5.0
WHPM01	WHPM02	WHPM03	WHPM04	WHPM05	WHPM06	WHPM07	WHPM08	WHPM09	WHPM10
-	19.0	22.5	22.5	27.0	33.5	43.5	-	-	-
-	2.0	2.0	2.0	2.0	3.0	3.0	-	-	-
	EXFP02	EXFP03	EXFP04	EXFP05	EXFP06	EXFP07	-	-	-
1/2"	**3/4"**	**1"**	**1 1/4"**	**1 1/2"**	**2"**				
27.0	30.0	37.5	47.0	56.0	70.0				
3.3	3.5	5.0	5.2	6.0	6.7				
WHAM04	WHAM05	WHAM06	WHAM07	WHAM08	WHAM09				
28.5	33.5	43.5	52.2	60.3	73.5				
5.3	6.0	6.0	6.0	5.8	6.8				
WHAS04	WHAS05	WHAS06	WHAS07	WHAS08	WHAS09				
Pack Quantity	10	10	10	10	-	10	10	5	5
BLACK	YCNAC01	YCNAC02	YCNAC03	YCNAC04	-	YCNAC05	YCNAC06	YCNAC07	YCNAC08

THREAD SIZE	M16	M20	M25	M32	M40	M50
	EX/M16/C EXN/M16/C	EX/M20/C EXN/M20/C	EX/M25/C EXN/M25/C	EX/M32/C EXN/M32/C	EX/M40/C EXN/M40/C	EX/M50/C EXN/M50/C

Index EExe Hazardous Area Cable Gland



Nr	a	b	⌀ Max.	⌀ Min.
202-8160	M16	9.0	8.0	5.0
202-8240	M20	10.0	13.0	8.0
202-8560	M25	11.0	19.0	13.0
202-8640	M32	12.0	25.0	18.0
202-8720	M40	14.0	32.0	24.0
202-8800	M50	16.0	38.0	29.0

Installation:

INTO NON-THREADED ENCLOSURE

Unscrew cap and remove sealing ring. The moulded dust shield must be removed. (A screwdriver or similar may be a useful aid). Replace the seal, (external chamfer to the cap). Replace the cap and give it half a turn. Pass the cable the required distance through the Gland and tighten cap onto body. The tightening action will cause the seal to deform and close onto the cable. The entry thread is passed into the enclosure and the nut fitted. Use cable clamps to secure the cable.

THREADED ENCLOSURE

Unscrew cap and remove sealing ring. The moulded dust shield must be removed. (A screwdriver or similar may be a useful aid). Screw the body into the enclosure and tighten. Replace the grip and seal, (external chamfer to the cap). Replace the cap and give half a turn. Pass the cable through the Gland to the required distance and tighten the cap. close onto the cable. Use cable clamps to secure the cable.

Routine Checking & Maintenance:

Nylon Glands are items that once assembled do not require maintenance. An occasional check to ensure cable has not been damaged or pulled would be advisable.

Fitting Instructions for Exe Non Metallic Conduits

Kopex will not take any responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, further advice can be obtained from our Technical Department.

Product Certification

Part No	ATEX Cert	IECEx Cert	Operating Temp	IP Rating
EXBQ/EXPQ	BASEEFA08 ATEX0003X	IECEx BAS08.0001X	-20 TO +80˚C	IP66

Notes: For ingress protection above IP54 the use of a sealing washer or thread sealant is recommended.

Specifications

In accordance with	IEC60079-0, IEC60079-7, EN60079-0, EN60079-7 IEC61241-0, IEC61241-1, EN61241-0, EN61241-1

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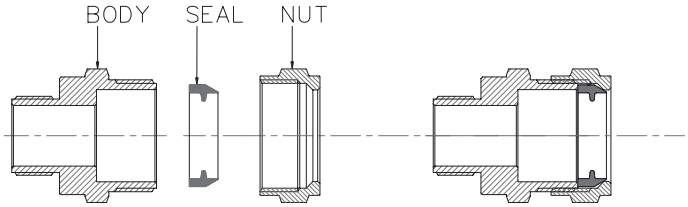
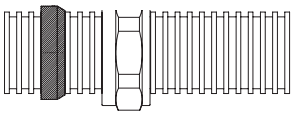
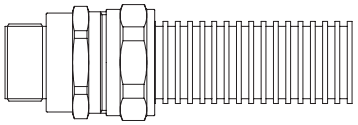
Non Metallic EXPQ





Apply nut and seal over conduit, ensuring chamfered edge of seal is facing towards nut. Seal to be positioned 3 corrugations in from the end of the conduit.



If using with plain hole, fully tighten nut onto body to secure gland onto conduit.

If using with threaded entry, leave nut loose to allow gland to freely rotate about the conduit. Screw body into entry, then fully tighten nut to complete installation.

Marking details

Components will be marked in the following format.

CMPL BASEEFA08 ATEX0003X Ex II 2GD Exe II
ExtD IIC A21 IP66 -20 to +80˚c (year of manufacture) B46 1HT CE
1180 IECEx BAS08.0001X (type designation)

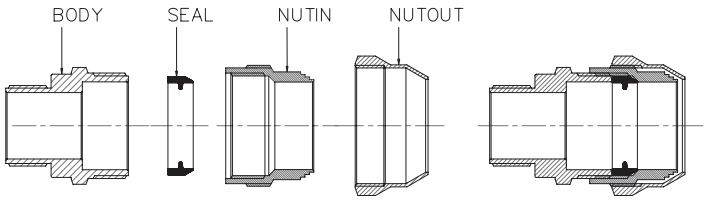
Example

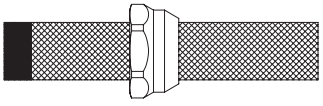
CMPL BASEEFA08 ATEX0003X Ex II 2GD Exe II
ExtD IIC A21 IP66 -20 to +80˚c) 08 B46 1HT CE
1180 IECEx BAS08.0001X EXBQM0808

Notes:

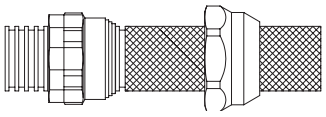
- Ensure that the product is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the product can maintain the same ingress protection levels as the equipment to which it is to be installed.
- Exe equipment should not be used with Exd equipment.
- This equipment consists of discharging material and is therefore not suitable as an insulating medium.

Non Metallic Braided EXBQ

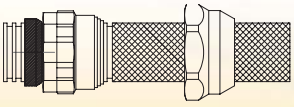




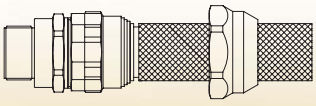
Wrap sellotape around conduit and cut to length required. Apply the ‘nutout’ over the braiding before removing tape.



Remove tape and pull back braided sheath. Apply ‘nutin’ so that approx 5 convolutions protrude.



Apply seal with chamfered edge towards the ‘nutin’, 3 corregations in from the end of the conduit.



Loosely assemble body into the ‘nutin’.

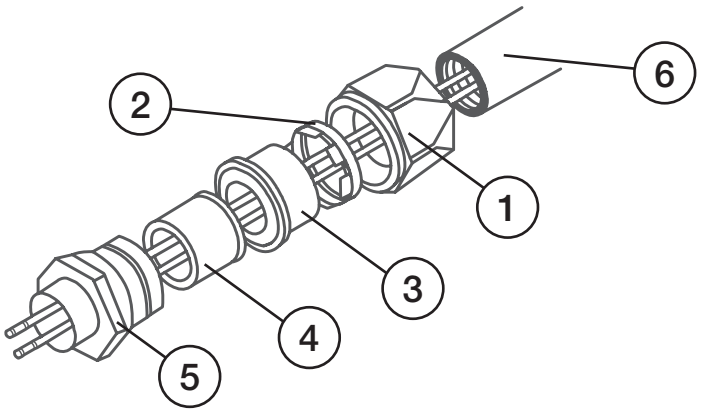
If using with a plain hole, fully tighten nut into body to secure gland on conduit.

If using with a threaded entry, leave nut loose to allow gland to freely rotate about the conduit. Screw body into entry, then fully tighten nut.

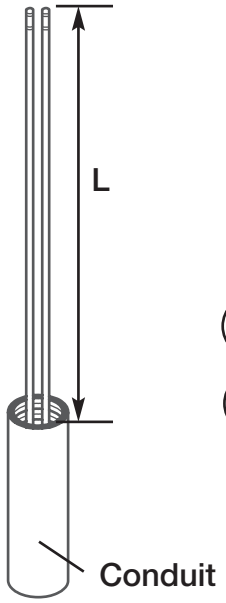
Position braiding over steps of nutin and secure with nutout ensuring braid is trapped between the nuts.

Special Conditions for Safe Use:
WHEN THE GLAND IS USED FOR INCREASED SAFETY OR DUST PROTECTION, THE ENTRY OF THE ENCLOSURE AND THE FEMALE THREAD OF THE GLAND IS TO BE SEALED (IN ACCORDANCE WITH IEC60079-14) IN ORDER TO MAINTAIN THE INGRESS PROTECTION RATING OF THE ASSOCIATED ENCLOSURE...

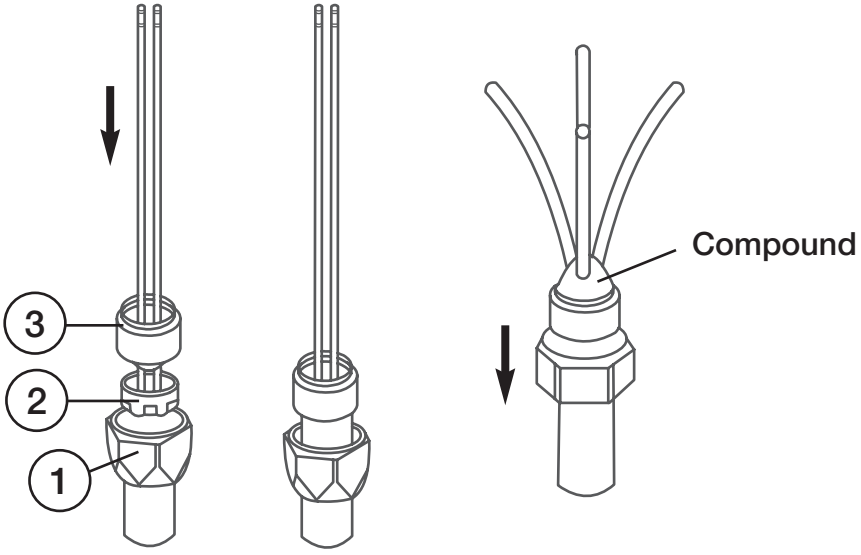
1. Backnut
2. Gland Ring
3. Spigot / Fixed Coupler
4. Rubber Pot
5. Entry
6. Conduit (Kopex)



Cable Preparation



Cable Gland Preparation



A
Conduit Preparation
Cut conduit square using a hacksaw with a minimum of 30 teeth per inch. Pull sufficient length 'L' of conduit to suit equipment and twist to form a helix, this gives maximum flexibility.

B
Pass parts (1) and (2) over the conduit and conductors ensuring that the cut outs of the gland ring race the enclosures. Pass part (3) over the conductors and screw into the conduit.(6). Remove the rubber pot (4) from the entry (5), pass the entry (5) over the conductors, assemble the gland and tighten backnut (1) onto entry (5) until the gland ring (2) is drawn into the spigot (3), then remove entry (5).

C
Spread the conductors out for the compound packing. Pack the compound between the conductors as shown.
See Notes overleaf and Fig. 7 for compound preparation.

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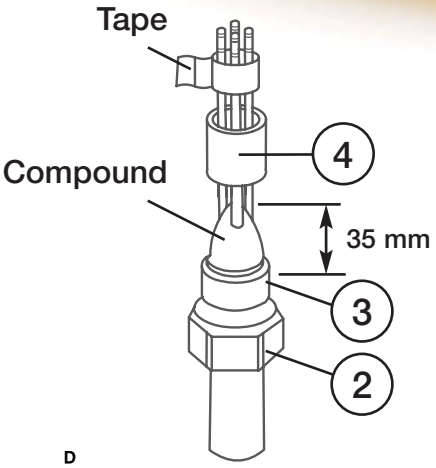
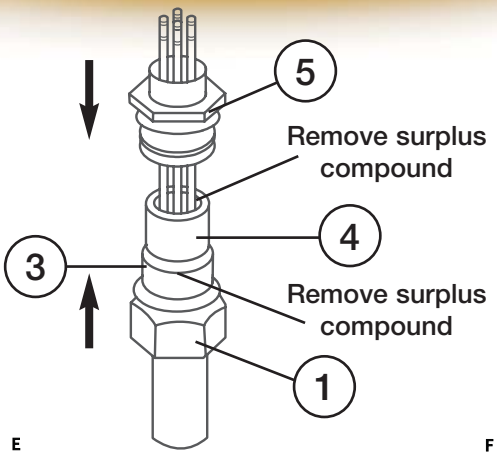
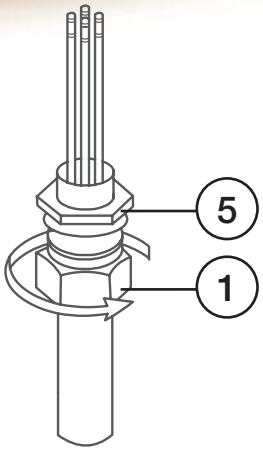
Fitting Instructions
EExd / EExe II Cable Gland



D
With all gaps and voids filled, bring the conductors back together and pack more compound around the outside of the conductors. Tape the conductors together to prevent disturbance of the compound seal. Pass the rubber pot (4) over the spigot (3) and remove any surplus compound from the top of the rubber pot (4) and the joint face as indicated.



E
Pass the conductors through the entry (5), which may have been previously fitted into the equipment. Ensure that compound does not cover end of the rubber pot (4).
Fit the rubber pot (4) into the entry (5).



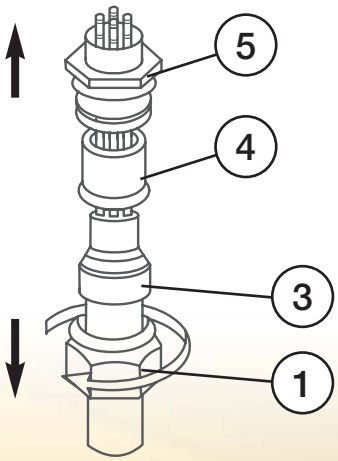
F
Locate and hand tighten backnut (1) to the entry (5).

IMPORTANT NOTE :
THE CONDUCTORS MUST NOT BE MOVED FOR A MINIMUM OF FOUR HOURS.

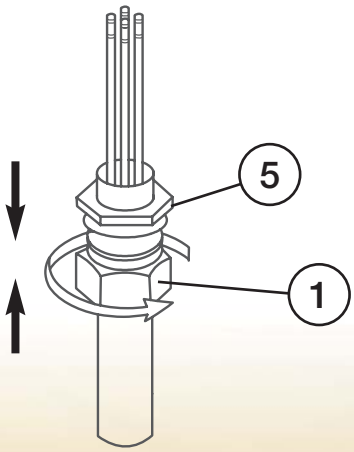
EPOXY COMPOUND PREPARATION

When handling this material, the gloves supplied must be worn. The epoxy compound is supplied in the form of a two part package. These should be mixed into the ratio of 1:1 until both colours have blended into one, without any streaks. Rolling and folding is the most satisfactory method of obtaining an even blend. Once mixed, the compound must be used within 30 minutes. After this time it will begin to stiffen. The compound should be kept at an ambient temperature of no less than 20°C prior to using. At lower temperatures it becomes difficult to mix. Should any compound come into contact with the skin it should be cleaned off with skin cleaner and not allowed to dry on the skin. Only compound for immediate terminations should be mixed.

The mixing and installation of the compound at an ambient temperature below 4°C is not recommended due to extended curing periods.



G
Allow the compound to cure. (See fig. 7 for curing times). Untighten the backnut (1) from the entry (5) to enable inspection. The rubber pot (4) may be removed for inspection to ensure that the compound packing is satisfactory. Add further compound if necessary.



H
Re-assemble the rubber pot (4) and the entry (5). Hand tighten the backnut (1) onto the entry (5) and add half a turn with a spanner / wrench.

Installation Instructions for Kopex Adaptor & Reducer

These installation instructions give guidance on selection of Kopex products and general instructions for safety and installation of chosen Kopex products. All Kopex products should only be used in applications and environments as detailed in these instructions and other Kopex literature.

Kopex will not take responsibility for any damage, injury or form of loss caused where products are not installed or used as detailed in these instructions. If in doubt, further advice can be obtained from our Technical Department.

Product Certification

Part No	ATEX Cert	IECEx Cert	Operating Temp	IP Rating
EX	BASEEFA07 ATEX 0247X	IECEx BAS07.0090X	-60 TO +100˚C	IP66

Notes: For ingress protection above IP54 the use of a sealing washer or thread sealant is recommended.

Certification and Material Variations for Standard Thread Sizes

Product	Description
E	Enlarger
R	Reducer
TC	Thread convertor

Part No.	Material
EX	Brass
EXN	Nickel plated brass
EXS	Stainless steel

Standard Male and Female Thread Sizes

M16	038	3/8" NPT	PG9
M20	050	1/2" NPT	PG13.5
M25	075	3/4" NPT	PG16
M32	100	1" NPT	PG21
M40	150	1 1/2" NPT	PG29
M50	175	1 3/4" NPT	PG36
M64	200	2" NPT	PG42
M75	250	2 1/2" NPT	

Male thread is shown first. Example: EXN/M20-M25/E.
Material - Brass, Nickel Plated, M20 Male to M25 Female

Specification

In accordance with IEC60079-0, IEC60079-7, IEC60079-1, EN60079-0, EN 60079-7, EN60079-1. IEC61241-07:2006, IEC61241-1, EN61241-0, EN61241-1

Selection

- All Kopex products should be selected in accordance with all relevant Standards and Codes of Practice.
- Ensure that the product is certified to the same method of protection as the equipment to which it is to be installed.
- Ensure that the correct threadform and size is selected for the cable and/or entry hole of the enclosure.
- Ensure that the material the product is manufactured from is suitable to the enclosure material and cable gland, and also to the surrounding environmental conditions.
- Ensure that surrounding conditions do not exceed the Operating Temperatures stated in the product Information table.
- Ensure that the product can maintain the same Ingress Protection levels as the equipment to which it is to be installed.
- Ensure that the impact resistance of the product is suitable to that of the equipment to which it is to be installed as stated in the Product Information Table.

Marking details

Components will be marked in the following format.

CMPL BASEEFA07 ATEX0247X Ex II 2GD IP66
Exd IIC Exe II ExeD (year of manufacture) B46 1HT UK 1180 CE
IECEx BAS07.0090X 07 -60 to +100˚C Ex/Type designation

Example

CMPL BASEEFA07 ATEX0247X Ex II 2GD IP66
Exd IIC Exe II ExtD A21 B46 1HT UK 1180 CE
IECEx BAS07.0090X 07 -60 to +100˚C Ex/M32-M25/R

Installation Guide

- All Kopex products should be installed in accordance with all relevant Installation Standards and Codes of Practice.
  BS EN 60079-14: 1997. Electrical Installations in hazardous areas (other than mines)
- The installer should ensure that no damage occurs to any thread or form of seal during installation. Where component is plated care should be taken to prevent damage or chipping.
- Threaded Entries – Components can be installed directly into threaded entries and the recommended torque applied.
- Clearance Holes – Clearance holes should be 0.5 mm larger than the major diameter of the male thread. Components installed in clearance holes should be secured with an appropriate sized locknut to recommended torque.
- Recommended Installation Torque – In order to maintain the integrity of the enclosure it is important that an installation torque as detailed below be applied.

Installation Torque

Kopex adaptors and reducers should be installed to the recommended torque values detailed in the following table. Torque values apply to non-metric thread equivalents.

Male Thread Size	Metallic components (N.m.)
M16 & M20 and Equivalents	32.5
M25 and Equivalents	47.5
M32 and Equivalents	55.0
M40 and Equivalents	65.0
M50 and Equivalents	80.0
M63 and Equivalents	95.0
M75 and Equivalents	110.0

Routine Checking and Maintenance

All Kopex products should be checked during routine maintenance of the enclosure.

Special Notes

- Exe equipment should not be used with Exd equipment.
- Two adaptors installed in series is not permitted under certification.
- When the fitting is used for increased safety or dust protection the entry on the enclosure and the female thread on the fittings shall be suitably sealed (in accordance with IEC60079-14) to maintain the IP of the associated enclosure

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Index

ANTI-STATIC POLYAMIDE 12 CONDUIT FOR Exe SYSTEMS

Description • Standard weight antistatic conduit manufactured from nylon 12.
Available with Stainless Steel 316 braiding.

Intended Use • An electrically discharging cable protection system.
This system protects electrical cables and wires from mechanical damage and UV radiation.

Application Areas • For areas of potential explosion. Exe zones 1,2, 21 & 22. Gas Groups IIA, IIB, IIC

Specifications • ATEX directive 94/9/EC (ATEX 95) to standards
IEC 60079-0, IEC 60079-7, EN60079-0, EN60079-7, IEC51241-0 IEC51241-1 EN51241-0 & EN51241-1.

Certifications • BASEEFA ATEX08.0003X IEXEx BAS08.0001X

Temperture Range • -20 to +80°C

	EXB03	EXB04	EXB05	EXB06	EXB07	EXB08	EXBB03	EXBB04	EXBB05	EXBB06	EXBB07	EXBB08
Conduit Size	16	21	28	34	42	54	16	21	28	34	42	54
US Trade	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”	3/8”	1/2”	3/4”	1”	1.1/4”	1.1/2”
Overall Diameter	15.8	21.2	28.5	34.5	42.5	54.3	17.8	23.2	30.5	36.5	44.5	56.3
Minimum Bore	11.7	16.6	21.7	27.7	35.1	46.2	11.7	16.6	21.7	27.7	35.1	46.2
Static Bend Rad	35.0	45.0	50.0	60.0	65.0	75.0	45.0	55.0	60.0	70.0	75.0	85.0

Test Type	Method/Standard	Requirement	Value
Crush Strength @ 23˚C	IEC 61386	<25% crush with >90% recovery	>125N
Impact Strength @ 23˚C	IEC 61386	No cracks. <20% deformation	>18J
Impact Strength @ -45˚C	IEC 61386	No cracks. <20% deformation	>2J
Tensile Strength with fitting	IEC 61386	Pull off of fitting	>100N
Dynamic bend radius @ -45˚C	IEC 61386	5000 cycles minimum	4 x OD

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.

IEC 61386

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CHEMICAL RESISTANCE

In general this PA12 has very good chemical resistance to most commonly encountered "household" and many industrial substances. Exceptions are strong acids, oxidising agents and phenol compounds. This material has a very low susceptibility to environmental stress cracking (ESC) in comparison with many other plastics and even other polyamides.

Key

*** Resistant. Negligible, reversible or no changes in mass and dimensions.

** Limited resistance. Considerable dimensional changes and possibly irreversible changes in properties after prolonged contact.

* Not resistant. May be used under certain conditions (brief contact).

° Soluble or attacked after brief contact

Medium	Chemical Formula	Concentration	Resistance
Acetaldehyde	CH_3-CHO	40% aq. solution	***
Acetamide	CH_3-CO-NH_2	50% aq. solution	***
Acetic acid	CH_3COOH	10% aq. solution	**
Acetic acid	CH_3COOH	40% aq. solution	*
Acetic acid	CH_3COOH	Technically pure	*
Acetic anhydride	CH_3-CO-O-OC-CH_3	Technically pure	**
Acetone	CH_3-CO-CH_3	Technically pure	***
Allyl alcohol	H_2C=CH-CH_2-OH	Technically pure	*
Aluminium salts	-	*, aq. solution	***
Alums	K_2SO_4-$Al_2(SO_4)_3$. 12 H_2O	*, aq. solution	***
Ammonia	NH_3	10% aq. solution	***
Ammonia	NH_3	*, gaseous	***
Ammonium chloride	NH_4CL	10% aq. solution	***
Ammonium salts	-	*, Technically pure	***
Amyl acetate	$CH_3(CH_2)_4$-$OOCCH_3$	Technically pure	**
Amyl alcohol	$CH_3(CH_2)_3$-CH_2-OH	Technically pure	***
Aniline	C_6H_5-NH_2	Technically pure	**
Anisole	C_6H_5-O-CH_3	Technically pure	***
Aqua regia	HNO_3 + HCl	Technically pure	°
Asprin	-	Technically pure	***
Attar of roses (Rose oil)	-	Technically pure	***
Barium salts	-	*, aq. solution	***
Battery acid	H_2SO_4	36% aq. solution	**
Beer	-	Commercial grade	***
Benzaldehyde	C_6H_5CHO	Technically pure	**
Benzoic acid	C_6H_5-COOH	*, aq. solution	**
Benzene	C_6H_6	Technically pure	***
Benzyl alcohol	C_6H_5-CH_2OH	Technically pure	*
Bitumen		Commercial grade	***

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Medium	Chemical Formula	Concentration	Resistance
Borax	$Na_2B_4O_7$	*, aq. solution	***
Boric acid	H_3BO_3	10% aq. solution	***
Brake fluid (DOT 4)	-	Commercial grade	***
Brandy	-	Commercial grade	***
Bromine	Br_2	*	*
Butane	C_4H_{10}	Techniacally pure	***
Butanol	C_4H_9OH	Technically pure	***
Butter	-	Commercial grade	***
Butter milk	-	Commercial grade	***
Butyl acetate	$CH_3COOOCH_2CH_2CH_2CH_3$	Technically pure	***
Butyric acid	$CH_3CH_2CH_2$-COOH	Technically pure	***
Butylene glycol	HO-$CH_2CH_2CH_2CH_2$-OH	Technically pure	***
Calcium chloride	$CaCl_2$	10% aq. solution	***
Calcium chloride	$CaCl_2$	20% alcoholic solution	*
Camphor	-	Technically pure	***
Carbon disulphide	CS_2	100%	***
Carbon tetrachloride	CCl_4	Technically pure	**
Caustic soda	NaOH	40% aq. solution	***
Chlorinated lime	$Ca(ClO)_2$	*, aq. solution	°
Chlorine	Cl_2	Technically pure	°
Chlorine gas	Cl_2	<5%, gaseous	**
Chlorine water	-	<5%, gaseous	**
Chloroacetic acid	$ClCH_2COOH$	10%, technically pure	°
Chlorobenzene	C_2H_5-Cl	Technically pure	*
Chlorobrommethane	CH_2ClBr	Technically pure	**
Chloroform	$CHCl_3$	Technically pure	*
Chromic acid	H_2CrO_4	10% aq. solution	*
Chromic acid	H_2CrO_4	1% aq. solution	**
Chromic/sulphuric acid	H_2SO_4/CrO_3	*, aq. solution	°
Chromium salts	-	*, aq. solution	***
Coca-Cola	-	Commercial grade	***
Cocoa	-	Commercial grade	***
Coffee	-	Commercial grade	***
Copper salts	-	10% aq. solution	***
Cresol	H_3C-C_6H_4-OH	Technically pure	°
Cyclohexane	C_6H_{12}	Technically pure	***
Cyclohexano	$C_6H_{11}OH$	Technically pure	***
Cyclohexanonel	$C_6H_{10}O$	Technically pure	***
Decalin	$C_{10}H_{18}$	Technically pure	***

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Medium	Chemical Formula	Concentration	Resistance
Dibutyl phthalate	C_6H_4-$(COOC4H_9)_2$	Technically pure	***
Diesel	-		***
Diesel oil	-		***
Diethyl ether	CH_3-CH_2-O-CH_2-CH_3	Technically pure	***
Dimethyl formamide	HCON-$(CH_3)_2$	Technically pure	**
Dioctyl phthalate	CH_4-$(COOC_8H_{17})_2$	Technically pure	***
Dioxane	$C_4H_8O_2$	Technically pure	***
Edible fats and oils	-	Commercial grade	***
Ethanol	CH_3CH_2OH	Technically pure	***
Ether	CH_3CH_2-O-CH_2CH_3	Technically pure	***
Ethyl acetate	$CH_3COOCH_2CH_3$	Technically pure	***
Ethylene chloride	$ClCH_2$-CH_2Cl	Technically pure	**
FAM B	-	Technically pure	**
Formaldehyde (Formalin)	HCHO	40% aq. solution	**
Formamide	$HCONH_2$	Technically pure	**
Formic acid	HCOOH	10% aq. solution	*
Formic acid	HCOOH	40% aq. solution	*
Formic acid	HCOOH	85% aq. solution	*
Freon	Partially halogenized	Commercial grade	*
Freon	Fully halogenized	Commercial grade	***
Freon 12	CF_2Cl_2	Technically pure	***
Freon 22	CHF_2Cl	Technically pure	*
Fruit juices	-	Commercial grade	***
Fuel C	Free from lead	Technically pure	***
Fuel oil	-	Technically pure	***
Furfurol	C_4H_3O-CHO	Technically pure	**
Glycerine	$C_3H_8O_3$	Technically pure	***
Glycol	HO-CH_2CH_2-OH	Technically pure	***
Heptane	C_7H_{16}	Technically pure	***
Hexane	C_6H_{14}	Technically pure	***
Hydraulic fluid	-	Technically pure	***
Hydrochloric acid	HCL	10% aq. solution	*
Hydrochloric acid	HCL	1% aq. solution	**
Hydrogen fluoride	HF	40% aq. solution	°
Hydrogen peroxide	H_2O_2	30% aq. solution	°
Hydrogen peroxide	H_2O_2	10% aq. solution	**
Hydrogen peroxide	H_2O_2	2% aq. solution	**
Hydrogen sulphide	H_2S	<5%, gaseous	***
Ink	-	Commercial grade	***

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Medium	Chemical Formula	Concentration	Resistance
Iodine tincture	J_2	*, alcoholic solution	°
Iron salts	-	20% aq. Solution. Neutral	***
Iron salts	-	20% aq. Solution. Acid	*
Isooctane	$(CH_3)_3C\text{-}CH_2CH(CH_3)_2$	Technically pure	***
Isopropyl alcohol	$(CH_3)_3\text{-}CHOH$	Technically pure	**
Lactic acid	$(CH_3)CH(OH)\text{-}COOH$	90% aq. solution	**
Lactic acid	$(CH_3)CH(OH)\text{-}COOH$	50% aq. solution	**
Lactic acid	$(CH_3)CH(OH)\text{-}COOH$	5% aq. solution	***
Lanolin	-	Commercial grade	***
Lead salts	-	Technically pure	***
Lemon juice	-	*, Commercial grade	**
Linseed oil	-	Commercial grade	***
Liqueurs	-	Commercial grade	***
Lubrication oils. Greases, soaps	-	Commercial grade	***
Magnesium hydroxide	$Mg(OH)_2$	10% aq. solution	***
Magnesium salts	-	10% aq. solution	***
Mercury	Hg	Technically pure	***
Mercury salts	-	*, aq. Solution., neutral	***
Methanol	CH_3OH	Technically pure	**
Methylene chloride	CH_2Cl_2	Technically pure	*
Methylethyl keton	$CH_3\text{-}CO\text{-}CH_2\text{-}CH_3$	Technically pure	***
Milk	-	Commercial grade	***
Mineral oils	-	Commercial grade	***
Motor fuels	-	Commercial grade	***
Naphthalene	$C_{10}H_8$	Technically pure	***
Nickel salts	-	*, aq. solution	***
Nitric acid	HNO_3	*, aq. solution	°
Nitrobenzene	$C_6H_5NO_2$	Technically pure	**
Nitromethane	CH_3NO_2	Technically pure	***
Octane	C_8H_{18}	Technically pure	***
Oil (No. 3 ASTM)	-	Commercial grade	***
Oil of lavender	-	Commercial grade	***
Oil of pine needle	-	Technically pure	***
Oil of turpentine	-	Technically pure	***
Oleic acid	-	Technically pure	***
Oleum	$H_2SO_4+SO_3$	Technically pure	°
Olive oil	-	Commercial grade	***
Oxalic acid	HOOC-COOH	10% aq. solution	***

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Medium	Chemical Formula	Concentration	Resistance
Ozone	O_3	*, gaseous	*
Ozone	O_3	<1ppm, gaseous	***
Paraffin oil	-	Technically pure	***
Peanut oil	-	Commercial grade	***
Peppermint oil	-	Technically pure	**
Perchlorethylene	$Cl_2C=CCl_2$	Technically pure	***
Petrol (unleaded)	-	Commercial grade	***
Petroleum	-	Technically pure	***
Petroleum ether	-	Technically pure	***
Phenol	C_6H_5OH	*, aq. solution	*
Phenlethyl alcohol	$H_3C\text{-}CH(C_6H_5)\text{-}OH$	Technically pure	*
Phosphoric acid	H_3PO_4	50% aq. solution	*
Phosphoric acid	H_3PO_4	10% aq. solution	**
Placticizers (phthalates, phosphates)	-	Commercial grade	***
Potash	K_2CO_3	*, aq. solution	***
Potassium bromide	KBr	10% aq. solution	***
Potassium chlorate	$KClO_3$	7% aq. solution	**
Potassium hydroxide	KOH	50% aq. solution	***
Potassium iodide	Kj	10% aq. solution	***
Potassium nitrate	KNO_3	10% aq. solution	***
Potassium permanganate	$KMnO_4$	1% aq. solution	°
Potassium sulphate	K_2SO_4	10% aq. solution	***
Propane	C_3H_8	Technically pure	***
Propanol	C_3H_7OH	Technically pure	**
Pyridine	C_5H_5N	Technically pure	***
Pyrocatechol	$HO\text{-}C_6H_4\text{-}OH$	6% aq. solution	**
Resorcinol	$HO\text{-}C_6H_4\text{-}OH$	Technically pure	°
Resorcinol	$HO\text{-}C_6H_4\text{-}OH$	*, alcoholic solution	°
Rum	-	Commercial grade	***
Salicylic acid	$HO\text{-}C_6H_4\text{-}COOH$	Technically pure	***
Silicone acids	-	Technically pure	***
Silver salts	-	*, aq. solution	***
Soap solution	-	10% aq. solution	***
Sodium bicarbonate	$NaHCO_3$	*, aq. solution	***
Sodium bisuphite	$NaHSO_3$	10% aq. solution	***
Sodium bromide	NaBr	10% aq. solution	***
Sodium carbonate	Na_2CO_3	10% aq. solution	***
Sodium chloride	NaCl	*, aq. solution	***
Sodium chlorite	$NaClO_2$	5% aq. solution	*

KOPEX INTERNATIONAL, Unit 2, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1675 468280. Website: www.kopex.co.uk

CHEMICAL RESISTANCE

Key

*** Resistant. Negligible, reversible or no changes in mass and dimensions.

** Limited resistance. Considerable dimensional changes and possibly irreversible changes in properties after prolonged contact.

* Not resistant. May be used under certain conditions (brief contact).

° Soluble or attacked after brief contact

Medium	Chemical Formula	Concentration	Resistance
Sodium hydroxide	NaOH	40% aq. solution	***
Sodium hypochlorite	NaOCl	5% aq. solution	**
Sodium nitrate	$NaNO_3$	10% aq. solution	***
Sodium nitrite	$NaNO_2$	5% aq. solution	**
Sodium perborate	-	5% aq. solution	***
Sodium phosphate	Na_3PO_4	10% aq. solution	***
Sodium sulphate	Na_2SO_4	10% aq. solution	***
Sodium sulphide	Na_2S	10% aq. solution	***
Sodium sulphite	Na_2SO_3	10% aq. solution	***
Sodium thiosulphite	$Na_2S_2O_3$	10% aq. solution	***
Soya oil	-	Commercial grade	***
Starch	-	*, aq. solution	***
Styrene	C_6H_5-CH=CH_2	Technically pure	***
Sugar	$C_6H_{12}O_6$	*, aq. solution	***
Sulphur	S	Technically pure	***
Sulphur dioxide	SO_2	<5%	**
Sulphuric acid	H_2SO_4	Technically pure	*
Sulphuric acid	H_2SO_4	36% aq. solution	**
Suphuric acid	H_2SO_4	10% aq. solution	**
Suphuric acid	H_2SO_4	2% aq. solution	**
Table salt	NaCl	*, aq. solution	***
Tallow	-	Commercial grade	***
Tar	-	Technically pure	***
Tartaric acid	HOOC-CH(OH)-CH(OH)-COOH	Technically pure	***
Tea	-	Commercial grade	***
Tetrahydrofuran	C_4H_8O	Technically pure	***
Tetralin	$C_{10}H_{12}$	Technically pure	***
Thionyl chloride	$SOCl_2$	Technically pure	°
Toluene	C_6H_5-CH_3	Technically pure	***
Trichlorethylene	Cl_2C=CHCl	Technically pure	**
Urea	H_2N-CO-NH_2	20% aq. solution	***
Vaseline	-	Commercial grade	***
Vinegar	CH_3COOH	Commercial grade	***
Water	H_2O	Technically pure	***
Water glass	-	*, aq. solution	***
Wax	-	Commercial grade	***
Wine	-	Commercial grade	***
Xylene	H_3C-C_6H_4-CH_3	Technically pure	***
Zinc chloride	$ZnCl_2$	10% aq. solution	***

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Schedule to ATEX Quality Assurance Notification / IECEx Quality Assessment Report
Number: 0628
Issued to: Cable Management Products Ltd
Also T/A Kopex International Limited

Products for which the Manufacturer controls the design and manufacture of the product		
Product Type Designation	**Type Examination Certificate Number (Including ATEX)**	**IECEx Certificate of Conformity Number**
Product category - Ex d e		
A Type HA Flexible Conduit Cable Gland	Baseefa02ATEX0039X	
Product category - Ex d e tD		
A Type HA* Barrier Gland	Baseefa06ATEX0256X	IECEx BAS 06.0059X
Range of Ex Thread Enlargers (Adapters), Reducers and Thread Converters	Baseefa07ATEX0247X	IECEx BAS 07.0090X
Product category - Ex e tD		
EXB/EXBB Conduit Range and EXPQ and EXBQ Range of Fittings	Baseefa08ATEX0003X	IECEx BAS 08.0001X

01 # EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	EC - Type Examination Certificate Number:	**Baseefa08ATEX0003X**
4	Equipment or Protective System:	**EXB/EXBB Conduit Range and EXPQ and EXBQ Range of Fittings**
5	Manufacturer:	**Cable Management Products Limited also T/A Kopex International Ltd**
6	Address:	**Station Road, Coleshill, Birmingham, B46 1HT**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR 08.0010/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006, EN 60079-7: 2007, EN 61241-0: 2006, EN 61241-1: 2004

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⟨Ex⟩ II 2GD Ex e II Ex tD A21 IP66 (- 20°C ≤ ta ≤ + 80°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0628**

Project File No. **07/0509**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R/S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

13 # Schedule

14 ## Certificate Number Baseefa08ATEX0003X

15 Description of Equipment or Protective System

The EXB range of plastic conduit has a corrugated outer profile and is manufactured from polymer. The EXPQXXXXX Range of conduit fittings except for combined clamping and sealing ring may be manufactured in brass or stainless steel which may be coated or plated to suit the application. The combined sealing and clamping ring is manufactured from rubber. The fitting comprises a backnut which is passed over the conduit; the sealing ring is then placed over the conduit and has an internal section that locates in the corrugated section of the conduit. The conduit is located in the body of the fitting such that the seal is displaced up on the tightening of the backnut onto the body and forms a seal with the fitting and act as retention for the conduit. The body may be fitted with M16 to M50 metric or ½" to 1 ½"NPT male entry thread forms

The EXBB conduit is identical to the EXB conduit but is fitted with an external layer of stainless steel braid. The EXBQXXXXX fitting is similar to the EXPQ fitting but is fitted with an additional external clamping mechanism that locates on to a modified backnut and is used to clamp the stainless braid

The XXXXX is used to identify the thread form size and conduit size for the fitting

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 08.0002/00

17 Special Conditions for Safe Use

1. The conduit and fittings are suitable for use within an operating temperature range of -20°C to +80°C.
2. When the conduit and fittings is used for increased safety or dust protection, the frame shall be suitably sealed, in accordance with IEC 60079-14, to maintain the ingress protection rating of the associated enclosure.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
5634	1	08/01/08	Conduit Approval Drawing
5720	1	07/01/08	EXPQ Approval Drawing
5628	3	11/02/08	EXPQM0303 Body (M16 Entry Thread)
5629	3	11/02/08	EXPQM0404 Body (M20 Entry Thread)
5630	2	07/02/08	EXPQM0505 Body (M25 Entry Thread)
5632	3	07/02/08	EXPQM0606 Body (M32 Entry Thread)
5569	2	07/02/08	EXPQM0707 Body (M40 Entry Thread)
5571	3	15/02/08	EXPQM0808 Body (M50 Entry Thread)
5573	2	07/02/08	EXPQA0304 Body (1/2"NPT Entry Thread)
5635	3	12/02/08	EXPQA0404 Body (1/2"NPT Entry Thread)
5636	2	12/02/08	EXPQA0505 Body (3/4"NPT Entry Thread)
5637	3	12/02/08	EXPQA0606 Body (1"NPT Entry Thread)
5638	2	12/02/08	EXPQA0707 Body (1 1/4"NPT Entry Thread)
5639	3	12/02/08	EXPQA0808 Body (1 1/2"NPT Entry Thread)

Number	Issue	Date	Description
2467	2	07/01/08	PK16 Nut
2835	2	07/01/08	PK21 Nut
2836	3	07/01/08	PK28 Nut
2837	2	07/01/08	PK34 Nut
5570	1	29/06/07	EXPQ0707/Nut
5572	1	29/06/07	EXPQ0808/Nut
2403	2	07/01/08	SRQ11 (Seal)
1614	3	07/01/08	SRQ16 (Seal)
1333	3	14/01/08	SRQC28 (Seal)
1334	3	07/01/08	SRQC34 (Seal)
5721	1	19/12/07	SRQC36 (Seal)
5722	1	19/12/07	SRQC48 (Seal)
5720	1	07/01/08	EXQB Approval Drawing
5661	2	11/02/08	EXBQM0303 Body (M16 Entry Thread)
5662	3	15/02/08	EXBQM0404 Body (M20 Entry Thread)
5663	3	15/02/08	EXBQM0505 Body (M25 Entry Thread)
5664	3	19/02/08	EXBQM0606 Body (M32 Entry Thread)
5665	2	12/02/08	EXBQM0707 Body (M40 Entry Thread)
5666	1	13/02/08	EXBQM0808 Body (M50 Entry Thread)
5667	2	13/02/08	EXBQA0304 Body (1/2"NPT Entry Thread)
5668	3	15/02/08	EXBQA0404 Body (1/2"NPT Entry Thread)
5669	2	04/04/08	EXBQA0505 Body (3/4"NPT Entry Thread)
5670	2	19/02/08	EXBQA0606 Body (1"NPT Entry Thread)
5671	2	19/02/08	EXBQA0707 Body (1 1/4"NPT Entry Thread)
5672	2	19/02/08	EXBQA0808 Body (1 1/2"NPT Entry Thread)
2254	7	07/01/08	PAB16/NUTIN
2253	4	07/01/08	PAB16/NUTOUT
2006	5	07/01/08	PAB21/NUTIN
2005	4	07/01/08	PAB21/NUTOUT
2246	5	07/01/08	PAB28/NUTIN
2247	3	07/01/08	PAB28/NUTOUT
2357	2	07/01/08	PAB34/NUTIN
2356	2	07/01/08	PAB34/NUTOUT
2448	2	07/01/08	PAB42/NUTIN
2449	3	07/01/08	PAB42/NUTOUT
3747	2	07/01/08	PAB54/NUTIN
3748	2	07/01/08	PAB54/NUTOUT

These drawings are common to IEC Ex BAS 08.0001X and are held with GB/BAS/ExTR08.0002/00.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BAS 08.0001X	issue No.:0	Certificate history:
Status:	**Current**		
Date of Issue:	**2008-04-09**	Page 1 of 3	

Applicant: **Cable Management Products Limited**
Also T/A Kopex International Ltd
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Electrical Apparatus: **EXB/EXBB Conduit Range and EXPQ and EXBQ Range of Fittings**
Optional accessory:

Type of Protection: **Ex e, Ex tD**

Marking: **Ex e II Ex tD A21 IP66 (- 20°C ≤ ta ≤ + 80°C)**

Approved for issue on behalf of the IECEx Certification Body: R. S. Sinclair

Position: Managing Director

Signature:
(for printed version)

Date: 10/4/8

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Baseefa
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 08.0001X

Date of Issue: **2008-04-09** Issue No.: **0**

Manufacturer: **Cable Management Products Limited**
Also T/A Kopex International Ltd
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/BAS/ExTR08.0002/00

Quality Assessment Report:
GB/BAS/QAR06.0024/01

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 08.0001X

Date of Issue: **2008-04-09** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The EXB range of plastic conduit has a corrugated outer profile and is manufactured from polymer. The EXPQXXXXX Range of conduit fittings except for combined clamping and sealing ring may be manufactured in brass or stainless steel which may be coated or plated to suit the application. The combined sealing and clamping ring is manufactured from rubber. The fitting comprises a backnut which is passed over the conduit; the sealing ring is then placed over the conduit and has an internal section that locates in the corrugated section of the conduit. The conduit is located in the body of the fitting such that the seal is displaced up on the tightening of the backnut onto the body and forms a seal with the fitting and act as retention for the conduit. The body may be fitted with M16 to M50 metric or ½" to 1 ½"NPT male entry thread forms.

The EXBB conduit is identical to the EXB conduit but is fitted with an external layer of stainless steel braid. The EXBQXXXXX fitting is similar to the EXPQ fitting but is fitted with an additional external clamping mechanism that locates on to a modified backnut and is used to clamp the stainless braid.

The XXXXX is used to identify the thread form size and conduit size for the fitting

CONDITIONS OF CERTIFICATION: YES as shown below:

1. These glands are suitable for use within an operating temperature range of -20°C to +80°C.

2. When the frame is used for increased safety or dust protection, the glands shall be suitably sealed (in accordance with IEC 60079-14) to maintain the ingress protection rating of the associated enclosure.

Cable Management Products Ltd.

Head Office:
Station Road,
Coleshill,
Birmingham.
B46 1HT
Tel: 01675 468 222
Fax:01675 464 930

Declaration of Conformance

Cable Management Products Ltd Certify that the grade of material used to manufacture the Flameproof ATEX gland (HA* series) is CW614N. This is in accordance with BS EN 12168:1998.

Previously this material reference was known as CZ121 in accordance with BS2874:1986 but has now been superseded.

Phil Winship
Senior Applications Engineer
14th May 2007

Exe FITTING
FOR USE WITH ANTI-STATIC POLYAMIDE 12 CONDUIT

Description • For use with standard weight antistatic conduit EXB.

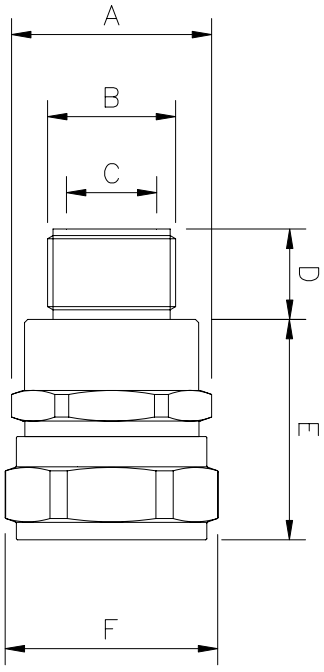
Material • Body and Nut—Nickel Plated Brass. Seals—Silicone.

Intended Use • An electrically discharging cable protection system.
This system protects electrical cables and wires from mechanical damage and UV radiation.

Application Areas • For areas of potential explosion. Exe Zones 1,2, 21 & 22. Gas Groups IIA, IIB, IIC

Specifications • ATEX directive 94/9/EC (ATEX 95) to standards
IEC 60079-0, IEC 60079-7, EN60079-0, EN60079-7, IEC51241-0 IEC51241-1 EN51241-0 & EN51241-1.

Certifications • BASEEFA ATEX08.0003X IEXEx BAS08.0001X



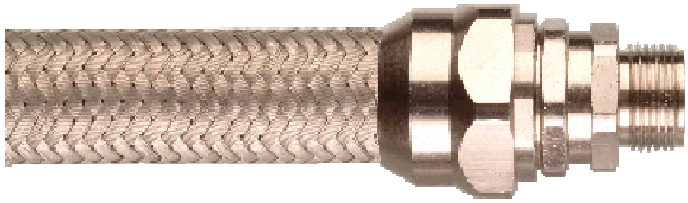
PART No.	BODY A/F 'A'	THREAD 'B'	MIN BORE 'C'	D	E	NUT A/F 'F'
EXPQM0303	25.4	M16 x 1.5	11.4	16.0	33.25	25.4
EXPQM0404	28.0	M20 x 1.5	15.85	16.0	32.0	28.0
EXPQM0505	38..0	M25 x 1.5	19.0	16.0	39.0	38.0
EXPQM0606	42.0	M32 x 1.5	26.4	17.0	40.0	44.5
EXPQM0707	54.0	M40 x 1.5	32.9	17.0	49.5	57.0
EXPQM0808	70.0	M50 x 1.5	43.9	16.0	48.0	70.0
EXPQA0304	24.0	1/2" NPT	11.4	20.0	32.5	25.4
EXPQA0404	28.0	1/2" NPT	15.8	20.0	31.5	28.0
EXPQA0505	38.0	3/4" NPT	19.0	20.2	38.3	38.0
EXPQA0606	42.0	1" NPT	26.4	24.2	40.0	44.5
EXPQA0707	54.0	1.1/4" NPT	32.9	25.8	49.5	57.0
EXPQA0808	70.0	1.1/2" NPT	40.7	26.1	48.0	70.0

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

IEC 61386

KOPEX INTERNATIONAL, Unit 2, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1675 468280. Website: www.kopex.co.uk

Exe FITTING FOR USE WITH BRAIDED ANTI-STATIC POLYAMIDE 12 CONDUIT



Description • For use with standard weight braided antistatic conduit EXBB. This system gives additional wear and EMC protection.

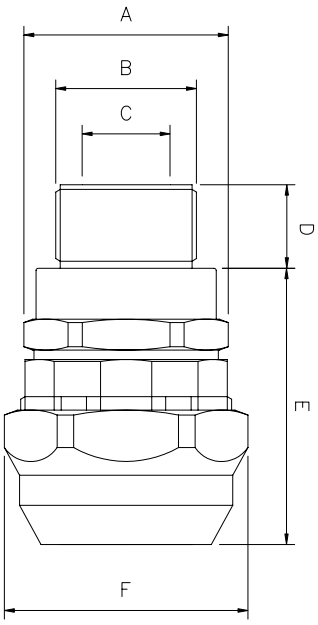
Material • Body and Nut and Internal Components —Nickel Plated Brass. Seals—Silicone.

Intended Use • An electrically discharging cable protection system.
This system protects electrical cables and wires from mechanical damage and UV radiation.

Application Areas • For areas of potential explosion. Exe Zones 1,2, 21 & 22. Gas Groups IIA, IIB, IIC

Specifications • ATEX directive 94/9/EC (ATEX 95) to standards
IEC 60079-0, IEC 60079-7, EN60079-0, EN60079-7, IEC51241-0 IEC51241-1 EN51241-0 & EN51241-1.

Certifications • BASEEFA ATEX08.0003X IEXEx BAS08.0001X



PART No.	BODY A/F 'A'	THREAD 'B'	MIN BORE 'C'	D	E	NUT A/F 'F'
EXBQM0303	24.0	M16	11.4	18.0	43.5	30.0
EXBQM0404	28.0	M20	15.85	16.0	43.5	35.0
EXBQM0505	38.0	M25	19.0	16.0	50.0	44.5
EXBQM0606	42.0	M32	26.4	18.0	51.0	50.0
EXBQM0707	54.0	M40	32.8	18.0	67.5	70.0
EXBQM0808	70.0	M50	43.8	16.0	70.0	84.0
EXBQA0304	24.0	1/2" NPT	11.4	20.0	44.5	30.0
EXBQA0404	28.0	1/2" NPT	15.8	20.0	45.0	35.0
EXBQA0505	38.0	3/4" NPT	18.9	20.2	54.0	44.5
EXBQA0606	42.0	1" NPT	26.4	24.2	57.5	50.0
EXBQA0707	54.0	1.1/4" NPT	32.8	25.8	70.0	70.0
EXBQA0808	70.0	1.1/2" NPT	40.7	26.1	70.0	84.0

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

IEC 61386

KOPEX INTERNATIONAL, Unit 2, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1675 468280. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT
OIL RESISTANT CONDUIT SYSTEM

CONSTRUCTION:
BLACK OIL RESISTANT FLAME RETARDANT PVC COVERING
GALVANISED STEEL CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS* and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	10	12	16	20	25	32	40	50	63
(US TRADE inches)	(1/4 US)	(5/16 US)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1 1/4 US)	(1 1/2 US)	(2 US)
ORDER CODES	EXLB01*	EXLB02*	EXLB03*	EXLB04*	EXLB05*	EXLB06*	EXLB07*	EXLB08*	EXLB09*
DIMENSIONS:									
INSIDE DIAMETER (mm)	7.1	9.95	12.5	16.0	21.0	26.07	35.3	40.4	51.62
OUTSIDE DIAMETER (mm)	11.4	14.2	17.78	21.08	26.42	33.1	41.8	47.7	60.0
STATIC BEND RADIUS (mm)	45.0	50.0	50.0	80.0	110.0	145.0	180.0	240.0	345.0
AVERAGE WEIGHT (kg/100m)	20.0	22.0	42.0	48.0	69.0	74.8	123.0	145.0	161.0

* ADD COIL LENGTH TO COMPLETE PART NUMBER i.e. EXLB0520

IEC 61386 Classification	Value	Description
Compression Strength	4	Heavy (1250 N)
Impact Strength	4	Heavy (6 J)
Minimum Temperature Static	2	-25°C
Minimum Temperature Flexing		-5°C
Maximum Temperature	3	105°C
Bending Resistance	4	Flexible
Electrical Properties	2	Insulator
IP Rating Solids	6	Dust Tight
IP Rating Water	7	Water Tight (1m for 30 mins)
Corrosion Resistance	0	None Declared
Tensile Strength	4	Heavy (1000 N)
Resistance to Flame Propogation	1	Non Flame Propogating
Suspended Load Capacity	5	Very Heavy (850 N)

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF PVC COVERING MATERIAL SEE SHEET 810084.

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

IEC 61386

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT LOW FIRE HAZARD METALLIC CONDUIT SYSTEM

CONSTRUCTION:
BLACK FLAME RETARDANT HIGH TEMPERATURE
GALVANISED STEEL CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS*, and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	16	20	25	32	40	50	63
(US TRADE inches)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1.1/4 US)	(1.1/2" US)	(2 US)
ORDERING CODES	EXLT03	EXLT04	EXLT05	EXLT06	EXLT07	EXLT08	EXLT09
DIMENSIONS:							
INSIDE DIAMETER (mm)	12.5	16.0	21.0	26.0	34.8	40.4	51.6
OUTSIDE DIAMETER (mm)	17.8	21.1	26.4	33.1	41.8	47.7	60.0
MINIMUM BEND RADIUS (mm)	60.0	90.0	110.0	130.0	350.0	400.0	500.0
AVERAGE WEIGHT (kg/100m)	41.9	48.1	68.9	97.5	123.3	197.0	161.0
MECHANICAL CLASSIFICATIONS:							
CONNECTOR PULL-OFF	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	V.HEAVY	V.HEAVY
CONDUIT CRUSH	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY

IEC 61386 Classification	Value	Description
Compression Strength	4	Heavy (1250 N)
Impact Strength	4	Heavy (6 J)
Minimum Temperature Static	2	-25°C
Minimum Temperature Flexing		-5°C
Maximum Temperature	3	90°C
Bending Resistance	4	Flexible
Electrical Properties	2	Insulator
IP Rating Solids	6	Dust Tight
IP Rating Water	7	Water Tight (1m for 30 mins)
Corrosion Resistance	0	None Declared
Tensile Strength	4	Heavy (1000 N)
Resistance to Flame Propogation	1	Non Flame Propogating
Suspended Load Capacity	5	Very Heavy (850 N)

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF TYPE "T" COVERING MATERIAL SEE SHEET 810087.

WHEN INSTALLING WIRING SYSTEMS, ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.
MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

BS EN 50086

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT HIGH TEMPERATURE METALLIC CONDUIT SYSTEM

CONSTRUCTION:
BLACK OR BLUE FLAME RETARDANT HIGH TEMPERATURE
GALVANISED STEEL CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS*, and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	16	20	25	32	40	50	63
(US TRADE inches)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1.1/4 US)	(1.1/2" US)	(2 US)
ORDERING CODES	EXL* 03	EXL* 04	EXL* 05	EXL* 06	EXL* 07	EXL* 08	EXL* 09
(* H FOR BLACK OR LH FOR BLUE)							
DIMENSIONS:							
INSIDE DIAMETER (mm)	12.5	16.0	21.0	26.0	34.8	40.4	51.6
OUTSIDE DIAMETER (mm)	17.8	21.1	26.4	33.1	41.8	47.7	60.0
MINIMUM BEND RADIUS (mm)	50.0	75.0	90.0	110.0	130.0	175.0	250.0
AVERAGE WEIGHT (kg/100m)	41.9	48.1	68.9	97.5	123.3	197.0	161.0
MECHANICAL CLASSIFICATIONS:							
CONNECTOR PULL-OFF	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	V.HEAVY	V.HEAVY
CONDUIT CRUSH	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY

IEC 61386 Classification	Value	Description
Compression Strength	4	Heavy (1250 N)
Impact Strength	4	Heavy (6 J)
Minimum Temperature Static	2	-50°C
Minimum Temperature Flexing		-5°C
Maximum Temperature	3	130°C
Bending Resistance	4	Flexible
Electrical Properties	2	Insulator
IP Rating Solids	6	Dust Tight
IP Rating Water	7	Water Tight (1m for 30 mins)
Corrosion Resistance	0	None Declared
Tensile Strength	4	Heavy (1000 N)
Resistance to Flame Propogation	1	Non Flame Propogating
Suspended Load Capacity	5	Very Heavy (850 N)

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF TYPE "H" COVERING MATERIAL SEE SHEET 810082.

WHEN INSTALLING WIRING SYSTEMS, ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.
MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

BS EN 50086

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT
OIL RESISTANT STAINLESS STEEL

CONSTRUCTION:
BLACK OIL RESISTANT FLAME RETARDANT PVC COVERING
STAINLESS STEEL 316 CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS* and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	16	20	25	32	40	50	63
(US TRADE inches)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1 1/4 US)	(1 1/2 US)	(2 US)
ORDER CODES	EXSB03*	EXSB04*	EXSB05*	EXSB06*	EXSB07*	EXSB08*	EXSB09*
DIMENSIONS:							
INSIDE DIAMETER (mm)	12.5	16.0	20.6	26.0	34.8	40.4	52.22
OUTSIDE DIAMETER (mm)	17.78	21.08	26.42	33.1	41.8	47.7	60.0
STATIC BEND RADIUS (mm)	40.0	60.0	90.0	100	110.0	144.0	250.0
AVERAGE WEIGHT (kg/100m)	28.8	36.4	49.0	65.2	88.0	145.0	161.0

* ADD COIL LENGTH TO COMPLETE PART NUMBER i.e. EXSB0510

IEC 61386 Classification	Value	Description
Compression Strength	4	Heavy (1250 N)
Impact Strength	4	Heavy (6 J)
Minimum Temperature Static	2	-25°C
Minimum Temperature Flexing		-5°C
Maximum Temperature	3	105°C
Bending Resistance	4	Flexible
Electrical Properties	2	Insulator
IP Rating Solids	6	Dust Tight
IP Rating Water	7	Water Tight (1m for 30 mins)
Corrosion Resistance	1	Fully Corrosion Resistant
Tensile Strength	4	Heavy (1000 N)
Resistance to Flame Propogation	1	Non Flame Propogating
Suspended Load Capacity	5	Very Heavy (850 N)

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF PVC COVERING MATERIAL SEE SHEET 810084.

ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.

MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

IEC 61386

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT LOW FIRE HAZARD STAINLESS STEEL CONDUIT SYSTEM

CONSTRUCTION:
BLACK FLAME RETARDANT LFH COATING
STAINLESS STEEL 316 CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS*, and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	16	20	25	32	40	50	63
(US TRADE inches)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1.1/4 US)	(1.1/2" US)	(2 US)
ORDERING CODES	EXST03	EXST04	EXST05	EXST06	EXST07	EXST08	EXST09
DIMENSIONS:							
INSIDE DIAMETER (mm)	12.5	16.0	21.0	26.0	34.8	40.4	51.6
OUTSIDE DIAMETER (mm)	17.8	21.1	26.4	33.1	41.8	47.7	60.0
MINIMUM BEND RADIUS (mm)	60.0	90.0	110.0	130.0	190.0	230.0	300.0
AVERAGE WEIGHT (kg/100m)	41.9	48.1	68.9	97.5	123.3	197.0	161.0
MECHANICAL CLASSIFICATIONS:							
CONNECTOR PULL-OFF	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	V.HEAVY	V.HEAVY
CONDUIT CRUSH	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY

FIRE SMOKE AND TOXICITY PROPERTIES			
TEST	**METHOD/ STANDARD**	**REQUIREMENT**	**VALUE**
Halogen Free	LUL	< 0.5 %	<0.1%
Phosphorus Free	LUL	< 0.5 %	0.2%
Sulphur Free	LUL	< 0.5 %	0.35
Oxygen Index	ISO 4589	% Oxygen to support combustion	40%
Glow wire rating	IEC 695	No ignition, Extinguish within 2 s	850°C
Flammability	UL94	Vertical (V0,V2)or Horizontal (HB)	V0
Flammability Temperature Index	UL94		290°C
Smoke Density	BS 6853	<0.02	0.0175
Smoke Index	NES 711		12.8
Resistance to Flame	LUL	Flame dies in less than 30 seconds after ignition source removed.	
Toxicity Index	NES 713		1.5

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF TYPE "H" COVERING MATERIAL SEE SHEET 810082.

WHEN INSTALLING WIRING SYSTEMS, ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.
MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

IEC 61386

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

LIQUIDTIGHT FLEXIBLE CONDUIT HIGH TEMPERATURE STAINLESS STEEL CONDUIT SYSTEM

CONSTRUCTION:
BLACK FLAME RETARDANT HIGH TEMPERATURE
STAINLESS STEEL 316 CORE WITH COTTON PACKING
Fully RoHS Compliant

RECOMMENDED CONNECTORS:
EXQ*, EXR*, EXS*, and EXM*
FOR INDUSTRIAL AND ZONE 2 APPLICATIONS
HAA' or HAM' GLANDS FOR ZONE 1 Exe and Exd APPLICATIONS.

CONDUIT SIZE (mm)	16	20	25	32	40	50	63
(US TRADE inches)	(3/8 US)	(1/2 US)	(3/4 US)	(1 US)	(1.1/4 US)	(1.1/2" US)	(2 US)
ORDERING CODES	EXSH03	EXSH04	EXSH05	EXSH06	EXSH07	EXSH08	EXSH09
DIMENSIONS:							
INSIDE DIAMETER (mm)	12.5	16.0	21.0	26.0	34.8	40.4	51.6
OUTSIDE DIAMETER (mm)	17.8	21.1	26.4	33.1	41.8	47.7	60.0
MINIMUM BEND RADIUS (mm)	50.0	75.0	90.0	110.0	130.0	175.0	250.0
AVERAGE WEIGHT (kg/100m)	41.9	48.1	68.9	97.5	123.3	197.0	161.0
MECHANICAL CLASSIFICATIONS:							
CONNECTOR PULL-OFF	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	V.HEAVY	V.HEAVY
CONDUIT CRUSH	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY	HEAVY

IEC 61386 Classification	Value	Description
Compression Strength	4	Heavy (1250 N)
Impact Strength	4	Heavy (6 J)
Minimum Temperature Static	2	-50°C
Minimum Temperature Flexing		-5°C
Maximum Temperature	3	130°C
Bending Resistance	4	Flexible
Electrical Properties	2	Insulator
IP Rating Solids	6	Dust Tight
IP Rating Water	7	Water Tight (1m for 30 mins)
Corrosion Resistance	4	Fully Resistant
Tensile Strength	4	Heavy (1000 N)
Resistance to Flame Propogation	1	Non Flame Propogating
Suspended Load Capacity	5	Very Heavy (850 N)

Full ATEX and IECEx approval for use in Hazardous areas when used with HA* Flameproof Glands.

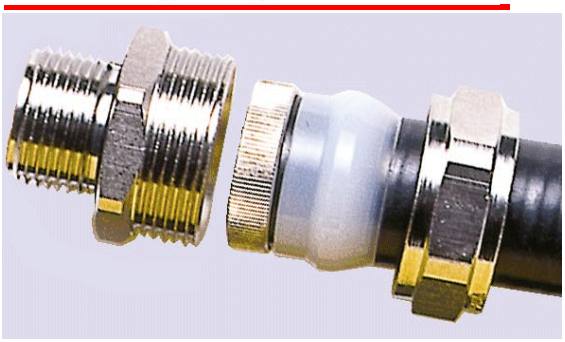
Baseefa06ATEX0256X
IECEx BAS 06.0059X

FOR TEST METHODS AND EXPLANATION OF CLASSIFICATIONS SEE SHEET 810100.
FOR PERFORMANCE DETAILS OF TYPE "H" COVERING MATERIAL SEE SHEET 810082.

WHEN INSTALLING WIRING SYSTEMS, ADHERENCE TO THE CURRENT WIRING REGULATIONS BS7671 OR NEC WIRING REGULATIONS (FOR USA) IS STRONGLY ADVISED.
MINIMUM BEND RADIUS FOR FLEXING IS DEPENDANT UPON MINIMUM TEMPERATURE, BENDING FREQUENCY AND CHEMICAL ENVIRONMENT.
CONTINUOUS FLEXING AT EXTREMES OF TEMPERATURE IS NOT RECOMMENDED .

IEC 61386

STRAIGHT CONNECTOR FOR LIQUIDTIGHT CONDUITS



FOR USE IN INDUSTRIAL AND ZONE 2 APPLICATIONS

MATERIAL:

BRASS / NICKEL PLATE

CONDUIT SIZE (mm)	U.S.TRADE SIZE (inches)	THREAD TYPE	THREAD SIZE	ORDERING CODE	DIMENSIONS (mm)				
					THREAD DIAMETER	MINIMUM BORE	ACROSS FLATS	THREAD LENGTH	NOMINAL LENGTH
10	1/4	Metric to BS 6053	M16	EXQM 0103	16.0	5.7	22.0	12.0	32.0
12	5/16		M16	EXQM 0203	16.0	8.6	24.0	12.0	32.0
16	3/8		M16	EXQM 0303	16.0	10.3	25.4	12.0	33.0
16	3/8		M20	EXQM 0304	20.0	10.3	25.4	13.0	34.0
20	1/2		M20	EXQM 0404	20.0	14.3	28.5	12.5	34.50
25	3/4		M25	EXQM 0505	25.0	17.6	35.0	15.0	40.0
32	1		M32	EXQM 0606	32.0	24.0	42.0	15.0	45.0
40	1.1/4		M40	EXQM 0707	40.0	33.0	52.0	16.0	54.0
50	1.1/2		M50	EXQM 0808	50.0	38.5	60.0	18.0	59.0
63	2		M63	EXQM 0909	63.0	50.0	70.0	25.0	71.0
10	1/4	Pg to DIN 40430	Pg7	EXQP 0101	12.5	5.7	22.0	11.0	31.0
12	5/16		Pg9	EXQP 0202	15.2	8.1	24.0	11.0	31.0
16	3/8		Pg11	EXQP 0303	18.6	10.3	25.4	11.0	32.0
16	3/8		Pg13.5	EXQP 0304	20.4	10.3	25.4	11.0	32.0
20	1/2		Pg16	EXQP 0405	22.5	14.30	28.5	11.0	33.0
25	3/4		Pg21	EXQP 0506	28.3	17.60	35.0	12.0	37.0
32	1		Pg29	EXQP 0607	37.0	24.00	42.0	12.0	42.0
40	1.1/4		Pg36	EXQP 0708	47.0	33.00	52.0	16.0	54.0
50	1.1/2		Pg42	EXQP 0809	54.0	38.5	60.0	18.0	59.0
63	2		Pg48	EXQP 0910	59.3	50.0	70.0	25.0	71.0
16	3/8	NPT to ANSI B1.20.1	1/2”NPT	EXQA 0304	21.3	10.5	25.4	12.5	29.0
20	1/2		1/2”NPT	EXQA 0404	21.3	14.3	28.5	15.0	37.0
25	3/4		3/4”NPT	EXQA 0505	26.7	17.6	35.0	16.0	41.0
32	1		1”NPT	EXQA 0606	33.4	24.0	42.0	19.0	49.0
40	1.1/4		1.1/4”NPT	EXQA 0707	42.2	33.0	52.0	20.0	54.0
50	1.1/2		1.1/2”NPT	EXQA 0808	48.3	38.5	60.0	21.0	62.0
63	2		2”NPT	EXQA 0909	60.3	51.3	80.0	27.0	63.0

PROPERTIES:

IP RATING WITH RECOMMENDED CONDUIT	IP 66 & IP 67 IP 68 10 bar 30 minutes
OPERATING TEMPERATURE	- 50 TO + 130º C DEPENDING ON CONDUIT TYPE.
APPROVALS	BS EN 61386

ALL DIMENSIONS SHOWN ARE GIVEN AS A GUIDE ONLY— PLEASE CHECK WITH KOPEX TECHNICAL DEPARTMENT FOR FULL DETAILS

KOPEX INTERNATIONAL LIMITED, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1753 693521. Website: www.kopex.co.uk

1 # EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa06ATEX0256X**

4 Equipment or Protective System: **A Type HA* Barrier Gland**

5 Manufacturer: **Kopex International Limited**

6 Address: **Station Road, Coleshill, Birmingham, B46 1HT**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR 06.0103/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN60079-0: 2004, EN60079-1: 2004, EN60079-7: 2003 + Amendment 1, IEC61241-0: 2004, IEC61241-1: 2004

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⟨Ex⟩ II 2GD Ex d IIC Ex e II Ex tD A21 IP66

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **0628**

Project File No. **06/0184**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

Re-issued 4 July 2007 to amend Certificate Number on Page 2

13 # Schedule

14 ## Certificate Number Baseefa06ATEX0256X

15 Description of Equipment or Protective System

The Type HA* Cable Gland is intended for use with a number of conductors enclosed within a flexible conduit and may be manufactured in brass, stainless steel or aluminium and may be supplied with metric or NPT threadforms (designated Type HAM or HAA respectively).

The gland comprises the following components:-

a. An entry component, in the size range M20 to M63 (1/2" to 2" NPT)
b. An elastomeric ferrule
c. An epoxy barrier compound
d. A combined compression spigot and conduit grounding ferrule
e. An outer clamping ring cup
f. An elastomeric clamping ring
g. A back nut

16 Report Number

Baseefa Report No. GB/BAS/ExTR 06.0103/00

17 Special Conditions for Safe Use

1. These glands are suitable for use within an operating temperature range of -60°C to +80°C.

2. When the gland is used for increased safety or in a dust environment, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
38050_ IECEx	2	12/09/2006	G. A., Type HA* Flexible Conduit Cable Gland

This drawings is common to, and held on, IECEx BAS 06.0059X.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx BAS 06.0059X** Issue No.: **0**

Status: **Current**

Date of Issue: **2006-09-18** Page **1** of **3**

Applicant: **Kopex International Limited**
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Electrical Apparatus: **A Type HA* Barrier Glands**
Optional accessory:

Type of Protection: **Ex d, Ex e, Ex tD**

Marking: **Ex d IIC Ex e II Ex tD A21 IP66**
(- 60°C ≤ ta ≤ + 80°C)

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: Managing Director

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 06.0059X**

Date of Issue: **2006-09-18** Issue No.: **0**

Manufacturer:

Kopex International Ltd
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Manufacturing location(s):

Hawke International
A Division of Hubbell Limited
A Member of the Hubbell
Group of Companies
Oxford Street West
Ashton-under-Lyne
Lancashire
OL7 0NA
United Kingdom

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacture'rs quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/BAS/ExTR06.0103/00

Quality Assessment Report:

GB/BAS/QAR06.0024/00

IECEx Certificate of Conformity

Certificate No.: **IECEx BAS 06.0059X**

Date of Issue: **2006-09-18** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The Type HA* Cable Gland is intended for use with a number of conductors enclosed within a flexible conduit and may be manufactured in brass, stainless steel or aluminium and may be supplied with metric or NPT threadforms (designated Type HAM or HAA respectively).

The gland comprises the following components:-

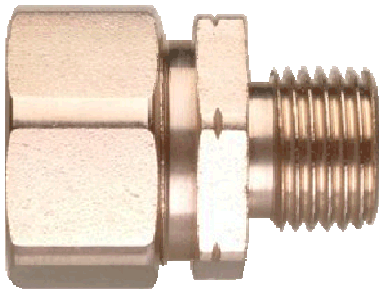
a. An entry component, in the size range M20 to M63 (1/2" to 2" NPT)
b. An elastomeric ferrule
c. An epoxy barrier compound
d. A combined compression spigot and conduit grounding ferrule
e. An outer clamping ring cup
f. An elastomeric clamping ring
g. A back nut

CONDITIONS OF CERTIFICATION: YES as shown below:

These glands are suitable for use within an operating temperature range of -60°C to +80°C.

When the gland is used for increased safety or in a dust enviroment, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure

STAINLESS STEEEL STRAIGHT CONNECTOR FOR LIQUIDTIGHT CONDUITS



FOR USE IN INDUSTRIAL AND ZONE 2 APPLICATIONS

MATERIAL:

316 STAINLESS STEEL

CONDUIT SIZE (mm)	U.S.TRADE SIZE (inches)	THREAD TYPE	THREAD SIZE	ORDERING CODE	DIMENSIONS (mm)				
					THREAD DIAMETER	MINIMUM BORE	ACROSS FLATS	THREAD LENGTH	NOMINAL LENGTH
16	3/8	Metric to BS 6053	M16	EXQMS 0303	16.0	11.0	25.4	12.0	32.5
16	3/8		M20	EXQMS 0304	20.0	14.7	25.4	12.0	32.5
20	1/2		M20	EXQMS 0404	20.0	14.7	28.5	12.0	38.1
25	3/4		M25	EXQMS 0505	25.0	20.2	35.0	13.5	42.9
32	1		M32	EXQMS 0606	32.0	25.9	42.0	17.5	46.0
40	1.1/4		M40	EXQMS 0707	40.0	31.9	52.0	18.0	55.6
50	1.1/2		M50	EXQMS 0808	50.0	39.9	60.0	23.0	66.7
63	2		M63	EXQMS 0909	63.0	51.3	70.0	28.0	77.8
16	3/8	NPT to ANSI B1.20.1	1/2”NPT	EXQAS 0304	21.3	14.7	25.4	12.0	32.5
20	1/2		1/2”NPT	EXQAS 0404	21.3	14.7	28.5	12.0	38.1
25	3/4		3/4”NPT	EXQAS 0505	26.7	20.2	35.0	13.5	42.9
32	1		1”NPT	EXQAS 0606	33.4	25.9	42.0	17.5	46.0
40	1.1/4		1.1/4”NPT	EXQAS 0707	42.2	31.9	52.0	18.0	55.6
50	1.1/2		1.1/2”NPT	EXQAS 0808	48.3	39.9	60.0	23.0	66.7
63	2		2”NPT	EXQAS 0909	60.3	51.3	80.0	28.0	77.8

PROPERTIES:

IP RATING WITH RECOMMENDED CONDUIT	IP 66 & IP 67 IP 68 10 bar 30 minutes
OPERATING TEMPERATURE	- 50 TO + 130º C DEPENDING ON CONDUIT TYPE.
APPROVALS	BS EN 61386

ALL DIMENSIONS SHOWN ARE GIVEN AS A GUIDE ONLY— PLEASE CHECK WITH KOPEX TECHNICAL DEPARTMENT FOR FULL DETAILS

KOPEX INTERNATIONAL, Station Road, Coleshill, Birmingham B46 1HT, England.
Telephone: + 44 (0) 1675 468213. Fax: + 44 (0) 1675 468280. Website: www.kopex-ex.com

1 # EC - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3	EC - Type Examination Certificate Number:	**Baseefa07ATEX0247X**
4	Equipment or Protective System:	**Range of Ex Thread Enlargers (Adapters), Reducers and Thread Converters**
5	Manufacturer:	**Cable Management Products Limited Also T/A Kopex International Ltd**
6	Address:	**Station Road, Coleshill, Birmingham, B46 1HT**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd., Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR 07.0157/00**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN60079-0: 2006, EN60079-1: 2004, EN60079-7: 2003 + Amendment 1, IEC61241-0: 2004, IEC61241-1: 2004

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

⟨Ex⟩ II 2GD Exd IIC Exe II ExtD A21 IP66 (-60°C ≤ ta ≤ +100°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **5852**

Project File No. **07/0200**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

M Powney

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.

Baseefa
Rockhead Business Park, Staden Lane,
Buxton, Derbyshire SK17 9RZ
Telephone +44 (0) 1298 766600 Fax +44 (0) 1298 766601
e-mail info@baseefa.com web site www.baseefa.com
Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

13 # Schedule

14 ## Certificate Number Baseefa07ATEX0247X

15 Description of Equipment or Protective System

The range of thread enlargers (adapters), reducers and thread converters are manufactured from brass or stainless steel and comprise a hexagonal body machined with male and female threads on a coaxial axis. The female thread may be up to two thread sizes larger than the male e.g. M16 male to M25 female. The female thread of the reducer will always be smaller than the male.

Male/ Female Threads	Alternative Male and Female NPT threads	Alternative Male and Female Pg threads
M16	3/8"	11
M20	1/2"	13.5
M25	3/4"	16
M32	1"	21
M40	1 1/4"	28
M50	1/1/2"	32
M63	2"	48
M75	2 1/2"	
	3"	

The combinations of threads sizes and forms are specified on the schedule drawing and the devices are marked Ex/male thread/female thread, size and type/E, enlarger or R, reducer or TC thread converter i.e. Ex/M25/1"NPT/TC.

16 Report Number

Baseefa Certification Report GB/BAS/ExTR 07.0157/00

17 Special Conditions for Safe Use

1. When the adapter, reducer or thread converter is used for increased safety or dust protection, the entry of the enclosure and the female thread of the adapter, reducer or thread converter is to be suitably sealed (in accordance with IEC 60079-14) to maintain the ingress protection rating of the associated enclosure.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
5613	1	17/09/07	G. A., Adapters and Reducers

This drawing is common to and held with BAS IECEx 07.0090X.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BAS 07.0090X	issue No.:0	Certificate history:
Status:	**Current**		
Date of Issue:	**2008-01-08**	Page 1 of 3	

Applicant: **Cable Management Products Limited (CMPL)**
Also T/A Kopex International Ltd
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Electrical Apparatus: **Range of Ex Enlargers (Adapters), Reducers and Thread Converters**
Optional accessory:

Type of Protection: **Exd, Exe, ExtD**

Marking: **Exd IIC Exe II ExtD A21 IP66 (- 60°C ≤ ta ≤ +100°C)**

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: Managing Director

Signature:
(for printed version)

Date: 8/1/08

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 07.0090X

Date of Issue: **2008-01-08** Issue No.: **0**

Manufacturer: **Cable Management Products Limited (CMPL)**
Also T/A Kopex International Ltd
Station Road
Coleshill
Birmingham
B46 1HT
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2003 Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

GB/BAS/ExTR07.0157/00

Quality Assessment Report:
GB/BAS/QAR06.0024/00

IECEx Certificate of Conformity

Certificate No.: IECEx BAS 07.0090X

Date of Issue: **2008-01-08** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The range of Ex thread enlargers (adapters), reducers and thread converters are manufactured from brass or stainless steel and comprise a hexagonal body machined with male and female threads on a coaxial axis. The female thread of the Adapters may be greater than male by up to two sizes. e.g. M16 male to M25 female. The female thread of the reducer will always be smaller than the male

Male/ Female Threads	Alternative Male and Female NPT threads	Alternative Male and Female Pg threads
M16	3/8"	11
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M63	2"	48
M75	2 1/2"	
	3"	

The combinations of threads sizes and forms are specified on the schedule drawing and the devices are marked Ex/male thread/female thread, size and type E Enlarger or R Reducer) or TC thread Converter i.e. Ex/M25/1"NPT/TC.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. When the enlarger, reducer or thread converter is used for increased safety or dust protection, the entry of the enclosure and the female thread of the enlarger, reducer or thread converter shall be suitably sealed (in accordance with IEC 60079-14) to maintain the ingress protection rating of the associated enclosure

KOPEX-Ex

Cable Management for Hazardous areas

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LIT-135 / 4-08

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