PRODUCT CATALOGUE

Kopex-Ex® & Kopex®

Flexible conduit systems, cable glands and accessories

Kopex-Ex® cable protection systems have been specifically designed to provide the optimal safe solution for protecting cables in hazardous areas. The wide selection of metallic conduit systems are manufactured either in galvanized steel or stainless steel, providing liquid tight solutions for particularly demanding hazardous environments. All Kopex-Ex conduit systems meet the strictest worldwide standards for use in explosive hazardous atmospheres including ATEX & IECEx.

Kopex® flexible conduit systems offer reliable protection for critical power and data cabling in transport, construction and industrial applications.

Table of contents

Kopex-Ex®

Kopex®

Introduction
Company overview

At ABB, our focus is on improving your business performance by providing practical and reliable products & services. To connect & protect for life. To solve everyday problems in the areas of Wire & Cable Management, Cable Protection, and Safety.

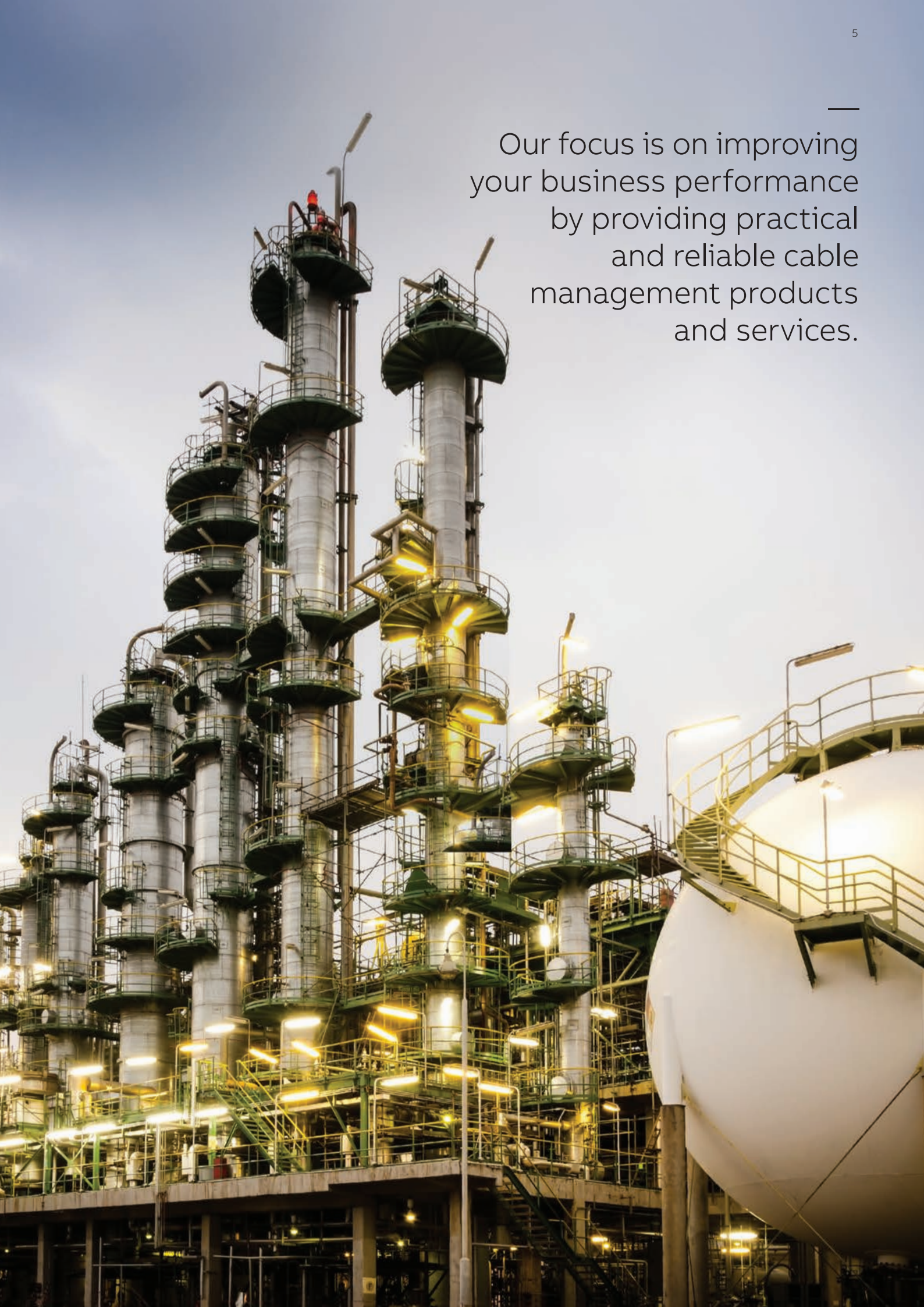
Our extensive engineering, supply chain management and technical sales support teams are committed to understanding everything that impacts your ability to accomplish your business objectives by reducing your total cost of ownership.

Whether you are designing, installing, operating, maintaining or owning an office building, off-shore platform, hospital, high speed train, power generating plant, machine equipment or a manufacturing facility, ABB engineered products fit and function in your application while providing superior performance, sustainability, and value throughout the project life cycle.

Beyond high performance application characteristics, ABB products, information and services facilitate and speed up your time critical assembly, installation or maintenance process.

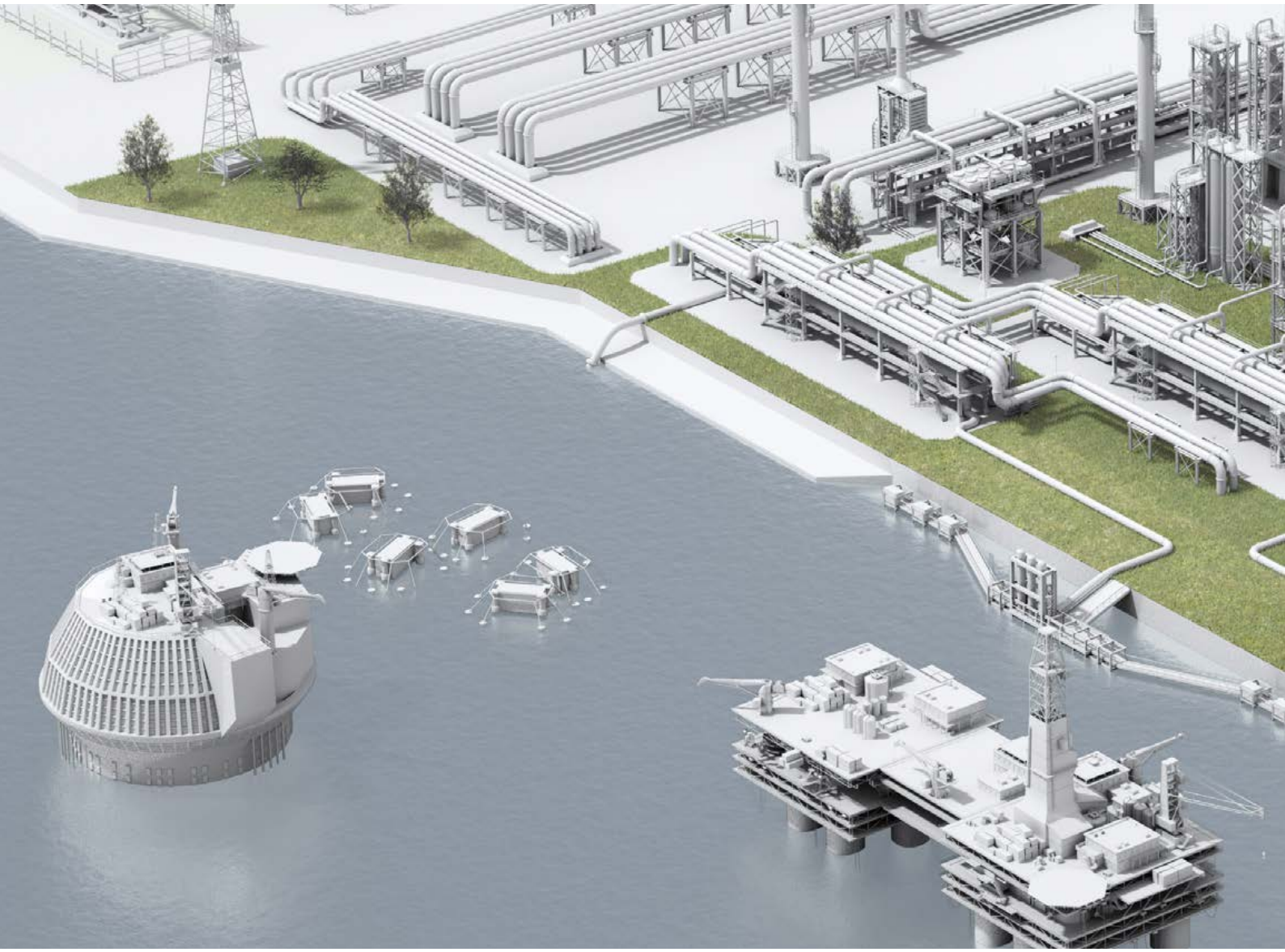
Typical Applications
- Light fittings, boxes and enclosers
- Customised control panels for hazardous areas
- Ongoing R&D program for innovative and high performance products
- ATEX & IECEX approved metallic and non-metallic conduit systems for cable protection

ISO14001 and ISO45001
Environmental standard
Kopex-Ex® & Kopex® solutions are designed with consideration for future recyclability and disposal with minimum impact on the environment at the end of product lifecycle. At present materials currently used for most of our conduits, fittings and accessories are recyclable if disposed of in line with current regulations, keeping the materials separate. Standard packaging materials are fully recyclable.



Our focus is on improving your business performance by providing practical and reliable cable management products and services.

Oil & Gas applications



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01

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01 Application oil & gas

The oil and gas market is split into three sectors: Upstream, Midstream and Downstream.

Upstream consists of exploration and production. Midstream relates to the transportation, storage and partial processing of crude oil and gas from the wellheads to the refining plants. This brings another set of challenges to overcome. The term downstream relates to the processing and delivery of finished carbon related product to the end-user.

Upstream Applications
Offshore applications such as the drilling rigs and production platforms; these are always opened to extreme weather conditions so equipment used here needs to be able to withstand a salty environment. This is achieved through either manufacturing product from stainless steel or by ensuring that the product is coated to withstand marine environments as in all our Kopex-Ex® conduit systems.

Equipment in offshore applications also needs to be hardwearing and easy to maintain as production downtime can be extremely costly for example FPSO (Floating Production Storage and Offloading) vessel can produce 200,000 barrels of crude oil per day at approx $70 to $100 per barrel. A breakdown would result in the vessel producing a loss of revenue of over $700,000 per hour.

Product Selection

- Salt water corrosion (offshore platforms)
- Oil and chemical resistance (drilling rig mud)
- Extreme ambient temperature
- Protection level
- Connectivity to other pieces of equipment
- Consequence of down time
- Approval level required (Ex e, Ex d, etc.)
- Approval specifications required: e.g ATEX, IECEx
- Where product will be positioned, e.g. Zone 1 or Zone 2

Approvals / Characteristics

- ATEX European directives
- IECEx (International certification system)
- Zones 1, 2, 21, 22
- Ingress Protection (IP)

Food & Beverage applications

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01

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02

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01 Food manufacture - Explosion proof (Dust)
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02 Beverage manufacture - Explosion proof (Vapour)

Food Industry
ABB offers a range of products for the food processing market, including products for use in areas where stainless steel is preferred as well as areas classified as hazardous. ABB can offer various products for food processing and packaging including our Kopex-Ex® conduit systems designed for dust filled atmosphere such as flour mills or other places where the risk of explosion is considered to be extremely high.

Beverage Industry
ABB has a range of products designed for being used in all beverage production sectors in the malting, brewing, wine, spirits or soft drink business. Kopex-Ex can supply metallic and non-metallic conduit systems which work with other ABB products to meet the requirement of hazardous areas where explosive gases/vapours presents or other places where the risk of explosion is considered to be extremely high.

Chemical & Pharmaceutical applications

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03

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04

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03 Chemical engineering - Explosion proof
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04 Pharmaceutical production - Explosion proof

Chemical Industry
The chemical industry produces very diverse products, everything from fertilizers to explosives such as nitroglycerin. The processes used in this industry mean that there are lots of applications for our range of Kopex-Ex conduits and fittings to meet the safety requirements for these areas.

Pharmaceutical Industry
The ABB range of products and solutions are ideal for use in the pharmaceutical industry. Whether it is upstream in the primary production stage or downstream in the packing stage. Many of the processes and applications used in these areas require approvals to explosive atmospheres standards making our range of Kopex-Ex conduits and fittings ideal.

Certifications and Standards
Global Guide

—
Africa, Australia, Asia (IECEx)

—
Canada (CSA & IECEx)

—
South America (UL and IECEx)

—
Europe (ATEX and IECEx)

—
USA, Mexico (UL)

—
Brazil (InMetro)

—
Russia (EAC and EAC Ex)

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Rest of World
(Mixed and Local)

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World standards

Region	Basic Electrical Code	Base Standard	Symbols	Hazardous Area Standards	Symbols
Europe	IEC	IEC/EN 62444 - Cable Glands IEC/EN 61386 - Conduit Systems IEC/EN 60529 - Ingress Protection	CE	IEC/EN 60079-0 - General Requirements IEC/EN 60079-1 - Flameproof Equipment IEC/EN 60079-7 - Increased Safety IEC/EN 60079-31 - Dust Enclosure	EX IECEx
US	NEC	UL514B - Fittings UL360 - Electrical Conduit UL1696 - Protective Tubing	UL UR	UL2225 -xxxx UL1203 - xxxx	UL
Canada	CEC	CSA C22.2-18.3 - Fittings CSA C22.2-54-04 - Electrical Conduit CSA C22.2-227.3 - Protective Tubing	CSA	CSA C22.2-25 -30 -174 -94 CSA C22.2/IEC 60079-0 - General Requirements CSA C22.2/IEC 60079-1 - Flameproof Equipment CSA C22.2/IEC 60079-7 - Increased Safety CSA C22.2/IEC 60079-31 - Dust Enclosure	CSA

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World standards

Region	Basic Electrical Code	Base Standard	Symbols	Hazardous Area Standards	Symbols
Russia	IEC	IEC/EN 62444 - Cable Glands IEC/EN 61386 - Conduit Systems IEC/EN 60529 - Ingress Protection	EAC	ГОСТ Р МЭК 60079-0 - General Requirements ГОСТ Р МЭК 60079-7 - Increased Safety ГОСТ Р МЭК 60079-31 - Dust Enclosure ГОСТ IEC 60079-1 - Flameproof Equipment	EAC Ex
Brazil	IEC	ABNT NBR IEC 62444 - Cable Glands ABNT NBR IEC 61386 - Conduit Systems ABNT NBR IEC 60529 - Ingress Protection	InMetro	ABNT NBR IEC 60079-0 - General Requirements ABNT NBR IEC 60079-1 - Flameproof Equipment ABNT NBR IEC 60079-7 - Increased Safety ABNT NBR IEC 60079-31 - Dust Enclosure	InMetro (Segurança)
China	IEC	IEC/EN 62444 - Cable Glands IEC/EN 61386 - Conduit Systems IEC/EN 60529 - Ingress Protection		GB3836.1 - General Requirements GB3836.2 - Flameproof Equipment GB3836.3 - Increased Safety GB12476.1 - Dust General Requirements GB12476.5 - Dust Enclosure	CNEX PCEC

Standards, zone definitions & product markings

Zone definitions - Onshore gases & vapours

Zone 0

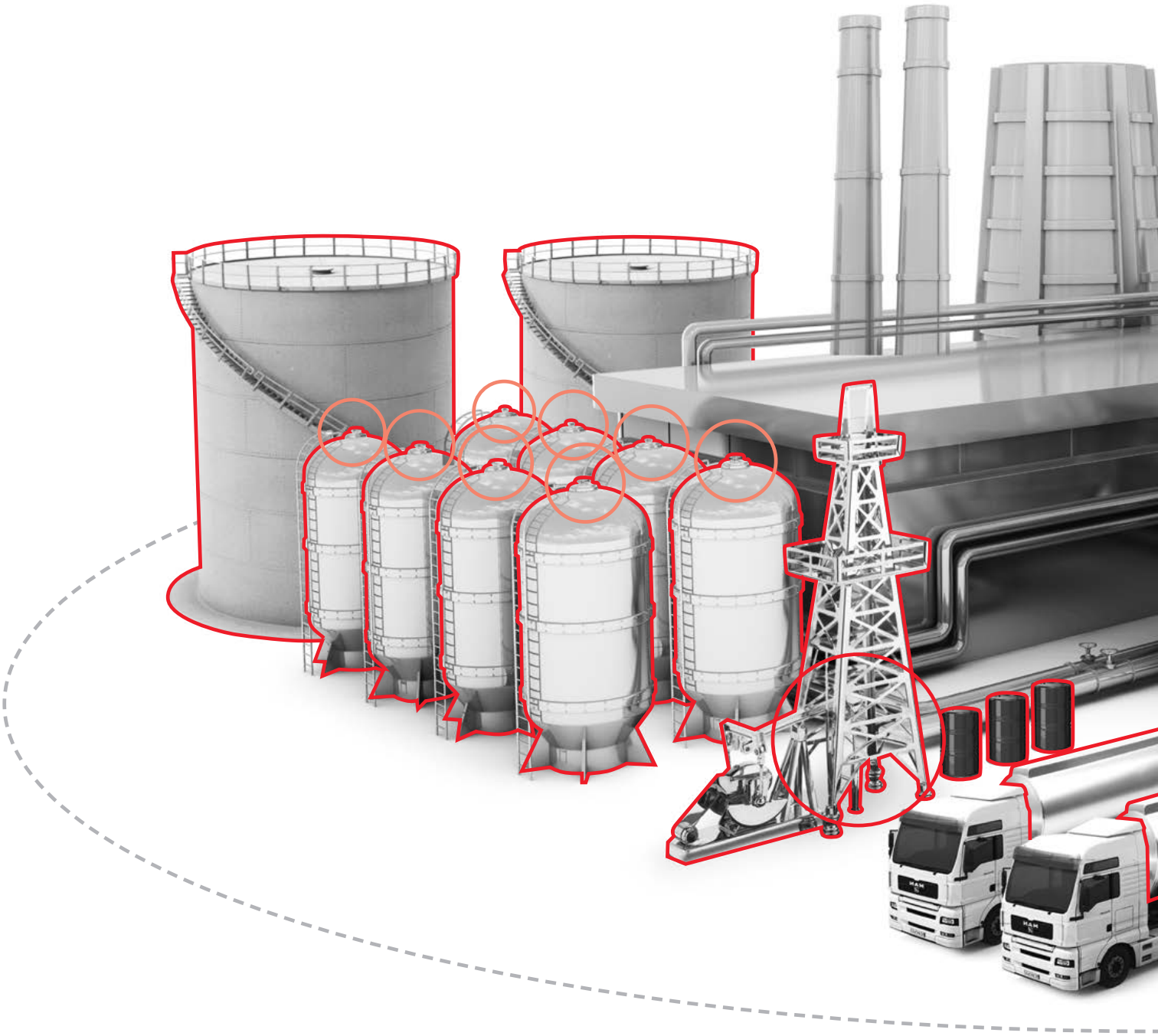
Permanent / Frequent

Place in which an explosive atmosphere consisting of a mixture of air and flammable substances where gas, vapour or mist is present continuously, frequently or for long periods of time.

Zone 1

Occasional

Site where an atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapour or mist is likely to arise occasionally during normal operation.



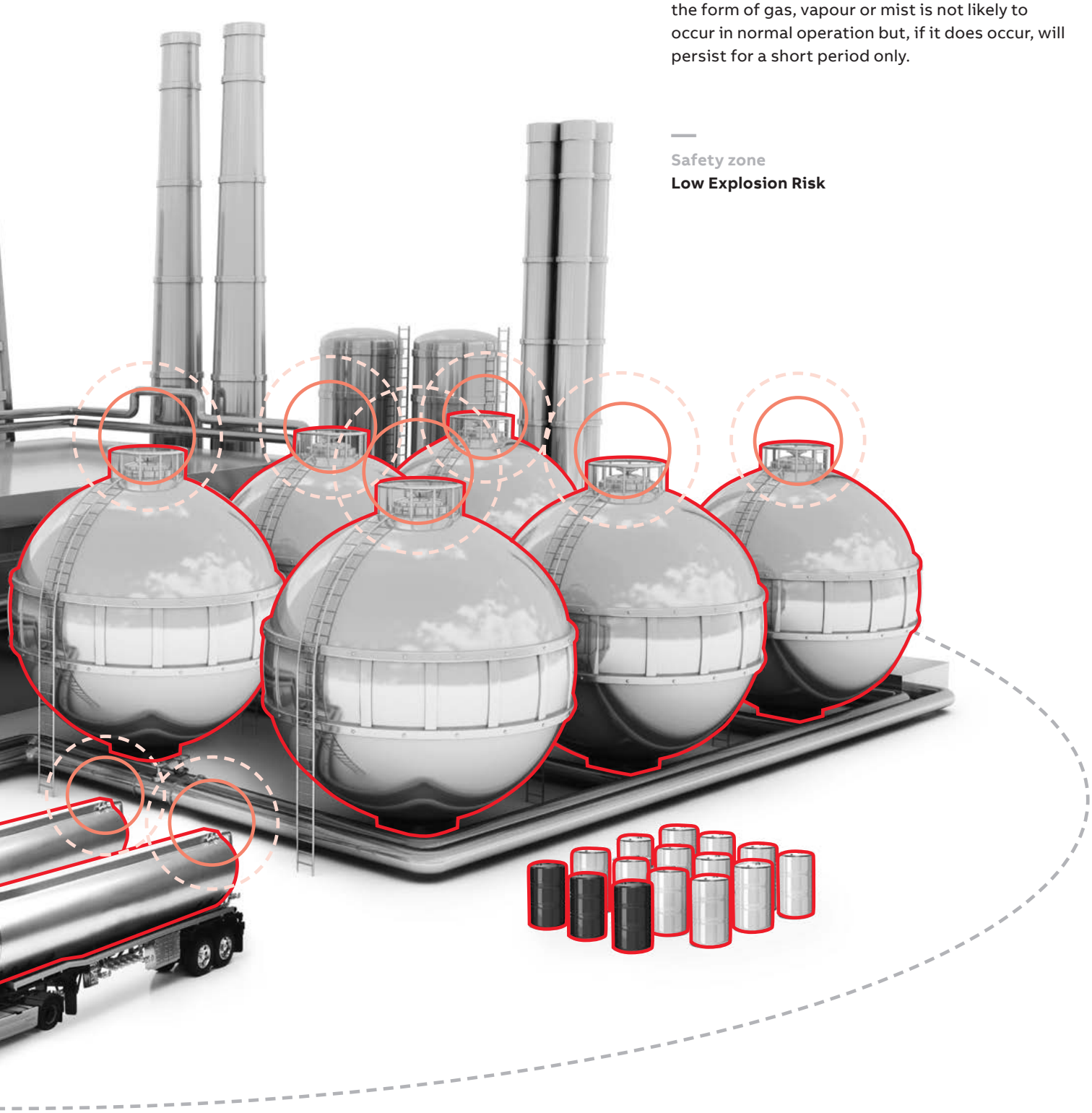
Zone 2

Gas irregular / Short Duration

Place in which an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Safety zone

Low Explosion Risk



Standards, zone definitions & product markings

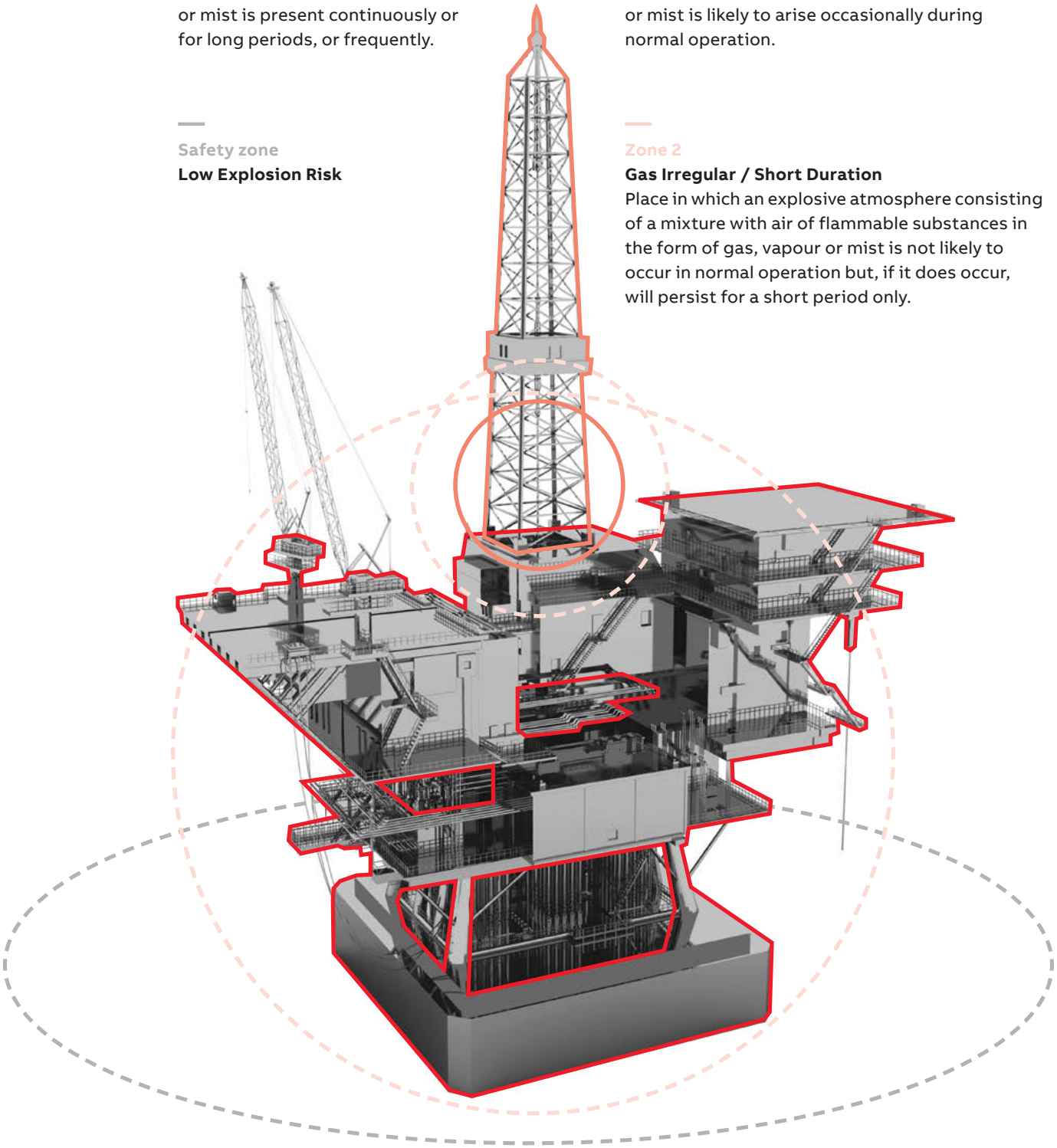
Zone definitions - Offshore gases & vapours

Zone 0
Permanent / Frequent
Place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is present continuously or for long periods, or frequently.

Zone 1
Occasional
Site where an atmosphere consisting of a mixture of air and inflammable substances in the form of gas, vapour or mist is likely to arise occasionally during normal operation.

Safety zone
Low Explosion Risk

Zone 2
Gas Irregular / Short Duration
Place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.



Standards, zone definitions & product markings

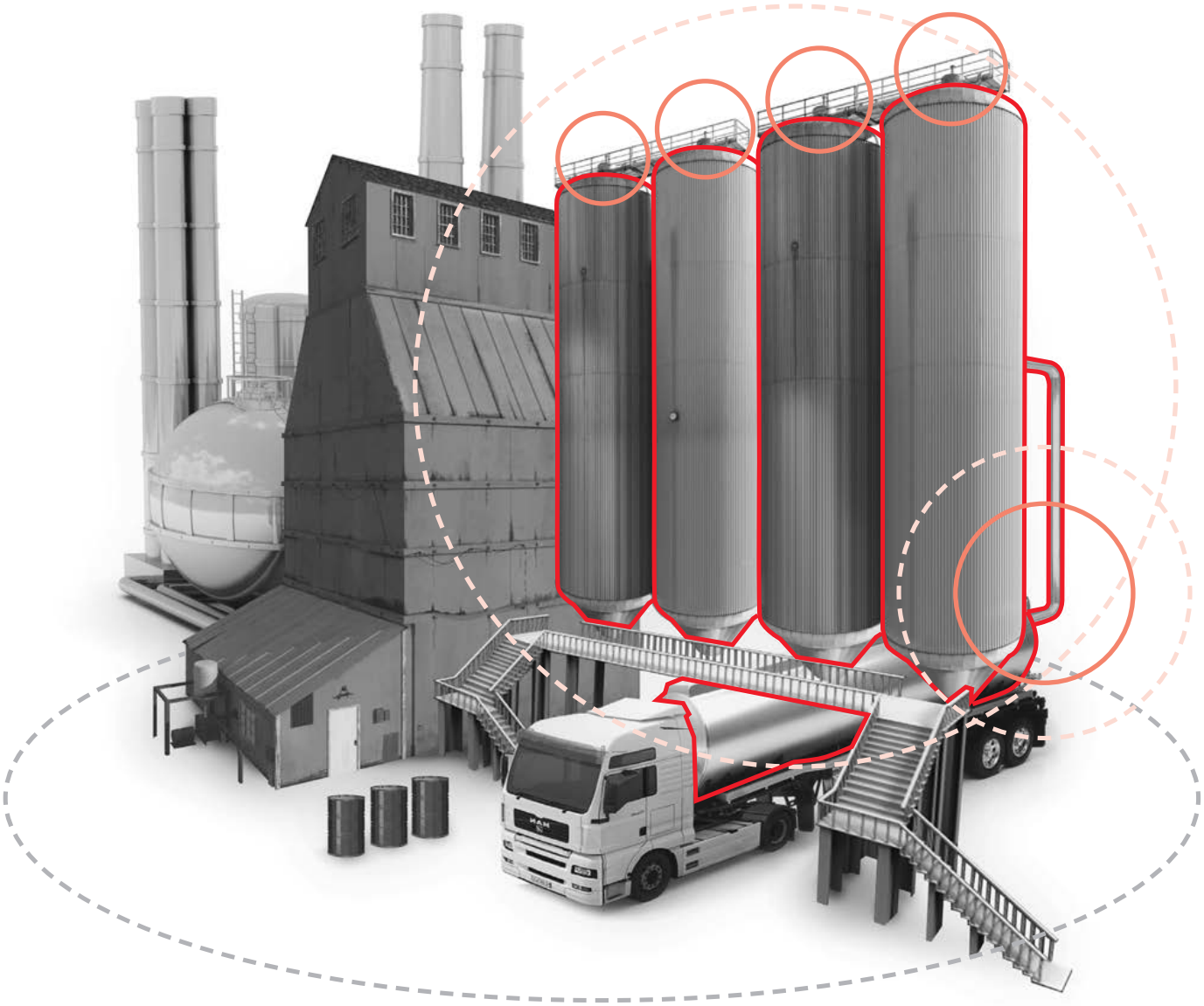
Zone definitions - Dust

Zone 20
Permanent / Frequent
Area in which an explosive atmosphere in the form of a cloud of combustible dust in the air is present continuously, or for long periods, or frequently.

Zone 21
Occasional
Area in which an explosive atmosphere, in the form of a cloud of combustible dust in the air is likely to occur, occasionally, in normal operation.

Zone 22
Dust Irregular / Short Duration
Area in which an explosive atmosphere, in the form of a cloud of combustible dust in the air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Safety Zone
No Explosion Risk



Standards, zone definitions & product markings

DTS - Product marking guide

Classifications of hazardous areas

Classifications of hazardous areas		Descriptions	ATEX Group	ATEX Category	EPL	Equipment usage
Mining	Energised	Persistant risk of methane gas and other dusts	**I**	**M1**	**Ma**	–
	De-energised		**I**	**M2**	**Mb**	–
Gas environments	**Zone 0**	Persistant and continuous presence of gas for frequent or long periods	**II**	**1G**	**Ga**	ATEX Equipment Category **1G**, Equipment Protection Level **Ga**
	Zone 1	Likely occurence of gas presence in normal operation	**II**	**2G**	**Gb**	ATEX Equipment Category **2G or higher**, Equipment Protection Level **Gb or higher**
	Zone 2	Unlikely occurence of gas presence in normal operation, short term persistence if any	**II**	**3G**	**Gc**	ATEX Equipment Category **3G**, Equipment Protection Level **Gc or higher**
Dust environments	**Zone 20**	Persistant and continuous presence of dust for frequent or long periods	**II**	**1D**	**Da**	ATEX Equipment Category **1D**, Equipment Protection Level **Da**
	Zone 21	Likely occurence of dust presence in normal operation	**II**	**2D**	**Db**	ATEX Equipment Category **2D or higher**, Equipment Protection Level **Db or higher**
	Zone 22	Unlikely occurence of dust presence in normal operation, short term persistence if any	**II**	**3D**	**Dc**	ATEX Equipment Category **3D or higher**, Equipment Protection Level **Dc or higher**

Gas & dust groups

Group		Typical	Examples
Mining	**I**	Methane (Mining only)	
Gases	**IIA**	Propane	Ammonia, Methane Gasoline, Butane
	IIB	Ethylene	Town gas, Acrylonitril
	IIB+H2	Ethylene	Town gas, Acrylonitril
	IIC	Hydrogen, Acetylene	Carbon disulphide
Dust environments	**IIIA**	Combustable flyings	Wood shaving
	IIIB	Non-conductive dust	Saw dust, flour
	IIIC	Conductive dust	Metal dust

Temperature classification

Class*	Surface temperature
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

* Temperature classification is based on the maximum surface temperature of the equipment in normal use.

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Protection concepts

Protection concepts	Primary	Type of protection	EN/IEC Standard	Sub concept	Gas zones	Dust zones
By enclosure	**Ex d**	Flameproof	60079-1	Ex db	**1**	–
				Ex dc	**2**	
	Ex t	Dust proof	60079-31	Ex ta	–	**20**
				Ex tb		**21**
				Ex tc		**22**
By exclusion	**Ex p**	Pressurisation	60079-2	Ex pxb	**1**	**21/22**
				Ex pyb	**1**	
				Ex pzc	**2**	
	Ex m	Encapsulation	60079-18	Ex ma	**0**	**20**
				Ex mb	**1**	**21**
				Ex mc	**2**	**22**
	Ex o	Oil immersion	60079-6	Ex ob	**1**	–
	Ex q	Powder filling	60079-5	Ex qb	**1**	–
By equipment	**Ex i**	Intrinsically safe	60079-11	Ex ia	**0**	**20**
				Ex ib	**1**	**21**
				Ex ic	**2**	**22**
	Ex op	Optical radiation	60079-28	Ex op is	**0/1/2**	**20/21/22**
				Ex op pr	**1/2**	**21/22**
				Ex op sh	**0/1/2**	**20/21/22**
	Ex e	Increased safety	60079-7	Ex eb	**1**	–
				Ex ec	**2**	
	Ex n	Non sparking	60079-15	Ex nA	**2**	–
		Limited energy		Ex nL		
		Restricted breathing		Ex nR		
		Enclosed breaking		Ex nC		

Standards, zone definitions & product markings

Index of ingress protection

IP suitability ratings are a system for classifying the degree of protection provided by enclosures of electrical equipment.

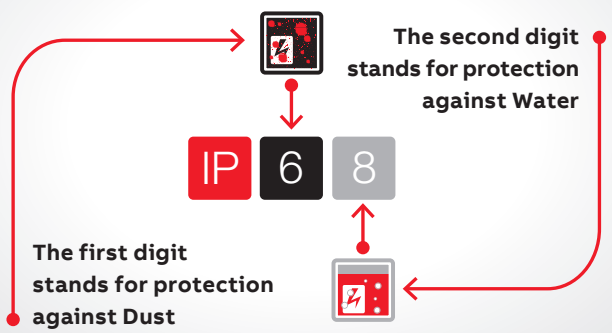
Protection against Solid Bodies
Degree of protection for persons against access to hazardous parts inside the enclosure and/or against the ingress of solid foreign objects.

0	No protection
1	Objects greater than 50 mm, accidental touch by hands
2	Objects greater than 12 mm, accidental touch by fingers
3	Objects greater than 2.5 mm, e.g. tools/wires
4	Objects greater than 1 mm, e.g. tools/wires/small wires
5	Protected against dust - limited ingress (no harmful deposits)
6	Totally protected against dust (Dust-tight)

Protection against Water
Degree of protection of equipment inside enclosures against damage from the ingress of water.

0	No protection
1	Protected against vertically falling drops of water
2	Protected against direct sprays of water 15° from vertical
3	Protected against sprays of water upto 60° from vertical
4	Protected against water sprayed from all directions - limited ingress permitted
5	Protected against low pressure jets of water from all directions - limited ingress permitted
6	Protected against strong pressure jets of water, heavy seas - limited ingress permitted
7	Protection against the effects of immersion between 15cm - 1 m
8	Protection against long periods of immersion under a quoted pressure, e.g. 2 bar at 24 hours
9	Resistance to high temperature (80°C) and high pressure (80-100 bar) jets of water in 4 positions for 30 seconds each

IP Ratings
The higher the number, the greater the degree of protection; they apply ONLY to properly installed equipment.



Flexible non-metallic conduit systems for hazardous areas

Conduit fittings – Selection guide

Selection guide




			Nylon conduit fittings	
	EXB **Nylon conduit**	**EXBB** **Stainless steel overbraided nylon conduit**	**EXPQ** **Straight metallic fittings for nylon conduit**	**EXBQ** **Straight metallic fittings for overbraided nylon conduit**
Approvals				
ATEX	•	•	•	•
IEC / IECEx	•	•	•	•
CSA / UL	–	–	–	–
UL	–	–	–	–
EAC Ex	•	•	•	•
Protection Type				
Ex e	•	•	•	•
Ex d	–	–	–	–
Ex de	–	–	–	–
Ex tb	•	•	•	•
Class / Division				
Class I / Div 1	–	–	–	–
Class I / Div 2	–	–	–	–
Class II / Div 1	–	–		
Class II / Div 2	–	–	–	–
Page No.	**21**	**21**	**22**	**23**

Flexible non-metallic conduit system

EXB & EXBB Series – Anti-static nylon & overbraided conduit

EXB Series – Anti-static nylon conduit

Compatible with: EXPQM / EXPQA fittings / **Materials:** Anti-static Nylon 12 / **Colour:** Black

Part no.	Conduit size Metric (mm)	Outside diameter (mm)	Coil length (m)
EXB03*	16	15.8	10/30/50
EXB04*	21	21.2	10/30/50
EXB05*	28	28.5	10/30/50
EXB06*	34	34.4	10/30/50
EXB07*	42	42.4	10/30/50
EXB08*	54	54.5	10/30/50

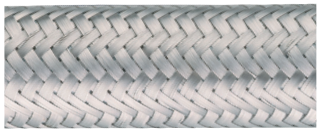
* Add coil length to complete part number, e.g. 10 metres = EXB0510.

Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa 08 ATEX 0003X
	IECEx: IECEx BAS08.0001X
	Ex II 2 GD
	Ex e IIC Gb
	Ex tb IIIC Db

Temperature range
–20°C to +80°C

EXBB Series – Overbraided conduit

Compatible with: EXBQM / EXBQA fittings / **Materials:** Anti-static Nylon 12 / Stainless Steel



Part no.	Conduit size Metric (mm)	Outside diameter (mm)	Coil length (m)
EXBB03*	16	17.8	10/30/50
EXBB04*	21	23.2	10/30/50
EXBB05*	28	30.5	10/30/50
EXBB06*	32	36.5	10/30/50
EXBB07*	42	44.5	10/30/50
EXBB08*	54	56.5	10/30/50

* Add coil length to complete part number, e.g. 10 metres = EXBB0550.

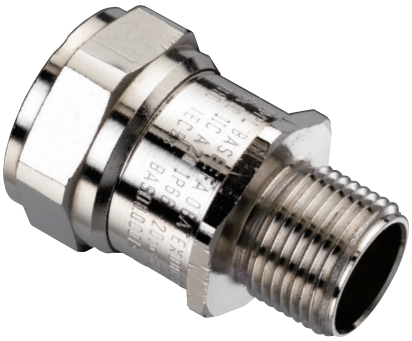
Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa 08 ATEX 0003X
	IECEx: IECEx BAS08.0001X
	Ex II 2 GD
	Ex e IIC Gb
	Ex tb IIIC Db

Temperature range
–20°C to +80°C

Special characteristics
Screening level 60dB at 1MHz

Flexible non-metallic conduit system

EXPQ Series – Metallic fittings



Features and benefits:

- Manufactured in nickel plated brass
- Approved for use in Ex e applications for
- Zones 1, 2, 21 & 22
- Available in Metric & NPT thread
- EXPQ for use with unbraided nylon conduit

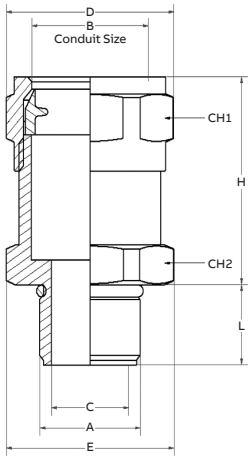
EXPQM / EXPQA Series – Nylon conduit fitting for use with EXB conduits

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-7, 60079-31
	ATEX: Baseefa 08 ATEX 0003X
	IECEx: IECEx BAS08.0001X
	Ex II 2 GD
	Ex e IIC Gb
	Ex tb IIIC Db

Temperature range
–40°C to +85°C

IP Rating	Material
IP66	Nickel plated brass

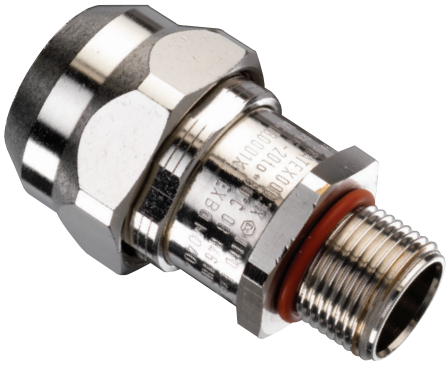
Dimensions



Part no.	Thread size A	Nominal conduit size B (mm)	C	Conduit fitting dimensions (mm) D	E	L	H	CH1	CH2
EXPQM0303	M16	16.0	11.4	27.4	25.9	16.0	33.3	25.4	24.0
EXPQM0304	M20	16.0	11.4	27.4	25.9	16.0	33.3	25.4	24.0
EXPQM0404	M20	21.0	15.8	30.2	30.2	16.0	32.0	28.0	28.0
EXPQM0505	M25	28.0	19.0	41.0	41.0	16.0	39.0	38.0	38.0
EXPQM0606	M32	34.0	26.4	48.1	45.4	17.0	40.0	44.5	42.0
EXPQM0707	M40	42.0	32.9	61.6	58.3	17.0	49.5	57.0	54.0
EXPQM0808	M50	54.0	43.9	75.6	75.6	16.0	48.0	70.0	70.0
EXPQA0304	1/2" NPT	16.0	11.4	33.2	26.6	18.0	43.5	30.0	24.0
EXPQA0404	1/2" NPT	21.0	15.8	38.8	31.0	16.0	43.5	35.0	28.0
EXPQA0505	3/4" NPT	28.0	19.0	49.3	42.1	16.0	50.0	44.5	38.0
EXPQA0606	1" NPT	34.0	26.4	55.4	46.5	18.0	51.0	50.0	42.0
EXPQA0707	1 1/4" NPT	42.0	32.9	77.6	59.8	18.0	67.5	70.0	54.0
EXPQA0808	1 1/2" NPT	54.0	43.9	93.1	77.6	16.0	70.0	84.0	70.0

Flexible non-metallic conduit system

EXBQ Series – Metallic fittings



Features and benefits:

- Manufactured in nickel plated brass
- Approved for use in Ex e applications for
- Zones 1, 2, 21 & 22
- Available in Metric & NPT thread
- EXBQ for use with over braided nylon conduit

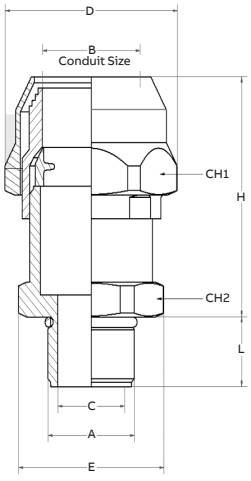
EXBQM / EXBQA Series – Nylon conduit fitting for use with EXBB conduits

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-7, 60079-31
	ATEX: Baseefa 08 ATEX 0003X
	IECEx: IECEx BAS08.0001X
	Ex II 2 GD
	Ex e IIC Gb
	Ex tb IIIC Db

Temperature range
–40°C to +85°C

IP Rating	Material
IP66	Nickel plated brass

Dimensions



Part no.	Thread size A	Nominal conduit size B (mm)	C	Conduit fitting dimensions (mm) D	E	L	H	CH1	CH2
EXBQM0303	M16	16.0	11.4	27.4	25.9	16.0	33.3	25.4	24.0
EXBQM0304	M20	16.0	11.4	25.9	27.4	20.0	32.5	24.0	25.4
EXBQM0404	M20	21.0	15.8	30.2	30.2	20.0	31.5	28.0	28.0
EXBQM0505	M25	28.0	19.0	41.0	41.0	20.2	38.3	38.0	38.0
EXBQM0606	M32	34.0	26.4	45.4	48.1	24.2	40.0	42.0	44.5
EXBQM0707	M40	42.0	32.9	58.3	61.6	25.8	49.5	54.0	57.0
EXBQM0808	M50	54.0	40.7	75.6	75.6	26.1	48.0	70.0	70.0
EXBQA0304	1/2" NPT	16.0	11.4	33.2	26.6	20.0	44.5	30.0	24.0
EXBQA0404	1/2" NPT	21.0	15.8	38.8	31.0	20.0	45.0	35.0	28.0
EXBQA0505	3/4" NPT	28.0	19.0	49.3	42.1	20.2	54.0	44.5	38.0
EXBQA0606	1" NPT	34.0	26.4	55.4	46.5	24.2	57.5	50.0	42.0
EXBQA0707	1 1/4" NPT	42.0	32.9	77.6	59.8	25.8	70.0	70.0	54.0
EXBQA0808	1 1/2" NPT	54.0	40.7	93.1	77.6	26.1	70.0	84.0	70.0

Flexible Liquid tight conduit systems for hazardous areas

Conduit fittings - Selection guide

Selection guide

											Liquid tight conduit
Type	**EXLB**	**EXSB**	**EXLT**	**EXST**	**EXSBBT**	**EXBBT**	**EXLUB**	**EXLHC**	**EXLLHC**	**EXSHC**	**EXSLHC**
Approvals											
ATEX	•	•	•	•	•	•	•	•	•	•	•
IEC / IECEx	•	•	•	•	•	•	•	•	•	•	•
CSA	–	–	–	–	–	–	–	–	–	–	–
UL	–	–	–	–	–	–	–	–	–	–	–
Protection Type											
Ex e	–	–	–	–	–	–	–	–	–	–	–
Ex d	–	–	–	–	–	–	–	–	–	–	–
Ex de	–	–	–	–	–	–	–	–	–	–	–
Ex tb	•	•	•	•	–	–	•	–	–	–	–
Class / Division											
Class I / Div 1	–	–	–	–	–	–	–	–	–	–	–
Class I / Div 2	–	–	–	–	–	–	–	–	–	–	–
Class II / Div 1	–	–	–	–	–	–	–	–	–	–	–
Class II / Div 2	–	–	–	–	–	–	–	–	–	–	–
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					Liquid tight conduit fittings & glands	
Type	**G1 straight**	**G1 90° elbow**	**Universal**	**EXQ**	**EXS 90° elbow**	**EXR 45° elbow**
Approvals						
ATEX	•	•	•	•	•	•
IEC / IECEx	•	•	•	•	•	•
CSA	•	•	•	•	•	•
UL	–	–	–	–	–	–
Protection Type						
Ex e	–	–	–	–	–	–
Ex d	–	–	–	–	–	–
Ex de	•	•	•	–	–	–
Ex tb	•	•	•	•	•	•
Class / Division						
Class I / Div 1	–	–	•	–	–	–
Class I / Div 2	•	•	•	–	–	–
Class II / Div 1	–	–	•	–	–	–
Class II / Div 2	•	•	–	–	–	–
Page No.	**31**	**33**	**34**	**35**	**36**	**37**

Flexible liquid tight metallic conduit systems

EXLB & EXSB Series

EXLB Series – General oil resistant liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a general purpose oil resistant coating / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXLB03*	16	3/8	12.5	10/30
EXLB04*	20	1/2	16.0	10/30
EXLB05*	25	3/4	21.0	10/30
EXLB06*	32	1	26.4	10/20
EXLB07*	40	1 1/4	35.3	10/20
EXLB08*	50	1 1/2	40.4	10/20
EXLB09*	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXLB0510.

Approvals & certifications	Conformity Conforms to:
	Certification standard: IEC 61386
	ATEX: Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: –25°C to +105°C
Flexing temp: –5°C to +105°C
Certified temp: –20°C to +70°C

Flame propogation
Flame dies in less than 30 seconds after ignition source is removed

Special characteristics
Flame retardant PVC covering

EXSB Series – General oil resistant liquid tight conduit - Stainless steel core

Materials: Stainless steel 316 core with a general purpose oil resistant coating / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXSB03*	16	3/8	12.5	10/30
EXSB04*	20	1/2	16.0	10/30
EXSB05*	25	3/4	21.0	10/30
EXSB06*	32	1	26.4	10/20
EXSB07*	40	1 1/4	35.3	10/20
EXSB08*	50	1 1/2	40.4	10/20
EXSB09*	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXSB0510.

Approvals & certifications	Conformity Conforms to:
	Certification standard: IEC 61386
	ATEX: Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: –25°C to +105°C
Flexing temp: –5°C to +105°C
Certified temp: –20°C to +70°C

Flame propogation
Flame dies in less than 30 seconds after ignition source is removed

Special characteristics
Flame retardant PVC covering

Flexible liquid tight metallic conduit systems

EXLT & EXST Series

EXLT Series – Low fire hazard liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a LFH coating / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXLT03*	16	3/8	12.5	10/30
EXLT04*	20	1/2	16.0	10/30
EXLT05*	25	3/4	21.0	10/30
EXLT06*	32	1	26.4	10/20
EXLT07*	40	1 1/4	35.3	10/20
EXLT08*	50	1 1/2	40.4	10/20
EXLT09*	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXLT0510.

Approvals & certifications

Conformity
Conforms to:

Certification standard: IEC 61386-23
LUL fully compliant (E1042A6)
ATEX: Baseefa 15 ATEX 0175X
IECEx: IECEx BAS15.0130X
Ex II 2 GD
Ex eb IIC Gb
Ex tb IIIC Db

Temperature range

Static temp: –25°C to +90°C
Flexing temp: –5°C to +90°C
Certified temp: –20°C to +70°C

Flame propogation

No ignition – no flame propagation

Special characteristics

Low Fire Hazard, Low Smoke, Low Toxicity, Zero Halogen

EXST Series – Low fire hazard liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a LFH coating / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXST03*	16	3/8	12.5	10/30
EXST04*	20	1/2	16.0	10/30
EXST05*	25	3/4	21.0	10/30
EXST06*	32	1	26.4	10/20
EXST07*	40	1 1/4	35.3	10/20
EXST08*	50	1 1/2	40.4	10/20
EXST09*	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXST0510

Approvals & certifications

Conformity
Conforms to:

Certification standard: IEC 61386-23
LUL fully compliant (E1042A6)
ATEX: Baseefa 15 ATEX 0175X
IECEx: IECEx BAS15.0130X
Ex II 2 GD
Ex eb IIC Gb
Ex tb IIIC Db

Temperature range

Static temp: –25°C to +90°C
Flexing temp: –5°C to +90°C
Certified temp: –20°C to +70°C

Flame propogation

No ignition – no flame propagation

Special characteristics

Low Fire Hazard, Low Smoke, Low Toxicity, Zero Halogen

Flexible liquid tight metallic conduit systems

EXBBT & EXSBBT Series

EXBBT Series – Low fire hazard with EMC protection liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a galvanised steel EMC shield and LFH covering / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXBBT03*	16	3/8	12.5	10/30
EXBBT04*	20	1/2	16.0	10/30
EXBBT05*	25	3/4	21.0	10/30
EXBBT06*	32	1	26.4	10/20
EXBBT07*	40	1 1/4	35.3	10/20
EXBBT08*	50	1 1/2	40.4	10/20

* Add coil length to complete part number, e.g. 10 metres = EXBBT0510.

Approvals & certifications	Conformity Conforms to:
CE	Certification standard: IEC 61386-23
	LUL fully compliant (E1042A6)
	ATEX: Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: –25°C to +90°C
Flexing temp: –5°C to +90°C

Flame propogation
No ignition – no flame propagation

Special characteristics
Low Fire Hazard, Low Smoke, Low Toxicity, Zero Halogen
EMC Screening level: 72db at 1MHz Braided

EXSBBT Series – Low fire hazard with EMC protection liquid tight conduit - Stainless steel core

Materials: Stainless steel core with a stainless steel EMC shield and LFH covering / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXSBBT03*	16	3/8	12.5	10/30
EXSBBT04*	20	1/2	16.0	10/30
EXSBBT05*	25	3/4	21.0	10/30
EXSBBT06*	32	1	26.4	10/20
EXSBBT07*	40	1 1/4	35.3	10/20
EXSBBT08*	50	1 1/2	40.4	10/20

* Add coil length to complete part number, e.g. 10 metres = EXSBBT0510.

Approvals & certifications	Conformity Conforms to:
CE	Certification standard: IEC 61386-23
	LUL fully compliant (E1042A6)
	ATEX: Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: –25°C to +90°C
Flexing temp: –5°C to +90°C

Flame propogation
No ignition – no flame propagation

Special characteristics
Low Fire Hazard, Low Smoke, Low Toxicity, Zero Halogen
EMC Screening level: 72db at 1MHz Braided

Flexible liquid tight conduit

EXLHC, EXLLHC, EXSHC & EXSLHC Series

EXLHC & EXLLHC Series – High temperature, highly flexible liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a high temperature, highly flexible coating / **Colour:** Black & Blue

Part no. Black	Part no. Blue	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXLHC03*	EXLLHC03	16	3/8	12.5	10/30
EXLHC04*	EXLLHC04	20	1/2	16.0	10/30
EXLHC05*	EXLLHC05	25	3/4	21.0	10/30
EXLHC06*	EXLLHC06	32	1	26.4	10/20
EXLHC07*	EXLLHC07	40	1 1/4	35.3	10/20
EXLHC08*	EXLLHC08	50	1 1/2	40.4	10/20
EXLHC09*	EXLLHC09	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXLHC0510.

Approvals & certifications	Conformity Conforms to:
	Certification standard: IEC 61386-23
	ATEX Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: -65°C to +150°C
Flexing temp: -45°C to +135°C
Certified temp: -35°C to +105°C

Flame propogation
Flame dies in less than 30 seconds after ignition source is removed

Special characteristics
Very high flexibility
High and Low Temperature Dynamic Operation

EXSHC & EXSLHC Series – High temperature, highly flexible liquid tight conduit - Stainless steel core

Materials: Stainless steel core with a high temperature, highly flexible coating / **Colour:** Black & Blue

Part no. Black	Part no. Blue	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXSHC03*	EXSLHC03	16	3/8	12.5	10/30
EXSHC04*	EXSLHC04	20	1/2	16.0	10/30
EXSHC05*	EXSLHC05	25	3/4	21.0	10/30
EXSHC06*	EXSLHC06	32	1	26.4	10/20
EXSHC07*	EXSLHC07	40	1 1/4	35.3	10/20
EXSHC08*	EXSLHC08	50	1 1/2	40.4	10/20
EXSHC09*	EXSLHC09	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXSHC0510.

Approvals & certifications	Conformity Conforms to:
	Certification standard: IEC 61386-23
	ATEX Baseefa 15 ATEX 0175X
	IECEx: IECEx BAS15.0130X
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range
Static temp: -65°C to +150°C
Flexing temp: -45°C to +135°C
Certified temp: -35°C to +105°C

Flame propogation
Flame dies in less than 30 seconds after ignition source is removed

Special characteristics
Very high flexibility
High and Low Temperature Dynamic Operation

Flexible liquid tight conduit

EXLUB Series

EXLUB Series – General oil resistant liquid tight conduit - Galvanised steel core

Materials: Galvanised steel core with a general purpose oil resistant coating / **Colour:** Black

Part no.	Conduit size Metric (mm)	US Trade size (in.)	Inside diameter (mm)	Coil lengths (m)
EXLUB03*	16	3/8	12.5	10/30
EXLUB04*	20	1/2	16.0	10/30
EXLUB05*	25	3/4	21.0	10/30
EXLUB06*	32	1	26.4	10/20
EXLUB07*	40	1 1/4	35.3	10/20
EXLUB08*	50	1 1/2	40.4	10/20
EXLUB09*	63	2	51.6	10/20

* Add coil length to complete part number, e.g. 10 metres = EXLUB0510.

Approvals & certifications

Conformity
Conforms to:

Certification standard: IEC 61386-23
ATEX: Baseefa 15 ATEX 0175X
IECEx: IECEx UL-E76358
UL360 - E76358
Ex II 2 GD
Ex eb IIC Gb
tb IIIC Db

Temperature range
Static temp: –25°C to +105°C
Flexing temp: –5°C to +105°C
Certified temp: –20°C to +70°C

Flame propogation
Flame dies in less than 30 seconds after ignition source is removed

Special characteristics
Flame retardant PVC covering

Liquid tight hazardous area flameproof conduit fitting

G1 Series

Features and benefits:

- Constructed from either brass or stainless steel with an epoxy resin barrier the Group I flame-proof fitting is a high specification product, ideal for all hazardous area applications

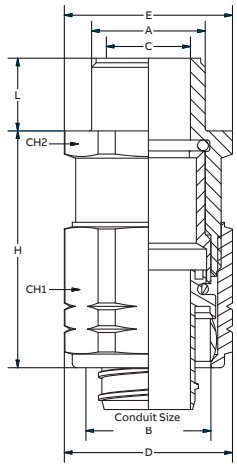
HAMM G1 conduit fitting – Liquid tight hazardous area flameproof fitting

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-1, 60079-7
	ATEX: Sira 09 ATEX 1231X
	IECEx: IECEx SIR09.0103X
	CSA: CSA File No: 060582
	UL1696: E135398
	Ex I M2/II 2 GD
	Ex de I Mb
	Ex de IIC Gb
	Ex tb IIIC Db
	Class I Div 2 ABCD
	Class II Div 1 EFG

Temperature range	
-60°C to +130°C	

IP Rating	Material
IP66	Nickel plated brass, Brass or Stainless steel 316

Dimensions - metric thread



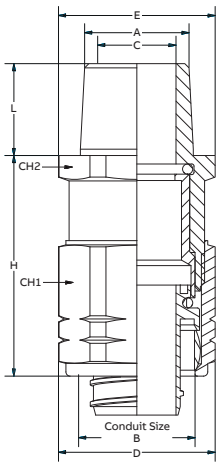
Part no. Nickel plated brass	Metric thread size A (mm)	Conduit size B (mm)	Conduit fitting dimensions (mm)						
			C	D	E	L	H	CH1	CH2
HAMM0304G1	M20	16.0	10.0	34.0	31.0	15.0	50.0	32.0	28.6
HAMM0404G1	M20	20.0	12.5	34.0	31.0	15.0	50.0	32.0	28.6
HAMM0505G1	M25	25.0	18.4	37.0	37.0	15.0	50.0	34.0 (34.9 in SS)	34.0
HAMM0606G1	M32	32.0	24.7	45.0	45.0	15.0	50.0	42.0 (42.5 in SS)	42.0
HAMM0707G1	M40	40.0	29.7	57.0	54.0	15.0	57.0	52.0	50.0
HAMM0808G1	M50	50.0	41.7	64.0	64.0	15.0	58.0	60.0	60.0
HAMM0909G1	M63	63.0	51.7	78.0	76.2	15.0	70.6	69.7	70.0

* For Stainless Steel version, replace last M from the reference with an S, e.g. HAMS0304G1 for Metric / HAAS0304G1 for NPT.

Liquid tight hazardous area flameproof conduit fitting

G1 Series

Dimensions - NPT thread



Part no. Nickel plated brass	NPT thread size A (in.)	Conduit size B (mm)	Cable fitting dimensions (mm)						
			C	D	E	L	H	CH1	CH2
HAAM0304G1	1/2	16.0	10.0	34.0	31.0	20.2	50.0	32.0	28.6
HAAM0404G1	1/2	20.0	12.5	34.0	31.0	20.2	50.0	32.0	28.6
HAAM0505G1	3/4	25.0	18.4	37.0	37.0	20.2	50.0	34.0 (34.9 in SS)	34.0
HAAM0606G1	1	32.0	24.7	45.0	45.0	25.0	50.0	42.0 (42.5 in SS)	42.0
HAAM0707G1	1 1/4	40.0	29.7	57.0	54.0	25.6	57.0	52.0	50.0
HAAM0808G1	1 1/2	50.0	41.7	64.0	64.0	26.0	58.0	60.0	60.0
HAAM0909G1	2	63.0	51.7	78.0	76.2	27.0	70.6	69.7	70.0

* For Stainless Steel version, replace last M from the reference with an S, e.g. HAMS0304G1 for Metric / HAAS0304G1 for NPT.

Additional sealing compound

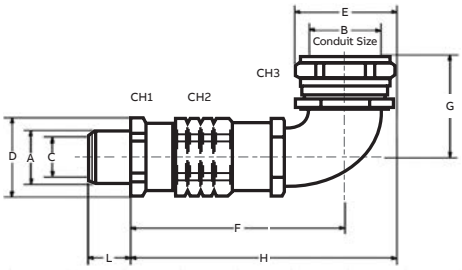
All fittings are supplied with the correct amount of compound required. These extra putty packs can be ordered separately if required.

Part no.	Description	Volume (cm^3)
EXEP50	Epoxy putty	50
EXEP75	Epoxy putty	75

Handling precaution - EXEP is intended to be mixed by hand, however all putties of this type are manufactured from reactive chemicals which can cause skin irritation, especially to those people with a history of chemical allergy. Whilst these products have been used safely in industry for over 25 years, we recommend the use of the gloves provided and / or a barrier cream.

Liquid tight hazardous area flameproof conduit fitting

G1 Series – 90° elbow



HAMM G1 90˚ Elbow conduit fitting – metric thread

Materials: Nickel plated brass or stainless steel 316

Part no. Nickel plated brass	Metric thread size A (mm)	Conduit size B (mm)	Conduit fitting dimensions (mm)									
			C	D	E	F	G	H	L	CH1	CH2	CH3
HAMM0304E	M20	16.0	10.0	31.7	35.5	94.0	35.0	90.0	15.0	28.6	32.0	32.0
HAMM0404E	M20	21.0	12.5	31.7	35.5	95.0	335.0	90.0	15.0	28.6	32.0	32.0
HAMM0505E	M25	28.0	18.4	37.7	38.7	101.0	36.0	104.0	15.0	34.0	34.0 (34.9 in SS)	34.0 (34.9 in SS)
HAMM0606E	M32	34.0	24.7	46.5	46.5	109.0	40.0	114.0	15.0	42.0	42.0 (42.5 in SS)	42.0 (42.5 in SS)
HAMM0707E	M40	42.0	29.7	55.4	57.6	115.0	48.0	180.0	15.0	50.0	52.0	52.0
HAMM0808E	M50	54.0	41.7	66.5	66.5	123.0	56.0	146.0	15.0	60.0	69.7	60.0

* For Stainless Steel version, replace last M from the reference with an S, e.g. HAMS0304E.

HAAM G1 90˚ Elbow conduit fitting – NPT thread

Materials: Nickel plated brass or stainless steel 316

Part no. Nickel plated brass	NPT thread size A (mm)	Conduit size B (mm)	Conduit fitting dimensions (mm)									
			C	D	E	F	G	H	L	CH1	CH2	CH3
HAAM0304E	1/2	16.0	10.0	31.7	35.5	98.0	35.0	90.0	20.2	28.6	32.0	32.0
HAAM0404E	1/2	21.0	12.5	31.7	35.5	98.0	335.0	90.0	20.2	28.6	32.0	32.0
HAAM0505E	3/4	28.0	18.4	37.7	38.7	103.4	36.0	104.0	20.2	34.0	34.0 (34.9 in SS)	34.0 (34.9 in SS)
HAAM0606E	1	34.0	24.7	46.5	46.5	103.4	40.0	114.0	25.0	42.0	42.0 (42.5 in SS)	42.0 (42.5 in SS)
HAAM0707E	1 1/4	42.0	29.7	55.4	57.6	120.0	48.0	180.0	25.6	50.0	52.0	52.0
HAAM0808E	1 1/2	54.0	41.7	66.5	66.5	123.0	56.0	146.0	26.0	60.0	69.7	60.0

* For Stainless Steel version, replace last M from the reference with an S, e.g. HAAS0304E.

Additional sealing compound

All fittings are supplied with the correct amount of compound required. These extra putty packs can be ordered separately if required.

Part no.	Description	Volume (cm^3)
EXEP50	Epoxy putty	50
EXEP75	Epoxy putty	75

Handling precaution - EXEP is intended to be mixed by hand, however all putties of this type are manufactured from reactive chemicals which can cause skin irritation, especially to those people with a history of chemical allergy. Whilst these products have been used safely in industry for over 25 years, we recommend the use of the gloves provided and / or a barrier cream.

Liquid tight hazardous area flameproof conduit fitting

Universal fitting

Features and benefits:

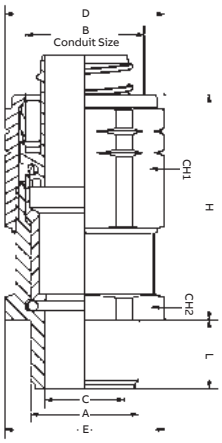
- Constructed from either brass, nickel plated or stainless steel with an epoxy resin barrier
- The Group I universal flameproof fitting is a high specification product, ideal for all hazardous area applications

HAMM G1 conduit fitting – Liquid tight hazardous area flameproof fitting

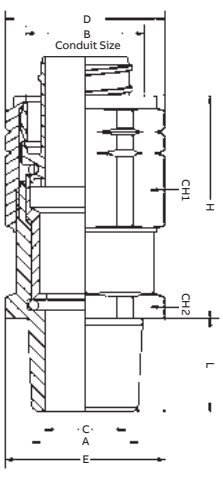
Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-1, 60079-7, 60079-31
	ATEX: Sira 09 ATEX 1231X
	IECEx: IECEx SIR09.0103X
	CSA: CSA File No: 060582
	Ex de I Mb
	Ex de IIC Gb
	Ex tb IIIC Db
	Class I DIv 1 BCD (Rigid conduit only)
	Class I Div 2 ABCD
	Class II Div 1 ABCD

Temperature range	
–60°C to +130°C	

IP Rating	Material
IP66	Nickel plated brass, Brass or Stainless steel

Product code	Part no.	Male thread size Metric (mm)	Female thread size Metric (mm)
	Nickel plated		
	HAMM0304U	20	16
	HAMM0404U	20	20
	HAMM0505U	25	25
	HAMM0606U	32	32
	HAMM0707U	40	40
	HAMM0808U	50	50
	HAMM0909U	63	63
	Stainless steel		
	HAMS0304U	20	16
	HAMS0404U	20	20
	HAMS0505U	25	25
	HAMS0606U	32	32
	HAMS0707U	40	40
	HAMS0808U	50	50
	HAMS0909U	63	63

Note. For use with rigid conduit or other fittings.

Product code	Part no.	Male thread size NPT (in.)	Female thread size NPT (in.)
	Nickel plated		
	HAAM0304U	1/2	3/8
	HAAM0404U	1/2	1/2
	HAAM0505U	3/4	3/4
	HAAM0606U	1	1
	HAAM0707U	1 1/4	1 1/4
	HAAM0808U	1 1/2	1 1/2
	HAAM0909U	2	2
	Stainless steel		
	HAAS0304U	1/2	3/8
	HAAS0404U	1/2	1/2
	HAAS0505U	3/4	3/4
	HAAS0606U	1	1
	HAAS0707U	1 1/4	1 1/4
	HAAS0808U	1 1/2	1 1/2
	HAAS0909U	2	2

Note. For use with rigid conduit or other fittings.

Additional sealing compound

All fittings are supplied with the correct amount of compound required. These extra putty packs can be ordered separately if required.

Part no.	Description	Volume (cm^3)
EXEP50	Epoxy putty	50
EXEP75	Epoxy putty	75

Handling precaution - EXEP is intended to be mixed by hand, however all putties of this type are manufactured from reactive chemicals which can cause skin irritation, especially to those people with a history of chemical allergy. Whilst these products have been used safely in industry for over 25 years, we recommend the use of the gloves provided and / or a barrier cream.

Liquid tight hazardous area flameproof conduit fitting

EXQ Series – Straight

Features and benefits:

- Nickel plated brass
- Brass conduit seal
- Silicone O'ring thread seal
- Nylon anti-abrasion cable protector
- Ex eb Ex tb approved
- Suitable for use in zones 1, 2, 21 and 22

EXQ Series – Straight conduit fitting

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-1, 60079-7, 60079-31, IEC 61386 Compliant
	For use with Ex LT Conduits
	Baseefa 15 ATEX 0175X, IECEx BAS
	Ex II 2 GD
	Ex eb IIC Gb
	Ex tb IIIC Db

Temperature range with Conduit Type
EX*HC –35°C to +105°C
EX*T –20°C to +70°C
EX*B –20°C to +70°C
EX*UB –20°C to +70°C

IP Rating	Material
IP66	Nickel plated brass or Stainless steel 316

DImensions - metric thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	Metric thread (mm)	Length (mm)	Across flats (mm)
EXQM0303	16	3/8	M16x1.5	21.0	25.4
EXQM0304	16	3/8	M20x1.5	21.0	25.4
EXQM0404	20	1/2	M20x1.5	22.0	28.5
EXQM0505	25	3/4	M25x1.5	25.0	35.0
EXQM0606	32	1	M32x1.5	30.0	42.0
EXQM0707	40	1-1/4	M40x1.5	38.0	52.0
EXQM0808	50	1-1/2	M50x1.5	41.0	60.0
EXQM0909	63	2	M63x1.5	46.0	70.0

*For Stainless Steel fittings, please add S after M in part number, e.g. EXQMS0303.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

DImensions - NPT thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	NPT thread (in.)	Length (mm)	Across flats (mm)
EXQA0304	16	1/2	1/2	21.0	25.4
EXQA0404	20	1/2	1/2	22.0	28.5
EXQA0505	25	3/4	3/4	25.0	35.0
EXQA0606	32	1	1	30.0	42.0
EXQA0707	40	1-1/4	1-1/4	38.0	52.0
EXQA0808	50	1-1/2	1-1/2	41.0	60.0
EXQA0909	63	2	2	46.0	70.0

*For Stainless Steel fittings, please add S after A, e.g. EXQAS0304.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

Liquid tight hazardous area flameproof conduit fitting

EXS Series – 90˚ elbow

Features and benefits:

- Nickel plated brass
- Brass conduit seal
- Silicone O'ring thread seal
- Nylon anti-abrasion cable protector
- Ex eb Ex tb approved
- Suitable for use in zones 1, 2, 21 and 22

EXS Series – 90˚ elbow conduit fitting

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-7, 60079-31, IEC 61386 Compliant
	For use with Ex LT Conduits
	Baseefa 15 ATEX 0175X, IECEx BAS 15.0130X
	Ex II 2 GD
	Ex eb IIC Gb

Temperature range with Conduit Type
EX*HC –35°C to +105°C
EX*T –20°C to +70°C
EX*B –20°C to +70°C
EX*UB –20°C to +70°C

IP Rating	Material
IP66	Nickel plated brass or Stainless steel 316

DImensions - metric thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	Metric thread (mm)	Length (mm)	Across flats (mm)
EXSM0303	16	3/8	M16x1.5	48.0	25.4
EXSM0304	16	3/8	M20x1.5	48.0	25.4
EXSM0404	20	1/2	M20x1.5	53.7	28.5
EXSM0505	25	3/4	M25x1.5	63.7	35.0
EXSM0606	32	1	M32x1.5	74.4	42.0
EXSM0707	40	1-1/4	M40x1.5	88.4	52.0
EXSM0808	50	1-1/2	M50x1.5	99.8	60.0
EXSM0909	63	2	M63x1.5	120.9	70.0

*For Stainless Steel fittings, please add S after M, e.g. EXSMS0303.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

DImensions - NPT thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	NPT thread (in.)	Length (mm)	Across flats (mm)
EXSA0304	16	1/2	1/2	21.0	25.4
EXSA0404	20	1/2	1/2	22.0	28.5
EXSA0505	25	3/4	3/4	25.0	35.0
EXSA0606	32	1	1	30.0	42.0
EXSA0707	40	1-1/4	1-1/4	38.0	52.0
EXSA0808	50	1-1/2	1-1/2	41.0	60.0
EXSA0909	63	2	2	46.0	70.0

*For Stainless Steel fittings, please add S after A, e.g. EXSAS0304.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

Liquid tight hazardous area flameproof conduit fitting

EXR Series – 45˚ Elbow

EXR Series – 45˚ elbow conduit fitting

Features and benefits:

- Nickel plated brass
- Brass conduit seal
- Silicone O'ring thread seal
- Nylon anti-abrasion cable protector
- Ex eb Ex tb approved
- Suitable for use in zones 1, 2, 21 and 22

Approvals & certifications	Conformity Conforms to:
	IEC EN 60079-0, 60079-7, 60079-31, IEC 61386 Compliant
	For use with Ex LT Conduits
	Baseefa 15 ATEX 0175X, IECEx BAS 15.0130X
	Ex II 2 GD
	Ex eb IIC Gb

Temperature range with Conduit Type
EX*HC –35°C to +105°C
EX*T –20°C to +70°C
EX*B –20°C to +70°C
EX*UB –20°C to +70°C

IP Rating	Material
IP66	Nickel plated or Stainless steel 316

DImensions - metric thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	Metric thread (mm)	Length (mm)	Across flats (mm)
EXRM0303	16	3/8	M16x1.5	54.0	25.4
EXRM0304	16	3/8	M20x1.5	55.0	25.4
EXRM0404	20	1/2	M20x1.5	58.0	28.5
EXRM0505	25	3/4	M25x1.5	65.6	35.0
EXRM0606	32	1	M32x1.5	75.0	42.0
EXRM0707	40	1-1/4	M40x1.5	93.8	52.0
EXRM0808	50	1-1/2	M50x1.5	106.5	60.0
EXRM0909	63	2	M63x1.5	125.0	70.0

*For Stainless Steel fittings, please add S after M, e.g. EXRMS0303.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

DImensions - NPT thread

Part no.	Conduit size Metric (mm)	 US Trade (in.)	NPT thread (in.)	Length (mm)	Across flats (mm)
EXRA0304	16	1/2	1/2	55.0	25.4
EXRA0404	20	1/2	1/2	58.0	28.5
EXRA0505	25	3/4	3/4	65.6	35.0
EXRA0606	32	1	1	85.0	42.0
EXRA0707	40	1-1/4	1-1/4	93.8	52.0
EXRA0808	50	1-1/2	1-1/2	106.5	60.0
EXRA0909	63	2	2	125.0	70.0

*For Stainless Steel fittings, please add S after A, e.g. EXRAS0304.
**Compatible with: EX*B, EX*T, EX*HC, EX*UB Conduits.

Accessories for hazardous area

SP Series - Ex d Standard stopping plug

SP Series – Stopping plug - standard Ex d

Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa08ATEX0324
	IECEx: IECEx BAS08.0109X
	ETL: 3176087
	UL 1203 (Nickel Plated Brass and Stainless Steel only)
	Ⓔ I M2 / II 2 G, Ex d I Mb, Ex d IIC Gb
	Class I Div 1 ABCD
	Class II Div 1 EFG

Temperature range
–20°C to +200°C (–4°F to +392°F)

Material
Nickel plated brass or stainless steel

Standard Ex d stopping plug – metric thread

Nickel plated Part no.	Metric thread size (mm)	Stainless steel Part no.	Metric thread size (mm)
EXN/M16/SP	M16	EXS/M16/SP	M16
EXN/M20/SP	M20	EXS/M20/SP	M20
EXN/M25/SP	M25	EXS/M25/SP	M25
EXN/M32/SP	M32	EXS/M32/SP	M32
EXN/M40/SP	M40	EXS/M40/SP	M40
EXN/M50/SP	M50	EXS/M50/SP	M50
EXN/M63/SP	M63	EXS/M63/SP	M63

Standard Ex d stopping plug – NPT thread

Nickel plated Part no.	NPT thread size (in)	Stainless steel Part no.	NPT thread size (in)
EXN/038/SP	3/8	EXS/038/SP	3/8
EXN/050/SP	1/2	EXS/050/SP	1/2
EXN/075/SP	3/4	EXS/075/SP	3/4
EXN/100/SP	1	EXS/100/SP	1
EXN/125/SP	1 1/4	EXS/125/SP	1 1/4
EXN/150/SP	1 1/2	EXS/150/SP	1 1/2
EXN/200/SP	2	EXS/200/SP	2

Accessories for hazardous area

TSP Series - Ex d Tamperproof stopping plug

TSP Series – Stopping plug - standard Ex d

Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa08ATEX0324
	IECEx: IECEx BAS08.0109X
	ETL: 3176087
	UL 1203 (Nickel Plated Brass and Stainless Steel only)
	I M2 / II 2 G, Ex d I Mb, Ex d IIC Gb
	Class I Div 1 ABCD
	Class II Div 1 EFG

Temperature range
–20°C to +200°C (–4°F to +392°F)

Material
Nickel plated brass or stainless steel

Tamperproof Ex d stopping plug – metric thread

Nickel plated Part no.	Metric thread size (mm)	Stainless steel Part no.	Metric thread size (mm)
EXN/M16/TSP	M16	EXS/M16/TSP	M16
EXN/M20/TSP	M20	EXS/M20/TSP	M20
EXN/M25/TSP	M25	EXS/M25/TSP	M25
EXN/M32/TSP	M32	EXS/M32/TSP	M32
EXN/M40/TSP	M40	EXS/M40/TSP	M40
EXN/M50/TSP	M50	EXS/M50/TSP	M50
EXN/M63/TSP	M63	EXS/M63/TSP	M63

Tamperproof Ex d stopping plug – NPT thread

Nickel plated Part no.	NPT thread size (in)	Stainless steel Part no.	NPT thread size (in)
EXN/038/TSP	3/8	EXS/038/TSP	3/8
EXN/050/TSP	1/2	EXS/050/TSP	1/2
EXN/075/TSP	3/4	EXS/075/TSP	3/4
EXN/100/TSP	1	EXS/100/TSP	1
EXN/125/TSP	1 1/4	EXS/125/TSP	1 1/4
EXN/150/TSP	1 1/2	EXS/150/TSP	1 1/2
EXN/200/TSP	2	EXS/200/TSP	2

Accessories for hazardous area

HSP Series - Ex e Hex head stopping plug

HSP Series – Ex e hex head and dome head stopping plugs

Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa08ATEX0325X
	IECEx: IECEx BAS08.0108X
	Ⓔ I M2 / II 2 GD, Ex d e I Mb, Ex d e IIC Gb
	Ex tb IIIC Db

Temperature range
-60°C to +130°C (-76°F to +266°F)

IP Rating	Material
IP65/66	Nickel plated brass or stainless steel

Hex head Ex e stopping plug – metric thread

Nickel plated Part no.	Metric thread size (mm)
EXN/M16/HSP	M16
EXN/M20/HSP	M20
EXN/M25/HSP	M25
EXN/M32/HSP	M32
EXN/M40/HSP	M40
EXN/M50/HSP	M50
EXN/M63/HSP	M63

Stainless Steel Part no.	Metric thread size (mm)
EXS/M16/HSP	M16
EXS/M20/HSP	M20
EXS/M25/HSP	M25
EXS/M32/HSP	M32
EXS/M40/HSP	M40
EXS/M50/HSP	M50
EXS/M63/HSP	M63

Accessories for hazardous area

DSP Series - Ex e Hex head stopping plug

DSP Series – Ex e hex head and dome head stopping plugs

Approvals & certifications	Conformity Conforms to:
	ATEX: Baseefa08ATEX0325X
	IECEx: IECEx BAS08.0108X
	I M2 / II 2 GD, Ex d e I Mb, Ex d e IIC Gb
	Ex tb IIIC Db

Temperature range
–60°C to +130°C (–76°F to +266°F)

IP Rating	Material
IP65/66	Nickel plated brass or stainless steel

Dome head Ex e stopping plug – metric thread

Nickel plated Part no.	Metric thread size (mm)
EXN/M16/DSP	M16
EXN/M20/DSP	M20
EXN/M25/DSP	M25
EXN/M32/DSP	M32
EXN/M40/DSP	M40
EXN/M50/DSP	M50
EXN/M63/DSP	M63

Stainless Steel Part no.	Metric thread size (mm)
EXS/M16/DSP	M16
EXS/M20/DSP	M20
EXS/M25/DSP	M25
EXS/M32/DSP	M32
EXS/M40/DSP	M40
EXS/M50/DSP	M50
EXS/M63/DSP	M63

Accessories for hazardous area

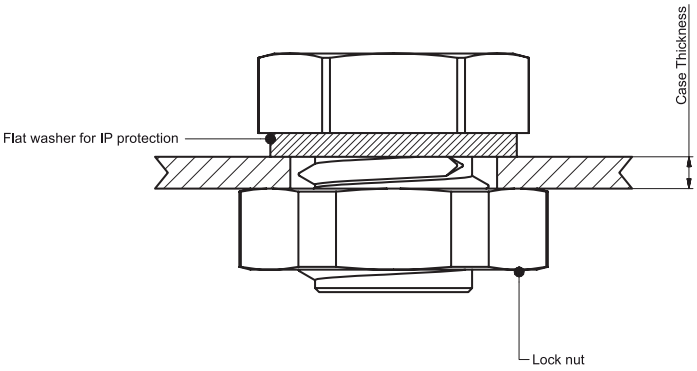
Ex e Nylon stopping plug

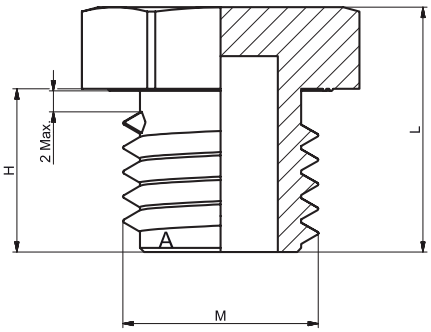
Ex e Nylon stopping plugs

Approvals & certifications	Conformity Conforms to:
	IMQ 13 ATEX 016X, IECEx IMQ
	Ⓔx II 2 GD, Ex e IIC Gb, Ex tb IIIC Db

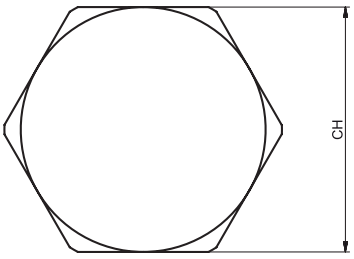
Temperature range
-60°C to +130°C (-76°F to +266°F)

IP Rating	Material
IP66-IP68 (5 Bar 30 Mins)	Nylon





Nylon Type - Metric	Thread Size Metric (mm)	Dimensions (mm) H	L	CH
EX-M12	12	8	15	15
EX-M16	16	10	15	19
EX-M20	20	10	15	23
EX-M25	25	10	15	28
EX-M32	32	15	20	36
EX-M40	40	18	27	46
EX-M50	50	18	27	55
EX-M63	63	18	27	69



Accessories for hazardous area

TC Series - Ex d e Thread adaptors

TC Series – Ex d e thread adaptors

Approvals & certifications	Conformity Conforms to:	Temperature range
	ATEX: Baseefa07 ATEX 0247X	-60°C to + 100°C (-76°F to +212°F)
	IECEx: IECEx BAS07.0090X	
	⟨Ex⟩ I M2 / II 2 GD, Ex d e I Mb, Ex d e IIC Gb, Ex tb IIIC Db	**Material**
	Class I Div1 ABCD, Class II Div1 EFG (does not include M16 & 3/8"NPT or unplated brass products)	Nickel plated brass or stainless steel
	UL 1203	
	CSA C22.2 No.60079-04	
	C22.2 No.60079-1	

Metallic thread adaptor – metric thread

Male external thread	Metric female internal thread							
Nickel plated	M16	M20	M25	M32	M40	M50	M63	M75
M16		EXN/M16-M20/E	EXN/M16-M25/E					
M20	EXN/M20-M16/R		EXN/M20-M25/E	EXN/M20-M32/E				
M25	EXN/M25-M16/R	EXN/M25-M20/R		EXN/M25-M32/E	EXN/M25-M40/E			
M32	EXN/M32-M16/R	EXN/M32-M20/R	EXN/M32-M25/R		EXN/M32-M40/E	EXN/M32-M50/E		
M40	EXN/M40-M16/R	EXN/M40-M20/R	EXN/M40-M25/R	EXN/M40-M32/R		EXN/M40-M50/E	EXN/M40-M63/E	
M50	EXN/M50-M16/R	EXN/M50-M20/R	EXN/M50-M25/R	EXN/M50-M32/R	EXN/M50-M40/R		EXN/M50-M63/E	EXN/M50-M75/E
M63	EXN/M63-M16/R	EXN/M63-M20/R	EXN/M63-M25/R	EXN/M63-M32/R	EXN/M63-M40/R	EXN/M63-M50/R		EXN/M63-M75/E
M75	EXN/M75-M16/R	EXN/M75-M20/R	EXN/M75-M25/R	EXN/M75-M32/R	EXN/M75-M40/R	EXN/M75-M50/R	EXN/M75-M63/R	
NPT 3/8	EXN/038-M16/TC							
NPT 1/2	EXN/050-M16/TC	EXN/050-M20/TC	EXN/050-M25/TC					
NPT 3/4	EXN/075-M16/TC	EXN/075-M20/TC	EXN/075-M25/TC	EXN/075-M32/TC				
NPT 1	EXN/100-M16/TC	EXN/100-M20/TC	EXN/100-M25/TC	EXN/100-M32/TC	EXN/100-M40/TC			
NPT 1 1/4	EXN/125-M16/TC	EXN/125-M20/TC	EXN/125-M25/TC	EXN/125-M32/TC	EXN/125-M40/TC	EXN/125-M50/TC		
NPT 1 1/2	EXN/150-M16/TC	EXN/150-M20/TC	EXN/150-M25/TC	EXN/150-M32/TC	EXN/150-M40/TC	EXN/150-M50/TC	EXN/150-M63/TC	
NPT 2	EXN/200-M16/TC	EXN/200-M20/TC	EXN/200-M25/TC	EXN/200-M32/TC	EXN/200-M40/TC	EXN/200-M50/TC	EXN/200-M63/TC	
NPT 2 1/2	EXN/250-M16/TC	EXN/250-M20/TC	EXN/250-M25/TC	EXN/250-M32/TC	EXN/250-M40/TC	EXN/250-M50/TC		
NPT 3	EXN/300-M16/TC	EXN/300-M20/TC	EXN/300-M25/TC	EXN/300-M32/TC	EXN/300-M40/TC	EXN/300-M50/TC		EXN/300-M75/TC

* For stainless steel 316 version, add S to the reference, e.g. EXS/M16/SP.
N.B. PG thread convertors available upon request.

Accessories for hazardous area

TC Series - Ex d e Thread adaptors

TC Series – Ex d e Metallic thread adaptor - NPT thread

Male external thread	NPT female internal thread							
Nickel plated	**NPT 1/2**	**NPT 3/4**	**NPT 1**	**NPT $1^1/_4$**	**NPT $1^1/_2$**	**NPT 2**	**NPT $2^1/_2$**	**NPT 3**
M16	EXN/M16-050/TC							
M20	EXN/M20-050/TC	EXN/M20-075/TC						
M25	EXN/M25-050/TC	EXN/M25-075/TC	EXN/M25-100/TC					
M32	EXN/M32-050/TC	EXN/M32-075/TC	EXN/M32-100/TC	EXN/M32-125/TC				
M40	EXN/M40-050/TC	EXN/M40-075/TC	EXN/M40-100/TC	EXN/M40-125/TC	EXN/M40-150/TC			
M50	EXN/M50-050/TC	EXN/M50-075/TC	EXN/M50-100/TC	EXN/M50-125/TC	EXN/M50-150/TC	EXN/M50-200/TC		
M63	EXN/M63-050/TC	EXN/M63-075/TC	EXN/M63-100/TC	EXN/M63-125/TC	EXN/M63-150/TC	EXN/M63-200/TC		
M75	EXN/M75-050/TC	EXN/M75-075/TC	EXN/M75-100/TC	EXN/M75-125/TC	EXN/M75-150/TC	EXN/M75-200/TC		
NPT 1/2		EXN/050-075/E						
NPT 3/4	EXN/075-050/R		EXN/075-100/E					
NPT 1	EXN/100-050/R	EXN/100-075/R		EXN/100-125/E				
NPT 1 1/4	EXN/125-050/R	EXN/125-075/R	EXN/125-100/R		EXN/125-150/E			
NPT 1 1/2	EXN/150-050/R	EXN/150-075/R	EXN/150-100/R	EXN/150-125/R		EXN/150-200/E		
NPT 2	EXN/200-050/R	EXN/200-075/R	EXN/200-100/R	EXN/200-125/R	EXN/200-150/R			
NPT 2 1/2	EXN/250-050/R	EXN/250-075/R	EXN/250-100/R	EXN/250-125/R	EXN/250-150/R	EXN/250-200/R		EXN/250-300/E
NPT 3	EXN/300-050/R	EXN/300-075/R	EXN/300-100/R	EXN/300-125/R	EXN/300-150/R	EXN/300-200/R	EXN/300-250/R	

Accessories for hazardous area

DV Series - Ex e Drain device

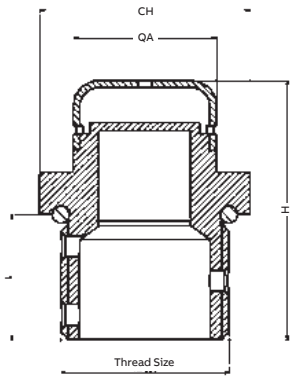
Features and benefits:

- Increased safety Ex e
- Suitable for use in Zone 1, 2, 21 and 22
- Allows water/condensation to drain from enclosure

DV Series – Ex e metallic drain valve

Approvals & certifications	Conformity Conforms to:	Temperature range
	IMQ 15 ATEX 012U, IECEx IMQ	-60°C to +200°C (-76°F to +392°F)
	Ex II 2 GD	
	Ex e IIC Gb	**IP Rating** / **Material**
	Ex tb IIIC Db	IP66 / Nickel plated brass
		Stainless steel

Dimensions



Part no.	Thread	Nominal dimensions (mm/in) Length	H Min	QA	CH
EXN/M20/DV	M20	15.0	31.0	17.0	25.0
		0.590	1.220	0.669	0.984
EXN/M25/DV	M25	15.0	31.0	17.0	32.0
		0.590	1.220	0.669	1.259
EXN/050/DV	1/2" NPT	16.0	32.0	17.0	25.0
		0.629	1.259	0.669	0.984
EXN/075/DV	3/4" NPT	16.0	32.0	17.0	32.0
		0.629	1.259	0.669	1.259
EXS/M20/DV	M20	15.0	31.0	17.0	25.0
		0.590	1.220	0.669	0.984
EXS/M25/DV	M25	15.0	31.0	17.0	32.0
		0.590	1.220	0.669	1.259
EXS/050/DV	1/2" NPT	16.0	32.0	17.0	25.0
		0.629	1.259	0.669	0.984
EXS/075/DV	3/4" NPT	16.0	32.0	17.0	32.0
		0.629	1.259	0.669	1.259

Accessories for hazardous area

Type LNB / LNS / LNSS & SW

Type LNB / LNS – Metallic locknuts

	Part no.	
Metric thread (mm)	Nickel plated Brass	Galvanised steel
M12 x 1.0	LNB/M12X1	
M12 x 1.5	LNB/M12	
M16	LNB/M16	LNS/M16
M20	LNB/M20	LNS/M20
M25	LNB/M25	LNS/M25
M32	LNB/M32	LNS/M32
M40	LNB/M40	LNS/M40
M50	LNB/M50	LNS/M50
M63	LNB/M63	
M75	LNB/M75	

	Part no.
PG thread	Nickel plated Brass
PG7	LNB/PG7
PG9	LNB/PG9
PG11	LNB/PG11
PG13.5	LNB/PG13
PG16	LNB/PG16
PG21	LNB/PG21
PG29	LNB/PG29
PG36	LNB/PG36
PG42	LNB/PG42
PG48	LNB/PG48

	Part no.
NPT thread (in)	Galvanised Steel
3/8	LNS/038
1/2	LNS/050
3/4	LNS/075
1	LNS/100
1 1/4	LNS/125
1 1/2	LNS/150
2	LNS/200

For stainless steel version it will be LNSS/thread, e.g LNSS/M20 or LNSS/050

Type SW – Thread sealing washer

Metric thread	Part no.
M16	SWM16
M20	SWM20
M25	SWM25
M32	SWM32
M40	SWM40
M50	SWM50
M63	SWM63

PG thread	Part no.
PG07	SWPG07
PG09	SWPG09
PG11	SWPG11
PG13	SWPG13
PG16	SWPG16
PG21	SWPG21
PG29	SWPG29
PG36	SWPG36
PG42	SWPG42
PG48	SWPG48

NPT & PF thread (in)	Part no.
3/8	SW038
1/2	SW050
3/4	SW075
1	SW100
1 1/4	SW125
1 1/2	SW150
2	SW200

AFX P-Clip – P-Clip Conduit Support

Materials: Plated steel or stainless steel construction with PVC insert

Plated steel part no.	Stainless steel part no.	Nominal conduit size (mm)
PCLIP/10	–	10
PCLIP/12	–	12
PCLIP/16	PCLIP/16SS	16
PCLIP/20	PCLIP/20SS	20
PCLIP/25	PCLIP/25SS	25
PCLIP/32	PCLIP/32SS	32
PCLIP/40	–	40
PCLIP/50	–	50
PCLIP/63	–	63
PCLIP/75	–	75

Approvals

KM35161

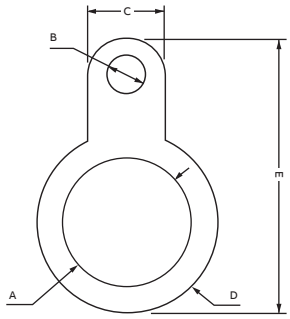
Accessories for hazardous area

Serrated washer & earth tag

Serrated washer – metric

Part no.	Metric thread size (mm)	Diameter (mm)	
		Inside	Outside
EXS/M16/SER	M16	17.5	28.0
EXS/M20/SER	M20	21.9	33.0
EXS/M25/SER	M25	26.2	40.0
EXS/M32/SER	M32	33.0	48.1
EXS/M40/SER	M40	41.5	60.2
EXS/M53/SER	M50	51.5	70.0
EXS/M63/SER	M63	64.6	86.8

Earth tag – metric



Part no.	Thread size	Dimensions (mm)				
		A	B	C	D	E
ET/M16	M16 x 1.5	16.25	6.50	13.00	25.00	45.00
		(0.640)	(0.256)	(0.512)	(0.984)	(1.772)
ET/M20	M20x 1.5	20.25	6.50	13.00	29.00	48.00
		(0.797)	(0.256)	(0.512)	(0.984)	(1.890)
ET/M25	M25 x 1.5	25.50	6.50	13.00	37.00	57.50
		(1.004)	(0.256)	(0.512)	(1.457)	(2.264)
ET/M32	M32 x 1.5	33 .50	6.50	15.80	44.00	69.30
		(1.319)	(0.256)	(0.622)	(1.732)	(2.728)
ET/M40	M40 x 1.5	40 .25	6.50	16.20	52.50	78.00
		(0.64)	(0.256)	(0.512)	(0.984)	(1.772)
ET/M50	M50x 1.5	50 .25	6.50	16.00	64.00	90.50
		(1.978)	(0.256)	(0.63)	(2.52)	(3.563)
ET/M63	M63 x 1.5	63 .30	6.50	23.00	79.50	117.00
		(2.492)	(0.256)	(0.906)	(3.13)	(4.606)
ET/M75	M75 x 1.5	75 .20	6.50	24.00	96.25	133.50
		(2.961)	(0.256)	(0.945)	(3.789)	(5.256)

Kopex®
Table of contents

Kopex® key industry applications
Construction & transport infrastructure

As a globally renowned leader in cable protection, Kopex offers a range of specialist solutions for construction, transport infrastructure and industrial applications. The Kopex name stands for quality and reliability, with assured manufacture backed up by global product accreditations.

When it comes to construction and transport infrastructure, there is increasing demand for easy-to-install cable protection solutions, that also offer the increased safety and technical performance that many municipal buildings require. For these applications, systems that are a low fire hazard (LFH), liquid tight and are made from halogen-free, self-extinguishing materials, are essential. Where exposed interiors call for design consideration, conduits of different colours and materials, such as stainless steel for interior styling, are also required.

On both fronts Kopex delivers, providing flexible conduit solutions that meet safety and security requirements whilst also meeting the aesthetic needs associated with buildings and transport structures. With prestigious BSI Kitemark approval and ingress protection (IP) ratings suited to purpose, the Kopex system ensures quality and performance at every level.

Common applications:

- Commercial office buildings
- Infrastructure projects - stations, tunnels, signalling
- Schools
- Hospitals
- Retail developments
- Hotels & leisure complexes
- Sports stadiums

Project references:

- Channel tunnel
- London Underground (tunnels, stations and rolling stock on central line, jubilee line & northern line)
- Heathrow Airport tunnel
- Hong Kong mass transit railway
- Canary Wharf (London)
- Etisalat Building (Dubai)
- City Tower 2 (Dubai)
- French Navy (Frigates and aircraft carrier)
- Saudi Aramco (Oil rigs)
- Darlington Power Plant (Canada)

Quick selection guide

Conduit systems

Selection guide





Conduit Type	FLHTB	FST	FLT	FSHC	FLHC / FLLHC
Product Selection					
Liquid Tight	•	•	•	•	•
KE Ultra	–	–	–	–	–
Stainless Steel	–	•	–	•	–
IP Rating (with appropriate fittings)					
IP40	–	–	–	–	–
IP54	–	–	–	–	–
IP65	–	–	–	–	–
IP66	•	•	•	•	•
IP67	•	•	•	•	•
Characteristics					
High mechanical strength	•	•	•	•	•
Oil and chemical resistant	•	•	•	•	•
Zero Halogen	•	•	•	•	•
Limited fire hazard	•	•	•	•	•
Flame retardant	•	•	•	•	•
Inherent low fire hazard	–	–	–	–	–
Enhanced low fire hazard	•	•	•	–	–
Abrasion resistant	•	–	–	–	–
Temperature Rating					
Static temperature	-40°C to +105°C	-20°C to +90°C	-20°C to +90°C	-50°C to +135°C	-50°C to +135°C
Flexing temperature	-30°C to +105°C	-5°C to +105°C	-5°C to +105°C	-45°C to +135°C	-45°C to +135°C
Approvals					
BSI Kitemark	•	•	•	•	•
CE	•	•	•	•	•
UL	–	–	–	–	–
CSA	–	–	–	–	–
LUL	•	•	•	–	–
EN 45545-2	•	•	•	–	–
NFPA 130	•	•	•	–	–
Page No.	54	55	55	56	56







	KBBT	FUB UL / CSA	FLB	KEBT	KEBF	KSU	KEU
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	–20°C to +90°C	–20°C to +105°C	–20°C to +105°C	–20°C to +90°C	–25°C to +70°C	–65°C to +350°C	–50°C to +300°C
	–5°C to +105°C	–5°C to +105°C	–5°C to +105°C	–5°C to +105°C	–5°C to +90°C	–45°C to +250°C	–45°C to +250°C
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	57	58	58	62	62	66	67

Flexible metallic conduit systems

Type FLHTB - Liquid tight system

The FLHTB conduit systems are Enhanced Fire Performance rated, highly flexible, liquid tight with a wide temperature operating range.

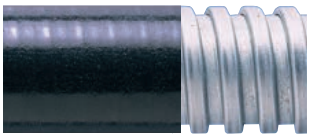
Designed to meet the demand for 'interoperability' and compliance with stringent local and European fire safety requirements in the rail infrastructure market, the FLHTB system, is accredited with the EN45545-2 standard achieving the highest HL3 fire performance rating for both interior and exterior locations.

The system provides higher performance levels of flexibility, impact and abrasion resistance, combined with enhanced chemical resistances especially to oils and greases, with a much higher and lower temperature rating (-40°C to +105°C), than any other metallic conduit system with a EN45545-2 HL3 rating.

Features and benefits

- EN45545-2 and BS EN 61386-1 & 23 accreditation
- HL3 - R22 & R23 rating
- Up to IP69 rating
- High flexibility
- Oil and hydrocarbons resistant
- Suitable for wide use underground and in any part of train vehicles and infrastructure

Type FLHTB – Enhanced fire performance covered steel flexible conduit **Materials:** Thermoplastic jacket covered galvanised steel / **Colour:** Black



Black Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Static bend radius (mm)	Coil lengths (m)
FLHTB01*	10.0	1/4	11.8	7.0	40.0	10/30
FLHTB02*	12.0	5/16	14.2	10.0	25.0	10/30
FLHTB03*	16.0	3/8	17.8	12.5	35.0	10/30
FLHTB04*	20.0	1/2	21.0	16.0	42.0	10/30
FLHTB05*	25.0	3/4	26.4	21.0	52.0	10/20
FLHTB06*	32.0	1	33.1	26.1	66.0	10/20
FLHTB07*	40.0	1 1/4	41.8	35.3	84.0	10/20
FLHTB08*	50.0	1 1/2	47.7	40.4	100	10/20

*Add coil length to complete part number, e.g. 10 metres of FLHTB 10mm in black is FLHTB0110.

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
UL94 V0 / BS6853 Class 1A

Approvals
EN45545-2 HL3 R22 & R23 / NFF16-101 I1 F1 / LUL 1-085
NFPA130 / ASTM E 162, ASTM E 662 and Bombardier SMP 800-C
Temperature range
Static temperature: -40°C to +105°C
Flexing temperature: -30°C to +105°C
Flexibility & fatigue life
High flexibility - high fatigue life

Fire performance	
Limited fire hazard, flame retardant	
Low smoke, zero halogen	
IP Rating (with appropriate fittings)	
IP69	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

UV Resistance
High

Flexible metallic conduit systems

Type FST & FLT - Liquid tight system

Type FST – Low fire hazard, liquid tight conduit

Materials: Stainless steel AISI 316L core - String packing with low fire hazard covering / **Colour:** Black

Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FST02*	12.0	5/16	14.2	10.0	10/30
FST03*	16.0	3/8	17.8	12.5	10/30
FST04*	20.0	1/2	21.1	15.9	10/30
FST05*	25.0	3/4	26.4	21.0	10/30
FST06*	32.0	1	33.1	26.4	10/20
FST07*	40.0	1 1/4	41.8	35.4	10/20
FST08*	50.0	1 1/2	47.5	40.4	10/20
FST09*	63.0	2	59.7	51.6	10/20

*Add coil length to complete part number, e.g. 10 metres of FST 16mm is FST0310.

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

Approvals
EN45545-2 HL3 / NFF16-101 I1 F1 / LUL 1-085
BS6853 Class 1A
NFPA130 / ASTM E 162, ASTM E 662 and Bombardier SMP 800-C
Temperature range
Static temperature: -20°C to +90°C
Flexing temperature: -5°C to +105°C
Flexibility & fatigue life
Medium flexibility - medium fatigue life

Fire performance	
Limited fire hazard, flame retardant	
Low smoke, zero halogen	
IP Rating (with appropriate fittings)	
IP69	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

UV Resistance
High

Type FLT – Low fire hazard, liquid tight conduit

Materials: Galvanised steel core - String packing with low fire hazard covering / **Colour:** Black

Black Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FLT02*	12.0	5/16	14.2	10.0	10/30
FLT03*	16.0	3/8	17.8	12.5	10/30
FLT04*	20.0	1/2	21.1	15.9	10/30
FLT05*	25.0	3/4	26.4	21.0	10/30
FLT06*	32.0	1	33.1	26.4	10/20
FLT07*	40.0	1 1/4	41.8	35.4	10/20
FLT08*	50.0	1 1/2	47.5	40.4	10/20
FLT09*	63.0	2	59.7	51.6	10/20

*Add coil length to complete part number e.g. 10 metres of FLT 16mm in black is FLT0310.

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

Approvals
EN45545-2 HL3 / NFF16-101 I1 F1 / LUL 1-085
BS6853 Class 1A
NFPA130 / ASTM E 162, ASTM E 662 and Bombardier SMP 800-C
Temperature range
Static temperature: -20°C to +90°C
Flexing temperature: -5°C to +105°C
Flexibility & fatigue life
Medium flexibility - medium fatigue life

Fire performance	
Limited fire hazard, flame retardant	
Low smoke, zero halogen	
IP Rating (with appropriate fittings)	
IP69	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

UV Resistance
High

Flexible metallic conduit systems

Type FSHC, FLHC & FLLHC - Liquid tight system

Type FSHC – High temperature, liquid tight conduit

Materials: Stainless steel AISI 316L core - String packing with thermoplastic rubber covering / **Colour:** Black

Black Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FSHC03*	16.0	3/8	17.8	12.5	10/30
FSHC04*	20.0	1/2	21.1	16.0	10/30
FSHC05*	25.0	3/4	26.4	21.0	10/30
FSHC06*	32.0	1	33.1	26.4	10/20
FSHC07*	40.0	1 1/4	41.8	35.3	10/20
FSHC08*	50.0	1 1/2	47.5	40.4	10/20
FSHC09*	63.0	2	59.7	51.6	10/20

*Add coil length to complete part number, e.g. 10 metres of FSHC 16mm is FSHC0310.

Approvals	Approvals	Fire performance		UV Resistance
KM90009 KM35161	BSI Kitemark / KM-35161	Flame retardant (BSEN 61386)		Very high (Black)
LOW VOLTAGE DIRECTIVE	CE Mark to the low voltage directive	**IP Rating (with appropriate fittings)**		High (Grey)
	Temperature range	**IP69**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	
	Static temperature: –50°C to +135°C			
	Flexing temperature: –45°C to +135°C	**IP67**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	
	Flexibility & fatigue life			
	Medium flexibility - medium fatigue life	**IP66**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	

Type FLHC & FLLHC – High temperature, liquid tight conduit

Materials: Heavy galvanised steel core - String packing with thermoplastic rubber covering / **Colour:** Black or Blue

Black Part no.	Blue Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FLHC03*	FLLHC03*	16.0	3/8	17.8	12.5	10/30/50
FLHC04*	FLLHC04*	20.0	1/2	21.1	16.0	10/30/50
FLHC05*	FLLHC05*	25.0	3/4	26.4	21.0	10/30/50
FLHC06*	FLLHC06*	32.0	1	33.1	26.4	10/20
FLHC07*	FLLHC07*	40.0	1 1/4	41.8	35.3	10/20
FLHC08*	FLLHC08*	50.0	1 1/2	47.5	40.4	10/20
FLHC09*	FLLHC09*	63.0	2	59.7	51.6	10/20

*Add coil length to complete part number, e.g. 10 metres of FLHC 16mm in black is FLHC0310.

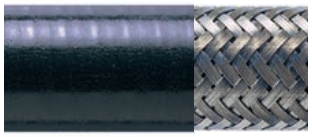
Approvals	Approvals	Fire performance		UV Resistance
KM90009 KM35161	BSI Kitemark / KM-35161	Flame retardant (BSEN 61386)		High (Blue)
LOW VOLTAGE DIRECTIVE	CE Mark to the low voltage directive	**IP Rating (with appropriate fittings)**		Very high (Black)
	Temperature range	**IP69**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	
	Static temperature: –50°C to +135°C			
	Flexing temperature: –45°C to +135°C	**IP67**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	
	Flexibility & fatigue life			
	Very high flexibility - very high fatigue life	**IP66**	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA	

Flexible metallic conduit systems

Type KBBT - Liquid tight system

Type KBBT – Under-braided, liquid tight conduit

Materials: Galvanised steel core - String packing with Low Fire Hazard covering over braid / **Colour:** Black



Black Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KBBT04*	20.0	1/2	21.1	16.0	10/30
KBBT05*	25.0	3/4	26.4	21.0	10/30
KBBT06*	32.0	1	33.1	26.4	30
KBBT07*	40.0	1 1/4	41.8	35.3	30
KBBT08*	50.0	1 1/2	47.5	40.4	30
KBBT08*	50.0	2	47.5	40.4	10
KBBT09*	63.0	2 1/2	59.7	51.6	5

*Add coil length to complete part number, e.g. 10 metres of FSHC 16mm is FSHC0310.

Approvals
KM90009 KM35161
ENHANCED ELFH LOW FIRE HAZARD

Approvals
BSI Kitemark / KM-90009
CE Mark to the low voltage directive
EN45545-2 HL3 / NFF16-101 I1 F1 / LUL 1-085
BS6853 Class 1A
Temperature range
Static temperature: –50°C to +90°C
Flexing temperature: –45°C to +105°C
Flexibility & fatigue life
Medium flexibility - medium fatigue life

Fire performance	
Limited fire hazard, flame retardant	
Low smoke, zero halogen	
IP Rating (with appropriate fittings)	
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

UV Resistance
High

Flexible metallic conduit systems

Type FUB / FUG (UL/CSA) & Type FLB / FLG - Liquid tight system

Type FUB / FUG (UL/CSA) – UL/CSA Listed, liquid tight conduit

Materials: Heavy galvanised steel core - Copper packing with PVC covering / **Colour:** Black or Grey

Black Part no.	Grey Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FUB03*	FUG03*	16.0	3/8	17.8	12.5	10/30
FUB04*	FUG04*	20.0	1/2	21.1	15.9	10/30
FUB05*	FUG05*	25.0	3/4	26.4	21.0	10/30
FUB06*	FUG06*	32.0	1	33.1	26.7	10/20
FUB07*	FUG07*	40.0	1 1/4	41.8	35.4	10/20
FUB08*	FUG08*	50.0	1 1/2	47.7	40.4	10/20
FUB09*	FUG09*	63.0	2	60.0	51.6	10/20

*Add coil length to complete part number, e.g. 10 metres of FUB UL / CSA 16mm in black is FUG0310.

Approvals
UL, C US

Approvals
UL Listed
Temperature range
Static temperature: –20°C to +105°C
Flexing temperature: –5°C to +105°C
Flexibility & fatigue life
Medium flexibility - medium fatigue life

Fire performance	
Flame retardant / Oil & chemical resistance	
IP Rating (with appropriate fittings)	
IP69	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

UV Resistance
Very high (Black)
High (Grey)

*Application temperature limited by approval.

Type FLB / FLG – Liquid tight, PVC covered conduit

Materials: Galvanised steel core - String packing with PVC covering / **Colour:** Black or Grey

Black Part no.	Grey Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
FLB02*	FLG02*	12.0	5/16	14.2	10.0	10/30
FLB03*	FLG03*	16.0	3/8	17.8	12.5	10/30
FLB04*	FLG04*	20.0	1/2	21.1	15.9	10/30
FLB05*	FLG05*	25.0	3/4	26.4	21.0	10/30
FLB06*	FLG06*	32.0	1	33.1	26.7	10/20
FLB07*	FLG07*	40.0	1 1/4	41.8	35.4	10/20
FLB08*	FLG08*	50.0	1 1/2	47.5	40.4	10/20
FLB09*	FLG09*	63.0	2	59.7	51.6	10/20

*Add coil length to complete part number e.g. 10 metres of FLB 12mm in black is FLG0210.

Approvals
KM90009 KM35161, CE Low Voltage Directive

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
Temperature range
Static temperature: –20°C to +105°C
Flexing temperature: –5°C to +105°C
Flexibility & fatigue life
Medium flexibility - medium fatigue life
Characteristics
Oil & chemical resistance

Fire performance	
Flame retardant	
IP Rating (with appropriate fittings)	
IP69	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP67	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA
IP66	Standard with XQM, XQMS, XQAS, XQA, XRM, XSM & XSA

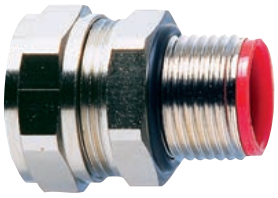
UV Resistance
Very high (Black)
High (Grey)

Flexible metallic conduit systems

Type XQM & XRM 45° - Liquid tight fittings

Type XQM – Liquid tight for covered conduit

Materials: Nickel plated brass body, back nut & insert. High temperature co-polyester seal, NBR face seal, nylon cable protection insert



Metric Part no.	Nominal conduit size (mm)	Metric thread size	NPT Part no.	NPT thread size	US conduit size
XQM0203	12.0	M16	–	–	5/16
XQM0303	16.0	M16	–	–	3/8
XQM0304	20.0	M20	XQA0304	1/2	3/8
XQM0404	20.0	M20	XQA0404	1/2	1/2
XQM0505	25.0	M25	XQA0505	3/4	3/4
XQM0606	32.0	M32	XQA0606	1	1
XQM0707	40.0	M40	XQA0707	1 1/4	1 1/4
XQM0808	50.0	M50	XQA0808	1 1/2	1 1/2
XQM0909	63.0	M63	XQA0909	2	2

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
UL514B file number E60625
Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C

For use with:
All F Series conduits
Degree of mechanical protection
Very high

IP Rating
IP66
IP67
IP69

Type XRM 45° - 45° Elbow fitting - External male thread

Materials: Nickel plated brass body, back nut & insert. High temperature co-polyester seal, NBR face seal, nylon cable protection insert

Metric Part no.	Nominal conduit size (mm)	Metric thread size	US conduit size
XRM0303	16.0	M16	3/8
XRM0304	16.0	M20	3/8
XRM0404	20.0	M20	1/2
XRM0505	25.0	M25	3/4
XRM0606	32.0	M32	1
XRM0707	40.0	M40	1 1/4
XRM0808	50.0	M50	1 1/2
XRM0909	63.0	M63	2

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
UL514B file number E60625
Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C

For use with:
All F Series conduits
Degree of mechanical protection
Very high

IP Rating
IP66
IP67
IP69

Flexible metallic conduit systems

Type XQMS & XSM 90° - Liquid tight fittings

Type XQMS – Swivel, straight fitting - Swivel external metric male thread for flexible conduit

Materials: Stainless steel AISI 316L – Nylon seals

Part no.	Metric thread size	Ext. thread outside diameter (mm)
XQMS0303	M16	15.8
XQMS0304	M20	19.8
XQMS0404	M20	19.8
XQMS0505	M25	24.8
XQMS0606	M32	31.8
XQMS0707	M40	39.8
XQMS0808	M50	49.8
XQMS0909	M63	62.8

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
UKCA Mark
AS/NZS 2053.1:2001
AS/NZS 2053.8:1995 (R2016)
Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C

For use with:
All F Series conduits
Degree of mechanical protection
Very high

IP Rating
IP66
IP67
IP68
IP69

Type XSM 90° – 90° Male elbow fitting

Materials: Nickel plated brass body, back nut & insert. High temperature co-polyester seal, NBR face seal, nylon cable protection insert

Metric Part no.	Nominal conduit size (mm)	Metric thread size	NPT Part no.	NPT thread size	US conduit size
XSM0303	16.0	M16	–	–	3/8
XSM0304	16.0	M20	XSA0304	1/2	3/8
XSM0404	20.0	M20	XSA0404	1/2	1/2
XSM0505	25.0	M25	XSA0505	3/4	3/4
XSM0606	32.0	M32	XSA0606	1	1
XSM0707	40.0	M40	XSA0707	1 1/4	1 1/4
XSM0808	50.0	M50	XSA0808	1 1/2	1 1/2
XSM0909	63.0	M63	XSA0909	2	2

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
UL514B file number E60625
Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C

For use with:
All F Series conduits
Degree of mechanical protection
Very high

IP Rating
IP66
IP67
IP69

Flexible metallic conduit systems

Type XEN - Conduit terminator

Type XEN – Conduit terminator

Materials: Nickel plated brass

Metric Part no.	Nominal conduit Size (mm)	US conduit size (in.)
XEN03	16.0	3/8
XEN04	20.0	1/2
XEN05	25.0	3/4
XEN06	32.0	1
XEN07	40.0	1 1/4
XEN08	50.0	1 1/2
XEN09	63.0	2

Approvals
CE LOW VOLTAGE DIRECTIVE

Approvals
CE Mark to the low voltage directive
Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C
For use with
All F series conduits

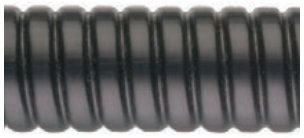
Degree of mechanical protection	IP Rating
High	IP40

Flexible metallic conduit systems

Type KEBT & KEBF - Ultra conduit liquid tight system

Type KEBT – Low fire hazard, liquid tight conduit

Materials: Galvanized steel core with low fire hazard covering / **Colour:** Black



Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KEBT01*	10.0	1/4	10.3	7.0	10/30
KEBT02*	12.0	5/16	13.8	10.0	10/30
KEBT03*	16.0	3/8	17.1	12.9	10/30
KEBT04*	20.0	1/2	21.2	17.0	10/20
KEBT05*	25.0	3/4	25.7	21.1	10/30
KEBT06*	32.0	1	33.0	28.4	10/30
KEBT07*	40.0	1 1/4	41.1	36.4	10/20
KEBT08*	50.0	1 1/2	54.9	48.2	10/30
KEBT09*	63.0	2	64.5	57.5	10/20
KEBT10*	75.0	2 1/2	79.0	70.0	10/20

*Add coil length to complete part number, e.g. 10 metres of KEBT 16mm is KEBT0310.

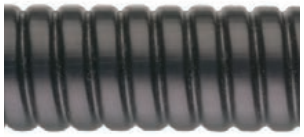
Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
EN45545-2 HL3 / NFF16-101 I1 F1 / LUL 1-085
BS6853 Class 1A
NFPA130 / ASTM E 162, ASTM E 662 and Bombardier SMP 800-C
Temperature range
Static temperature: –20°C to +90°C
Flexing temperature: –5°C to +105°C

Flexibility & fatigue life	
Medium flexibility - medium fatigue life	
IP Rating (with appropriate fittings*)	
IP65	Liquid tight with GQM fittings
IP54	Waterproof with GAM, GBM & GUN fittings
Characteristics	
High mechanical strength	
Fire performance	
Limited fire hazard, flame retardant	
Low smoke, zero halogen	

Type KEBF – PVC covered, liquid tight conduit

Materials: Galvanised steel core with PVC jacket / **Colour:** Black



Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KEBF01*	10.0	1/4	10.3	7.0	10/30
KEBF02*	12.0	5/16	13.8	10.0	10/30
KEBF03*	16.0	3/8	17.1	12.9	10/30
KEBF04*	20.0	1/2	21.2	17.0	10/30/50
KEBF05*	25.0	3/4	25.7	21.1	10/30/50
KEBF06*	32.0	1	33.0	28.4	10/20
KEBF07*	40.0	1 1/4	41.1	36.4	10/20
KEBF08*	50.0	1 1/2	54.9	36.4	10/20
KEBF09*	63.0	2	64.5	48.2	10/20

*Add coil length to complete part number, e.g. 10 metres of KEBF 10mm is KEBF0110.

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
Temperature range
Static temperature: –25°C to +70°C
Flexing temperature: –5°C to +90°C
Flexibility & fatigue life
Very high flexibility - high fatigue life

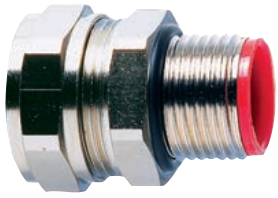
IP Rating (with appropriate fittings)	
IP65	Liquid tight with GQM fittings
IP54	Waterproof with GAM, GBM & GUN fittings
Characteristics	
High mechanical strength	
Fire performance	
Flame retardant	

Flexible metallic conduit systems

Type GQM - Nickel plated brass fittings

Type GQM – Liquid resistant straight fitting - External male thread for covered conduit

Materials: Nickel plated brass, co-polyester seals - Nylon insert



Part no.	Metric thread size	Ext. thread outside diameter (mm)
GQM0303	M16	16.0
GQM0404	M20	20.0
GQM0505	M25	25.0
GQM0606	M32	32.0
GQM0707	M40	40.0
GQM0808	M50	50.0

Approvals

KM59009
KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	
IP65	Liquid tight with KEBF & KEBT

Temperature range
Static temperature: –50°C to +150°C
Dynamic temperature: –45°C to +150°C

Degree of mechanical protection
Very high

Flexible metallic conduit systems

Type GAM & GBM - KE Ultra fittings

Type GAM – Fixed body, straight fitting - Fixed external male thread for covered conduit

Materials: Nickel plated zinc or Nickel plated brass

Part no.	Metric thread size	Ext. thread outside diameter (mm)
GAM0303*	M16	16.0
GAM0304*	M16	20.0
GAM0404**	M20	20.0
GAM0505**	M25	25.0
GAM0606**	M32	32.0
GAM0707*	M40	40.0
GAM0808*	M50	50.0
GAM0909*	M63	63.0
GAM1010*	M75	75.0

*Nickel plated brass body & Ferrule.
**Nickel plated cast zinc body with nickel plated brass ferrule.

Approvals
KM90009 KM35161

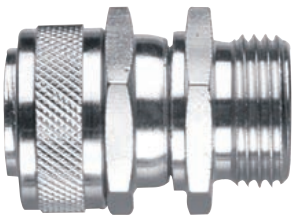
Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	Degree of mechanical protection
IP54	Waterproof with KEBF and KEBT

Temperature range
Static temperature: –65°C to +350°C
Dynamic temperature: –45°C to +250°C
Very high

Type GBM – Swivel body, straight fitting - Swivel external male thread for covered conduit

Materials: Nickel plated brass



Part no.	Metric thread size	Ext. thread outside diameter (mm)
GBM0303	M16	16.0
GBM0404	M20	20.0
GBM0505	M25	25.0
GBM0606	M32	32.0
GBM0707	M40	40.0
GBM0808	M50	50.0

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	Degree of mechanical protection
IP54	Waterproof with KEBF and KEBT

Temperature range
Static temperature: –65°C to +350°C
Dynamic temperature: –45°C to +250°C
Very high

Flexible metallic conduit systems

Type GUN - KE Ultra fittings

Type GUN – Liquid resistant space saver for covered conduit

Materials: Nickel plated brass

Part no.	Nominal conduit size (mm)
GUN0101	10.0
GUN0202	12.0
GUN0303	16.0
GUN0404	20.0
GUN0505	25.0
GUN0606	32.0
GUN0707	40.0
GUN0808	50.0

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	Degree of mechanical protection
IP54	With KEBF and KEBT

Temperature range
Static temperature: –65°C to +350°C
Dynamic temperature: –45°C to +250°C
Very high

Flexible metallic conduit systems

Type KSU & KSU Small bore - Stainless steel system

Type KSU – Uncovered fexible conduit

Materials: Stainless steel AISI 316L

Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KSU01* (AISI 304)	10.0	1/4	9.6	7.0	10/30
KSU02*	12.0	5/16	12.8	10.0	10/30
KSU03*	16.0	3/8	16.1	12.9	10/30
KSU04*	20.0	1/2	20.2	17.0	10/30
KSU05*	25.0	3/4	24.7	21.1	10/30
KSU06*	32.0	1	32.0	28.4	10/20
KSU07*	40.0	1 1/4	40.0	36.4	10/20

* Add coil length to complete part number, e.g. 10 metres of KSU 10mm is KSU0110.

Approvals
KM90009 KM35161
INHERENT LOW FIRE HAZARD ILFH

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
Temperature range
Static temperature: –65°C to +350°C
Flexing temperature: –45°C to +250°C
Flexibility & fatigue life
Very high flexibility - very high fatigue life

Fire performance	
Inherent low fire hazard	
Resistance to flame propagation	
IP Rating (with appropriate fittings)	
IP40	As standard with GFMS fittings
Characteristics	
Oil & chemical resistance	
Abrasion resistant	

Type KSU – Small bore - Uncovered fexible conduit

Materials: Stainless steel AISI 304

Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KSU00320	10.0	1/4	5.1	3.3	20
KSU00520	12.0	5/16	7.0	5.1	20
KSU00810	16.0	3/8	10.1	8.0	10

Approvals
INHERENT LOW FIRE HAZARD ILFH

Approvals
CE Mark to the low voltage directive
Temperature range
Static temperature: –65°C to +350°C
Flexing temperature: –45°C to +250°C
Flexibility & fatigue life
Very high flexibility - very high fatigue life

Fire performance
Inherent low fire hazard
Resistance to flame propagation
Characteristics
Oil & chemical resistance
Abrasion resistant

Flexible metallic conduit systems

Type KEU - Ultra conduit system

Type KEU – Uncovered galvanised steel conduit

Materials: Galvanised steel

Part no.	Nominal conduit size (mm)	US conduit size (in.)	Outside diameter (mm)	Inside diameter (mm)	Coil lengths (m)
KEU01*	10.0	1/4	9.0	6.8	10/30
KEU02*	12.0	5/16	13.0	10.3	10/30
KEU03*	16.0	3/8	16.0	13.0	10/30
KEU04*	20.0	1/2	20.5	16.9	10/30/50
KEU05*	25.0	3/4	25.0	21.4	10/30/50
KEU06*	32.0	1	32.0	28.1	10/20
KEU07*	40.0	1 1/4	42.5	37.7	10/20
KEU08*	50.0	1 1/2	53.0	48.4	10/20

*Add coil length to complete part number, e.g. 10 metres of KEU 10mm is KEU0110.

Approvals

KM90009
KM35161

LOW VOLTAGE DIRECTIVE

INHERENT ILFH LOW FIRE HAZARD

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive
Temperature range
Static temperature: –50°C to +300°C
Flexing temperature: –45°C to +250°C
Flexibility & fatigue life
Very high flexibility - very high fatigue life

Fire performance	
Inherent Low Fire Hazard resistance to flame propagation	
IP Rating (with appropriate fittings)	
IP40	Standard with GFM & GGM fittings
Characteristics	
High mechanical strength	

Flexible metallic conduit systems

Type GFMS - Stainless steel fittings

Type GFMS – Fixed body fitting for uncovered conduit

Materials: Stainless steel AISI 316L

Part no.	Metric thread size	Ext. thread outside diameter (mm)
GFMS0303	M16	16.0
GFMS0404	M20	20.0
GFMS0505	M25	25.0
GFMS0606	M32	32.0
GFMS0707	M40	40.0

Approvals
KM60009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	Degree of mechanical protection
IP40	As standard with KSU

Temperature range
Static temperature: –65°C to +350°C
Dynamic temperature: –45°C to +250°C

Flexible metallic conduit systems

Type GFM & GGM - Nickel plated brass fittings

Type GFM – Fixed body, straight fitting - Fixed external male thread for uncovered conduit

Materials: Nickel plated zinc or Nickel plated brass

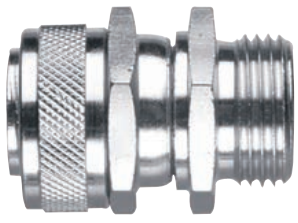
Part no.	Metric thread size	Ext. thread outside diameter (mm)
GFM0303*	M16	16.0
GFM0304**	M16	20.0
GFM0404**	M20	20.0
GFM0505**	M25	25.0
GFM0606**	M32	32.0
GFM0707*	M40	40.0
GFM0808*	M50	50.0

*Nickel plated brass body & ferrule.
**Nickel plated cast zinc body with nickel plated brass ferrule.

Approvals	Approvals	Temperature range
KM90009 KM35161 LOW VOLTAGE DIRECTIVE	BSI Kitemark / KM-35161	Static temperature: -65°C to +350°C
	CE Mark to the low voltage directive	Dynamic temperature: -45°C to +250°C
	IP Rating	**Degree of mechanical protection**
	IP40 As standard with KEU & KSU	Very high

Type GGM – Swivel external thread - Straight fitting for covered conduit

Materials: Nickel plated brass



Part no.	Metric thread size	Ext. thread outside diameter (mm)
GGM0303	M16	16.0
GGM0404	M20	20.0
GGM0505	M25	25.0
GGM0606	M32	32.0
GGM0707	M40	40.0
GGM0808	M50	50.0

Approvals	Approvals	Temperature range
KM90009 KM35161 LOW VOLTAGE DIRECTIVE	BSI Kitemark / KM-35161	Static temperature: -65°C to +300°C
	CE Mark to the low voltage directive	Dynamic temperature: -45°C to +250°C
	IP Rating	**Degree of mechanical protection**
	IP40 With KEU and KSU	Very high

Flexible metallic conduit systems

Type GYN - Nickel plated brass fittings

Type GYN – Smooth entry bush for uncovered conduit

Materials: Nickel plated brass

Part no.	Nominal conduit size (mm)
GYN0101	10.0
GYN0202	12.0
GYN0303	16.0
GYN0404	20.0
GYN0505	25.0
GYN0606	32.0
GYN0707	40.0
GYN0808	50.0

Approvals
KM60009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	Degree of mechanical protection
IP40	With KEU and KSU

Temperature range
Static temperature: -65°C to +300°C
Dynamic temperature: -45°C to +250°C

Flexible metallic conduit systems
Accessories

Coupler – Female to female thread coupler

Materials: Nickel plated brass

Part no.	Metric thread size	Int. thread inside diameter (mm)
EXS/M16/C	M16	14.4
EXS/M20/C	M20	18.4
EXS/M25/C	M25	23.4
EXS/M32/C	M32	30.4
EXS/M40/C	M40	38.4
EXS/M50/C	M50	48.4
EXS/M63/C	M63	61.4

Approvals	Approvals	Temperature range
	Baseefa 08 ATEX 0003X	Safe operating temperature range:
	Ex de IIC Gb	–60°C to +200°C
	Ex tb IIIC Db	

Flexible metallic conduit systems
Accessories

Type GEN – Space saver & conduit terminator for covered conduit

Materials: Nickel plated brass

Part no.	Nominal conduit size (mm)
GEN03	16.0
GEN04	20.0
GEN05	25.0
GEN06	32.0
GEN07	40.0
GEN08	50.0

Approvals
KM90009 KM35161

Approvals
BSI Kitemark / KM-35161
CE Mark to the low voltage directive

IP Rating	
IP44	With KEBF and KEBT

Temperature range
Static temperature: -65°C to +300°C
Dynamic temperature: -45°C to +250°C

Degree of mechanical protection
High

AFX P-Clip – P-Clip conduit support

Materials: Plated steel or stainless steel construction with PVC insert

Plated steel part no.	Stainless steel part no.	Nominal conduit size (mm)
PCLIP/10	–	10
PCLIP/12	–	12
PCLIP/16	PCLIP/16SS	16
PCLIP/20	PCLIP/20SS	20
PCLIP/25	PCLIP/25SS	25
PCLIP/32	PCLIP/32SS	32
PCLIP/40	–	40
PCLIP/50	–	50
PCLIP/63	–	63
PCLIP/75	–	75

Approvals
KM35161

Thread data

Metric thread Data
Standard thread conforming to EN60423 & BS3643

Thread Size	External Thread Outside Diameter (mm)	Internal Thread Inside Diameter (mm)	Pitch (mm)
M8	8	6.9	1
M10	10	8.9	1
M12	12	10.9	1
M12	12	10.4	1.5
M16	16	14.4	1.5
M18	18	16.9	1
M20	20	18.4	1.5
M25	25	23.4	1.5
M30	30	28.4	1.5
M32	32	30.4	1.5
M40	40	38.4	1.5
M50	50	48.4	1.5
M63	63	61.4	1.5
M75	75	73.4	1.5

NOTE: Dimensions are nominal.

PG Thread Data
German Standard Thread Conforming to DIN40430

Thread Size	External Thread Outside Diameter (mm)	Internal Thread Inside Diameter (mm)	Pitch (mm)
PG7	12.5	11.3	1.27
PG9	15.2	13.9	1.41
PG11	18.6	17.3	1.41
PG13,5	20.4	19.1	1.41
PG16	22.5	21.2	1.41
PG21	28.3	26.8	1.59
PG29	37	35.5	1.59
PG36	47	45.5	1.59
PG42	54	52.5	1.59
PG48	59.3	57.8	1.59

NOTE: Dimensions are nominal.

PF Thread Data
Japanese conduit thread conforming to JIS B 0202

Thread Size	External Thread Outside Diameter (mm)	Internal Thread Inside Diameter (mm)	Pitch (mm)
1/4”	13	–	1.34
3/8”	16.7	15.0	1.34
1/2”	21.0	18.6	1.81
3/4”	26.4	24.1	1.81
1”	33.3	30.3	2.31
1 1/4”	41.9	39.0	2.31
1 1/2”	47.8	44.8	2.31
2”	59.6	56.7	2.31

NOTE: Dimensions are nominal.

NPT Thread Data
US Taper seal pipe thread conforming to ANSI/ASME B1.20.1 - 1983

Thread Size	External Thread Outside Diameter (mm)	Pitch (mm)
3/8”	16.7	–
1/2”	21.0	1.81
3/4”	26.4	1.81
1”	33.3	2.21
1 1/4”	41.9	2.21
1 1/2”	47.8	2.21
2”	59.6	2.21

NOTE: Dimensions are nominal.

UNEF / UNS Thread Data
American unified thread conforming to BS1580

Thread Size	External Thread Outside Diameter (mm)	Internal Thread Inside Diameter (mm)	Pitch (mm)
5/8”	15.9	14.7	1.06
3/4”	19.1	17.7	1.27
13/16”	20.6	19.3	1.27
7/8”	22.2	20.9	1.27
15/16”	23.8	22.4	1.27
1”	25.4	24.0	1.27
1 1/8”	28.6	27.0	1.41
1 3/16”	30.2	28.6	1.41
1 1/4”	31.8	30.2	1.41
1 5/16”	33.3	31.8	1.41
1 3/8”	34.9	33.4	1.41
1 7/16”	36.5	35.0	1.41
1 3/4”	44.5	42.9	1.41
2”	50.8	49.3	1.59
2 1/4”	57.2	55.4	1.59

NOTE: Dimensions are nominal.

Conformity documents and compliance information:
- **Rohs Statements**
- **Reach Statements**
- **SVHC Statements**
- **Conflict Minerals declaration**
- **Certificates of conformity**
- **Declarations of Conformity**

Can be provided on request please contact (details from back page).

Chemical resistance guide

This document serves as a guideline only and compatibility should be verified in the application environment to ensure suitability. Many factors can determine the exact suitability; such as temperature, duration of contact, nature of contact such as submersion and concentration of the chemicals involved.

Resistance guide															
Chemicals	**Metals**						**Plastics & Elastomers**								
3 = Excellent 2 = Good 1 = Fair to poor 0 = Not recommended – = No data	**Aluminum**	**Carbon Steel**	**Cast/Ductile Iron**	**Nickel Plated Brass**	**303/304 Stainless Steel 1.4301 (V2A)**	**316 Stainless Steel 1.4401 (V4A)**	**PA6 PA66 Polyamide**	**POM Polyacetal**	**PVC Polyvinylchloride**	**TPE-U/TPE-E Polyester**	**PP Polypropylene**	**EPR, EPDM**	**NBR Nitrile**	**CR Polychloroprene**	**TPU Polyurethane**
Acetate Solvents	2	0	0	3	0	3	3	3	0	0	0	2	0	0	0
Acetic Acid	2	0	0	3	0	2	0	0	3	0	2	3	1	1	1
Acetic Acid — 20%	2	0	0	3	2	3	0	1	3	0	2	3	1	2	–
Acetic Acid — 30%	0	–	3	3	3	3	0	2	–	0	2	3	1	2	–
Acetic Acid — 50%	0	–	3	3	3	2	0	2	–	1	2	3	0	1	–
Acetic Acid — 80%	2	0	0	3	0	2	0	0	–	1	3	3	0	1	–
Acetic Acid — Glacial	2	0	0	2	1	3	0	0	3	1	1	2	0	0	–
Acetone	2	3	3	3	3	3	2	2	0	1	0	3	0	0	0
Acetone Cyanohydrin	2	–	2	3	2	–	–	–	–	–	–	0	–	2	–
Acetonitrile (Methyl Cyanide)	3	3	3	3	3	3	3	3	0	–	0	3	0	0	2
Acetophenone	2	3	3	3	3	2	3	–	–	–	1	2	0	0	–
Acrylonitrile	2	3	3	3	3	3	2	–	3	0	2	0	0	0	0
Adipic Acid	2	3	2	3	2	2	3	2	3	0	2	3	3	0	–
Alcohol	3	3	3	3	3	3	0	2	3	2	2	2	–	–	–
Alcohol: Amyl	2	2	2	3	3	3	3	3	3	3	2	3	2	2	0
Alcohol: Benzyl	2	2	2	3	2	2	0	3	3	0	3	1	0	1	1
Alcohol: Butyl	2	2	2	3	3	3	0	3	3	0	2	3	3	3	0
Alcohol: Diacetone	2	3	2	3	3	3	3	3	2	0	2	2	0	0	2
Alcohol: Ethyl	2	2	2	3	3	3	2	3	3	3	3	3	3	3	0
Alcohol: Hexyl	3	3	3	3	3	3	3	3	3	0	3	1	3	2	0
Alcohol: Isobutyl	2	1	1	3	3	3	2	3	3	2	3	2	1	3	0
Alcohol: Isopropyl	2	3	1	3	2	2	0	3	3	3	3	2	1	2	0
Alcohol: Methyl	2	3	3	3	3	3	2	3	3	2	3	2	3	3	0
Alcohol: Octyl	3	3	3	3	3	3	3	3	3	0	–	3	2	2	0
Alcohol: Propyl	3	3	3	3	3	3	2	3	3	0	3	2	3	3	0
Aluminum Chloride	0	0	0	0	0	1	0	2	3	1	3	3	3	3	2
Ammonia 10%	3	3	3	3	3	3	3	0	3	–	3	3	–	3	–
Ammonia Anhydrous	3	3	3	3	3	3	2	0	3	0	3	3	–	2	–
Ammonia Liquids	0	–	3	3	3	–	–	0	0	–	3	3	2	3	2

Chemical resistance guide

Resistance guide															
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Ammonia Liquors	3	–	3	3	3	–	–	–	0	–	–	–	–	3	–
Aniline	1	1	1	3	3	2	1	2	2	0	1	0	0	0	0
ASTM no.1	3	–	3	3	3	–	–	3	3	3	–	0	3	2	2
ASTM no.2	3	–	3	3	3	–	–	3	2	3	–	0	3	2	0
ASTM no.3	3	–	3	3	3	–	–	3	–	3	–	0	3	1	0
ASTM no.4	3	–	3	3	3	–	–	3	–	0	–	0	2	0	0
ASTM no.5	3	–	3	3	3	–	–	–	–	3	–	0	3	2	0
ASTM no.6	3	–	3	3	3	–	–	–	–	3	–	0	0	0	0
ASTM no.7	3	–	3	3	3	–	–	–	–	3	–	0	2	0	0
Benzaldehyde	2	3	3	3	2	2	0	3	–	2	0	2	0	0	0
Benzene	2	3	2	3	2	2	3	3	2	1	0	0	0	0	0
Blood	–	–	–	3	3	3	–	–	3	–	3	–	–	–	–
Brake Fluid (Mineral)	3	3	3	3	3	3	2	3	0	0	0	3	1	2	3
Carbon Tetrachloride	0	0	0	3	2	2	0	2	0	0	0	0	1	0	3
Caustic	0	–	–	3	3	3	–	–	–	0	–	–	–	–	–
Chlorinated Water	0	–	–	3	2	2	0	0	0	0	1	0	1	1	0
Chlorine Water	0	–	–	3	1	1	1	0	0	–	0	1	–	0	–
Chloroform	0	2	0	3	3	3	0	2	0	0	0	0	0	0	0
Citric Acid	1	0	0	3	2	3	0	2	3	3	2	3	–	3	–
Copper Sulfate	–	–	–	3	3	3	1	3	3	2	3	3	–	3	–
Creosols	2	–	1	3	3	–	–	2	2	–	0	0	0	0	0
Cresols	2	1	1	3	3	3	0	0	3	0	0	0	–	0	–
Crude Oil	3	–	2	3	3	3	3	0	–	2	0	0	2	1	0
Diesel Fuel	3	3	3	3	3	3	3	3	2	2	2	0	–	0	–
Diethylamine	2	2	0	3	2	2	2	2	–	–	1	2	–	2	–
Dyes	2	–	2	3	3	3	3	1	–	–	–	–	–	1	–
Ethane	3	3	3	3	3	3	0	3		–	0	0	3	1	2
Ethanol (Ethyl Alcohol)	2	2	2	3	3	3	1	3		3	3	3	3	3	0
Ethanolamine	2	3	2	3	3	3	3	0	–	–	0	2	2	1	1
Ether	2	1	1	3	3	3	3	3		–	0	1	–	0	–
Ethyl Ether	1	1	1	2	2	2	2	2	0	–	0	0	0	0	0
Ethyl Formate	1	–	3	2	2	2	–	3	0	0	–	1	0	2	–
Ethylene Glycol	2	2	2	3	2	2	2	2	3	1	3	3	3	3	2
Freon 32	0	3	3	3	3	3	–	3		–	–	3	3	3	–
Gasoline	3	3	3	3	3	3	–	3	2	3	0	0	3	0	1
Gelatin	2	3	0	3	3	3	2	2		2	3	3	3	3	0
Glycol	2	–	2	2	2	2	1	2		–	3	3	–	3	–
Grapefruit Oil	–	0	0	3	3	3	–	–	3	–	–	–	3	0	–
Grease	3	3	3	3	3	3	–	0	3	–	–	0	–	0	–
Heavy Water	3	–	1	2	3	–	–	–		2	–	3	3	–	0
Hexane	3	3	3	3	3	3	2	1	2	3	1	0	3	0	2
Hexanol	3	–	3	3	3	–	–	3	–	0	3	3	3	2	0
Hexanol Tertiary	3	3	3	3	3	3	3	3	–	–	2	–	–	–	–
Hexyl Alchol	3	–	–	2	3	–	–	–	–	–	3	–	–	2	–
Hexyl Alcohol	3	–	3	2	3	–	–	–		0	–	1	2	2	0
Hexylene Glycol (Brake Fluid)	3	–	3	2	3	–	–	–	–	0	–	1	3	3	–
Hydraulic Oil (Petro)	3	3	3	3	3	3	3	2		–	0	0	–	3	–
Hydraulic Oil (Petroleum Base)	3	3	3	3	3	3	3	1		3	0	0	–	2	–
Hydraulic Oil (Petroleum)	3	–	3	3	3	3	3	2		3	0	0	3	2	–
Hydraulic Oil (Synthetic)	3	3	3	3	3	3	3	2		3	0	0	0	0	2

Chemical resistance guide

Resistance guide															
Chemicals	**Metals**						**Plastics & Elastomers**								
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Hydrazine	2	0	0	3	3	3	–	2	–	0	0	3	2	1	0
Hydrochloric Acid – 10%	0	0	0	3	0	0	0	0	3	0	3	3	–	0	–
Hydrochloric Acid – 37%	0	0	0	3	0	0	0	0	3	0	1	1	2	0	0
Hydrogen Peroxide – 30%	3	2	0	3	2	2	0	0	3	0	2	2	–	0	–
Hydrogen Peroxide – 90%	3	–	0	2	3	–	0	0	3	0	3	1	–	0	–
Isopropyl Alcohol	3	3	3	3	3	3	0	3	–	3	3	2	3	2	0
Isopropyl Amine	–	–	3	3	3	–	–	–	–	–	–	–	0	–	–
Isopropyl Chloride	0	–	3	3	3	3	–	3	–	–	0	0	0	0	0
Isopropyl Ether	2	3	3	3	3	3	3	0	–	–	0	0	2	0	2
Jet Fuel (JP1 to JP6)	3	3	3	3	3	3	1	3	–	–	0	0	–	0	–
Kerosene	3	3	3	3	3	3	3	3	3	1	0	0	3	0	2
Ketchup	–	–	–	3	3	3	3	3	3	–	–	3	–	3	–
Ketones	2	3	3	3	3	3	3	0	0	0	0	3	0	0	0
Lacquers	3	1	1	2	3	3	3	0	0	0	0	0	0	0	0
Lactic Acid	0	0	0	3	2	2	0	1	–	0	2	3	–	1	–
Lactic Acid – 5% Solution	1	–	0	3	3	–	–	3	–	0	3	3	3	3	2
Lard	3	3	3	3	2	3	3	2	–	2	2	0	–	0	–
Lard Oil (Cold)	3	3	3	3	3	3	–	3	–	–	–	0	–	2	–
Lard Oil (Hot)	3	3	3	3	3	3	–	3	–	2	2	0	3	2	1
Latex	3	–	–	3	3	3	3	1	–	–	3	3	3	2	0
Lubricants	3	3	3	3	3	3	3	3	3	3	2	0	–	0	–
Lubricants (Petroleum)	1	–	3	3	3	3	3	3	3	3	0	0	3	2	2
Lubricating Oil	3	3	3	3	3	3	3	3	3	3	3	0	–	2	–
Methanol	2	3	3	3	3	3	2	3		2	3	3	3	3	0
Methyl Acetate	2	2	2	2	3	2	3	2	0	1	0	1	0	0	0
Methyl Acetone	3	3	3	2	3	3	3	0		–	0	3	1	0	–
Methyl Bromide	0	3	3	3	3	3	0	0	0	0	0	0	2	0	0
Methyl Ethyl Ketone (MEK)	2	3	3	3	3	3	1	1	0	2	0	3	0	0	0
Methyl Formate	3	–	2	2	2	2	–	3	–	–	–	1	0	2	0
Nitric Acid – 10%	0	0	0	1	3	3	0	0	3	0	0	2	–	2	–
Nitric Acid – 70%	3	–	0	1	3	3	0	0	0	0	0	0	–	0	–
Olive Oil	3	3	3	3	2	3	3	3		–	3	0	3	0	3
Ozone	2	0	1	3	2	2	0	0		1	0	3	0	1	3
Paint Thinner, Duco	0	2	2	3	2	3	3	3	0	–	0	0	0	0	0
Paraffin	3	3	3	3	3	3	3	3	3	–	3	0	3	2	3
Petroleum	0	–	1	3	3	3	3	2	2	2	2	0	–	2	–
Petroleum Ether	2	–	2	3	3	3	3	3	2	–	3	0	3	0	2
Phenol	2	–	0	3	3	–	–	3	2	0	1	–	0	0	0
Phenol (10%)	3	0	0	3	2	2	0	2	2	–	2	2	–	0	–
Phosphoric Acid – 10%	0	–	0	3	3	–	0	–	3	–	3	3	–	2	–
Phosphoric Acid – 20%	0	–	0	3	3	2	0	0	3	–	3	3	2	2	1
Salt Brine	1	0	0	1	2	0	3	2	2	3	3	3	–	3	–
Salt Water	0	0	0	1	1	2	3	3	2	3	3	3	3	2	0
Sea Water	0	0	0	1	1	1	3	3	3	3	3	3	3	2	3
Sea Water (Brine)	3	–	1	1	3	–	3	3	3	–	3	3	–	2	–
Sewage	0	0	0	2	3	3	–	3		2	3	1	3	2	0
Silicone	2	3	3	3	3	3	3	3		3	3	3	–	3	–
Silicone Grease	–	–	–	3	–	–	–	3		3	–	3	3	3	3
Silicone Oil	2	3	2	3	3	3	3	3		2	3	3	3	0	3
Silver Nitrate	0	1	0	3	2	2	3	3		0	2	3	2	3	3

Chemical resistance guide

Resistance guide															
Chemicals	**Metals**						**Plastics & Elastomers**								
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Skydol 7000	–	–	–	3	3	–	–	3		0	–	3	0	0	0
Skydrol	–	–	–	3	–	–	1	–		2	–	3	–	0	–
Skydrol 500	–	–	–	3	3	–	1	3		1	–	3	0	0	0
Skydrol Hydraulic Fluid	–	–	–	3	3	–	1	–		–	–	3	–	0	–
Sodium Chloride	1	0	0	1	1	1	3	2		3	3	3	3	3	3
Sodium Hydroxide	0	–	2	3	3	–	1	0	2	–	3	3	–	2	–
Sodium Hydroxide (< 10%) (Caustic Soda)	–	–	–	3	–	–	–	–	3	–	–	–	–	–	–
Sodium Hydroxide (< 50%) (Caustic Soda)	–	–	–	3	–	–	–	–	3	–	–	–	–	–	–
Sodium Hydroxide (20%)	0	3	2	3	2	2	3	3	3	2	3	2	3	2	2
Sodium Hydroxide (50%)	0	0	0	3	2	2	3	3	3	1	3	2	0	1	2
Sulfur Dioxide	0	–	0	0	0	3	1	0	0	0	3	2	0	2	1
Sulfur Dioxide (dry)	2	3	3	0	0	3	2	2	3	1	3	3	–	0	–
Sulfur Dioxide Gas Dry	0	–	2	0	3	3	2	2	3	0	1	3	–	0	–
Sulfuric Acid - Concentrated	–	–	–	0	–	–	0	0	0	0	2	0	–	0	–
Sulfuric Acid (<10%)	0	1	0	0	0	1	1	0	2	3	3	3	0	0	0
Sulfuric Acid (10-75%)	0	0	0	0	0	0	0	0	1	–	3	2	–	0	–
Sulfuric Acid (75-100%)	0	0	0	0	1	0	0	–	0	1	1	2	–	0	–
Sulfuric Acid (hot concentrated)	0	0	0	0	0	1	0	–	0	–	0	0	–	0	–
Syrup	3	–	–	3	3	3	–	3	3	–	3	3	3	2	–
Toluene	3	–	3	3	–	3	3	–	0	–	0	–	–	0	–
Transformer Oil	3	–	2	3	3	3	3	1	–	–	0	0	3	1	3
Trichlorethylene	0	–	1	3	–	3	3	–	0	–	2	–	–	0	–
Turbine Oil	3	3	3	3	3	3	3	3	–	–	2	0	2	0	3
Turpentine	3	–	2	3	3	3	2	3	2	2	0	0	3	0	0
Unleaded Gasoline	3	–	3	3	–	3	3	–	–	–	0	–	–	0	–
Urea	2	–	2	2	2	2	1	3	3	2	3	3	2	2	2
Urine	2	3	2	3	3	3	2	1	–	–	3	3	3	0	–
Vegetable Oil	2	2	2	3	3	3	3	3	–	–	0	0	3	0	3
Vinyl Acetate	2	2	1	3	2	2	–	–	0	–	0	2	0	0	0
Water	3	0	0	3	3	3	–	3	3	3	2	3	–	3	–
White Spirit	–	–	–	3	–	3	3	3		3	3	–	–	–	–
Zinc Chloride	0	0	0	3	0	0	1	0	3	2	3	3	3	2	3

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