






## Conduit and fitting selection table Anaconda ATEX solutions.

Sealtite	Material	Material	Temp. (°C)		Resistance (NEN-EN-IEC 61386)			Flexi-bility	Resistance		Approvals		Protec-tion	Page
			Min.	Max.	Compr.	Impact	Tensile		UV	Oil				
 AS Black	Galvanised steel	PVC-RoHS	-25	+70	4 (1250N)	4 (6J)	4 (1000N)	+++	++	+++	 ATEX	 GOST-R	IP 67	7-05
 HFI Blue	Stainless steel AISI-304	TPU Halogen free RoHS	-55	+105	4 (1250N)	4 (6J)	4 (1000N)	++++	++++	++++		 GOST-R	IP 67	7-06

Fitting	Material	Tempera- ture (°C)		Thread size range			Execution	Approvals			Protection	Page
		Min.	Max.	ISO	Pg	NPT		BARRIER	ATEX	IEC		
 BXA	Nickel plated brass	-60	+80	M16 to M40	-	1/2" to 1.1/4"	Yes	 ATEX	 IECEX	 GOST-R	IP 66	7-07
 BXA AISI-316	Stainless steel AISI-316	-60	+80	M16 to M40	-	1/2" to 1.1/4"	Yes	 ATEX	 IECEX	 GOST-R	IP 66	7-08
 RNA	Nickel plated brass	-70	+220	M16 to M40	-	1/2" to 1.1/4"	No	 ATEX	 IECEX	 GOST-R	IP 66 IP 68	7-09
 RNA AISI-316	Stainless steel AISI-316	-70	+220	M16 to M40	-	1/2" to 1.1/4"	No	 ATEX	 IECEX	 GOST-R	IP 66 IP 68	7-13
 RAA	Nickel plated brass	-70	+220	M16 to M40	-	1/2" to 1.1/4"	No	 ATEX	 IECEX	 GOST-R	IP 66 IP 68	7-11
 RAA AISI-316	Stainless steel AISI-316	-70	+220	M16 to M40	-	1/2" to 1.1/4"	No	 ATEX	 IECEX	 GOST-R	IP 66 IP 68	7-15
 BXC	Nickel plated brass	-60	+80	M16 to M50	Pg 9 to Pg 42	1/2" to 1.1/2"	Yes	 ATEX	 IECEX	 GOST-R	IP 66	7-17
 BXC AISI-316	Stainless steel AISI-316	-60	+80	M16 to M50	Pg 9 to Pg 42	1/2" to 1.1/2"	Yes	 ATEX	 IECEX	 GOST-R	IP 66	7-19
 RNC (AISI-316)	Nickel plated brass	-70	+220	M16 to M75	Pg 9 to Pg 48	1/2" to 3"	No	 ATEX	 IECEX	 GOST-R	IP 66 IP 68	7-21 7-24

Type explanation Anaconda IECEx-ATEX fittings:

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R = regular

N = non armoured cable

A = directly on Anaconda conduit

B = barrier

A = armoured cable

C = male / female adapter

X = loose wires

For instance:

Type BXA is a barrier fitting for loose wires and directly connected on an Anaconda conduit.

## Description Anaconda IECEx-ATEX cable-hose-fittings

The Anaconda IECEx-ATEX certified cable-hose-fittings together with the Anaconda Sealite conduits represent the ideal solution for the mechanical protection of cables and for the connection of equipment in a safe and explosionproof way.

The temperature range of the standard version with an internal seal in EPDM is between -40 °C and +100 °C, while the temperature range of the high temperature version with an internal seal in Silicone is between -70 °C and + 220 °C. The new barrier type with a 2 compound epoxy sealing has a temperature range from -60 °C till +80 °C.

The Anaconda IECEx-ATEX cable-hose-fittings are also available in EMC version (shielded) for the connection of armoured cables. They are available either in nickel plated brass or in stainless steel AISI-316. The protection grade as delivered is IP66, but can be increased to IP 68 by using an additional flat seal between body and enclosure (to be ordered separately).

## Classification of explosion risk zones according to ATEX

The Explosion risk zones are classified based on a risk analysis, determining to what degree, a zone with presence of gas or dust has to be considered an explosion risk.

- **Zone 0 (Gas) and Zone 20 (Dust):** place with continuous presence or long duration of an explosive atmosphere.
- **Zone 1 (Gas) and Zone 21 (Dust):** place where during normal functioning an explosive atmosphere is occasionally present.
- **Zone 2 (Gas) and Zone 22 (Dust):** place where an explosive atmosphere is impossible during normal functioning or that it is present only infrequently and for short periods.

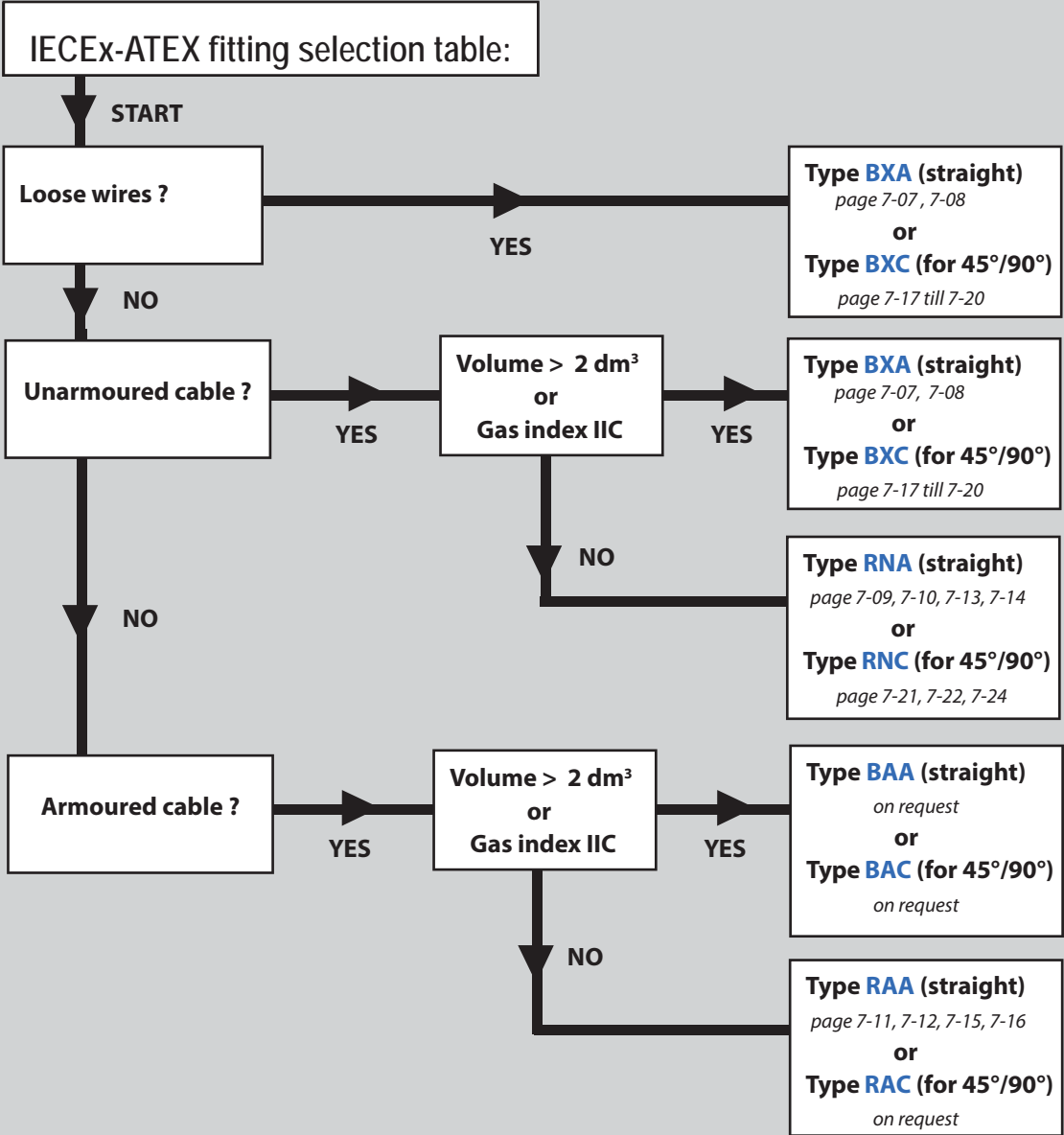
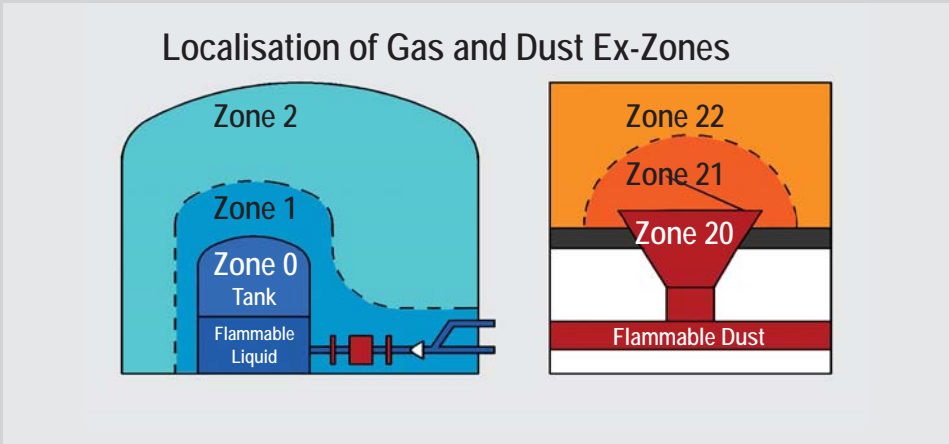
According to Directive 94/9/CE the equipment to be used in Ex-zones has to be certified and ATEX marked. To this end the equipment is divided in groups and categories, according to the zones in which their use is consented.

### Group I = equipment for use in mining

Hazardous Atmosphere	Risk	Zone	Category Equipment	Anaconda ATEX System allowed	Security level
Mine Gas, Combustible Dusts	Continuously or for long periods	0	I M1	No	Very high (also safe in case of 2 independent defects)
Mine Gas, Combustible Dusts	Occasionally	1	I M2	Yes	High (also safe in case of 1 defect)

### Group II = equipment for use in all other explosive atmospheres

Hazardous Atmosphere	Risk	Zone	Category Equipment	Anaconda ATEX System	Security level
Gases, Vapours and Mists	Continuously or for long periods	0	II 1 G	No	Very high (also safe in case of 2 independent defects)
Gases, Vapours and Mists	Occasionally	1	II 2 G	Yes	High (also safe in case of 1 defect)
Gases, Vapours and Mists	Infrequently or for short periods	2	II 3 G	Yes	Normal (safe during normal functioning)
Dusts	Continuously or for long periods	20	II 1 D	No	Very high (also safe in case of 2 independent defects)
Dusts	Occasionally	21	II 2 D	Yes	High (also safe in case of 1 defect)
Dusts	Infrequently or for short periods	22	II 2 D II 3 D	Yes Yes	High (conducting dusts) Normal (non-conducting dusts)



The Anaconda IECEx-ATEX cable-hose-fittings are certified and marked according to Directive 94/9/CE: Ex I M2 / II 2 GD.

This means that our IECEx-ATEX fittings can be used in mines in zone 1, as well as in all other explosive atmospheres containing gases, vapours and mists in zone 1 and 2 and containing dusts in zone 21 and 22.

Certification and marking of Anaconda IECEx-ATEX cable-hose-fitting, according to standards:

- EN 60079-0 and IEC 60079-0
- EN 60079-1 and IEC 60079-1
- EN 60079-7 and IEC 60079-7
- EN 61241-0 and IEC 61241-0
- EN 61241-1 and IEC 61241-1

Next to the certification and marking according to directive 94/9/CE the Anaconda cable-hose-fittings are certified and marked according to the above mentioned EN and IEC standards: Ex d I / Ex e I / Ex d IIC / Ex e II / Ex tD A21

Differences between European and North American standards regarding protection against explosion

	Constant presence risk	Occasional presence risk	Presence risk only in case of a defect
IEC / EUROPE	zone 0	zone 1	zone 2
U.S. / CANADA	Division I		Division II

Risk category	IEC / EUROPE	U.S. / CANADA	Ignition energy
Methane	Group I	Not classified	
Acetylene	Group II C	Class I Group A	> 20 u J
Hydrogen	Group II C	Class I Group B	> 20 u J
Ethylene	Group II B	Class I Group C	> 60 u J
Propane	Group II A	Class I Group D	> 180 u J
Metallic conducting dust	In preparation	Class II Group E	
Non metallic conducting dust	In preparation	Class II Group E	
Non conducting dust	In preparation	Class II Group F	
Fibres	Not classified	Class III	

According to directive NEC 501-4b for Class 1 Division I, the use of flexible metal conduit is not permitted; only cables inserted in rigid pipes with block joints, or special armoured cables with special barrier type fittings are allowed.

For class 1 division II, for class 2 division I and II, for class 3 division I and II, besides rigid pipes also flexible conduit and fittings are permitted, **under the condition that they are UL listed**. The Anaconda Sealite conduits type HTDL, HTUA, UA and ZHUA as well as the regular Anaconda / Anamet fittings, are UL listed, and thus already permitted for this use.

ANACONDA  
ATEX FITTINGS

ENGINEERING  
DATA