

# BAD type



**FLAMEPROOF EX D • INCREASED SAFETY EX E • FOR INDOOR & OUTDOOR APPLICATIONS**  
**FOR ARMoured CABLES • INNER AND OUTER SEALING**



## 1 Cable glands BAD type (code: BAD)

Flameproof Ex d Barrier Cable Glands sealed with sealing compound. The sealing ring blocks the cable on the under armour diameter. The addition of the sealing ring on the outer sheath guarantees a complete protection of the cable armour.

Cable glands EMC tested by triaxial method, according to IEC 62153-4-3, IEC 62153-4-4 standards.

Metric cable glands are made according to EN 62444 standard. Maintenance and installation operations and product selection must be done in accordance with IEC EN 60079-14 and 17 standards.

**Application fields** Surface - Group II • Mines - Group I

### Approvals / Certifications

ATEX INERIS 06 ATEX 0014X  
 IEC Ex: IEC Ex INE 10.0010X  
 EAC: RU C-IT.A9 45.B.00081

### Protection type

Exd IIC • Ex e II (gas) • Ex tb IIC (dusts) • Ex d I • Ex e I (mines)

### EPL (Equipment protection level)

**Zone 1-2:** Mb mines • Gb, Gc gas

**Zone 21-22:** Db Dc combustible dusts

### Execution

Ex d IIC • Ex e II • Ex tb IIC • Ex d I • Ex e I Db according to

**ATEX:** EN 60079-0:2009 • EN 60079-1:2007 • EN 60079-7:2007 • EN 60079-31:2009 • EN 60529:1991

**IEC Ex:** IEC 60079-0:2011 • IEC 60079-1:2007 • IEC 60079-7:2006 • IEC 60079-31:2008 • IEC 60529:2001

## 5 Ambient temperatures in services: sealing washers materials

EPDM seals + Resin CW1302+HY1300: -40°C ÷ + 100°C (code: **EP**)

Silicone seals + Resin CW1302+HY1300: -65°C ÷ + 180°C (code: **SI**)

EPDM seals + Resin RCN EPR+EPH: -40°C ÷ + 100°C (code: **EP**)

Silicone seals + Resin RCN EPR+EPH: -60°C ÷ + 150°C (code: **SI**)

### Cable type

Armoured: Single armoured cable SWA, Aluminium wire armoured cable AWA, Aluminium strip armoured ASA. Single wire braided cable SWB, Steel tape armoured cable STA, Pliable wire armoured cable PWA. Screened flexible wire braided cable CY-SY

**Reduced cone available for SWA armoured cables.**

## 6 Available materials

Brass (code: **OT**) • Nickel-plated brass (code: **ON**)

AISI316L Stainless steel (code: **S6**) • Aluminium (code: **AL**)

AVP Steel (code: **AVP**)

### Available threads

ISO 262 Metrical • ISO 228 • DIN 40430 Pg

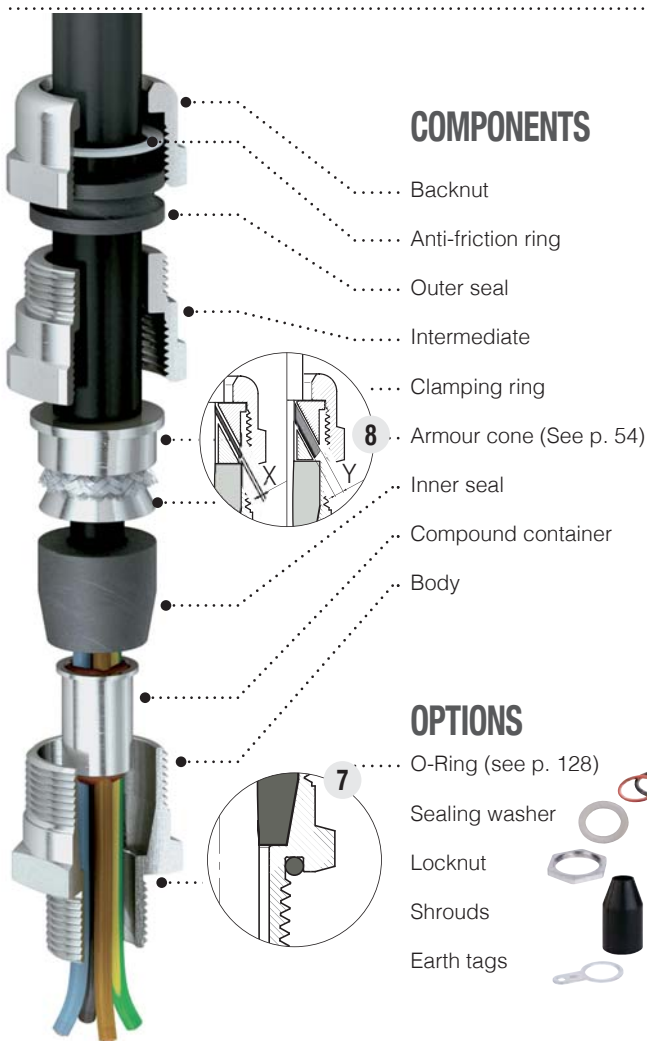
ANSI B1.20.1 NPT • EN 10226 Gk (only for ATEX)

### Degree of protection

The cable glands degree of protection is **IP66** or **IP66/68**, 30-meters depth for 7 days according to the IEC EN 60529 standard; the degree of protection IP 68 is obtained by using flat sealing rings on cable glands with cylindrical threads. Without gaskets, the degree of protection is IP 66. If the cable glands with cylindrical or tapered threads are screwed on the threaded hole of an apparatus, in order to guarantee an IP66 or IP66/68 degree of protection, threaded parts must be sealed with Loctite or similar. In order to maintain the IPX8 degree of protection, the cable entry shall be fitted on enclosure witch satisfies an immersion test under 30 meters of water during 7 days. Metric cable glands are made in accordance to EN 62444 Standard.

## 0 Kit version (code: KIT)

Includes cable glands and the requested complete series of the rubber seals accompanying the size.



## COMPONENTS

- Backnut
- Anti-friction ring
- Outer seal
- Intermediate
- Clamping ring
- Armour cone (See p. 54)
- Inner seal
- Compound container
- Body

## OPTIONS

- O-Ring (see p. 128)
- Sealing washer
- Locknut
- Shrouds
- Earth tags

**COMPOUND**  
 Application  
 Mixing time  
 Gel time  
 Full cure time  
 Installation

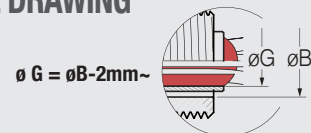
**LIQUID**  
 Gun  
 2 min  
 80 min  
 24 hours  
 Vertical position

**SOLID**  
 By hand  
 30 min  
 -  
 4 hours  
 Any Orientation

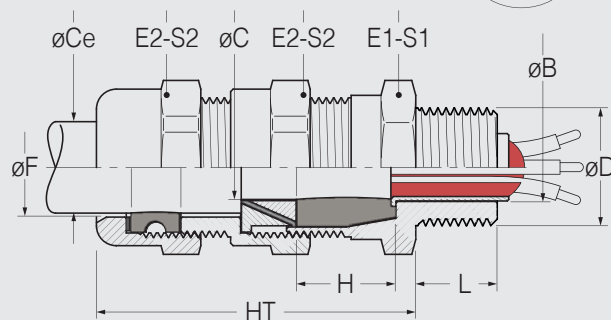
## EXAMPLE CODE

See page 54

## TECHNICAL DRAWING



0	1	2	3	3E	4	5	6	7	8
<b>KIT</b>	<b>BAD.</b>	<b>25.</b>	<b>13.</b>	<b>24.</b>	<b>N25.</b>	<b>EP.</b>	<b>ON.</b>	<b>OR.</b>	<b>BS</b>
Optional code	Type	Size	$\varnothing C$ Max	$\varnothing C$ Max	Thread code	Seals material code	Material code	Optional code	Optional code
Kit series			Inner seal (10,5 ÷ 13)	Outer seal (19 ÷ 24)	See tab. page 55	EP-SI	OT-ON-S6 AL-AVP	O-Ring	Reduced cone



SIZE	Ø C		ARMOUR RANGE		Ø D - THREADS					DIMENSIONS							
	Min - Max Inner seal	Min - Max Outer seal	Standard cone X*	Reduced cone Y**	Cylindrical			Tapered		Weight	F	HT	H	E1	S1	E2	S2
					ISO 262	ISO 228	DIN 40430	NPT	EN 10226								
16 (EP)	4 ÷ 7	5 ÷ 10 10 ÷ 15	0 ÷ 0,5	0,5 ÷ 0,75	M12x1,5 <b>M16x1,5</b> M20x1,5	1 / 4" <b>3 / 8"</b> 1 / 2"	Pg7 Pg9 <b>Pg11</b> Pg13,5	1 / 4" <b>3 / 8"</b> 1 / 2"	1 / 4" <b>3 / 8"</b> 1 / 2"	126	16	58	20	24	26	24	26
16 (SI)	4 ÷ 6 6 ÷ 8 8 ÷ 10																
20	5,5 ÷ 8 8 ÷ 10,5 10,5 ÷ 13	10 ÷ 15 14 ÷ 19	0 ÷ 0,5	0,5 ÷ 1,25	M16x1,5 <b>M20x1,5</b> M25x1,5	1 / 2" <b>3 / 4"</b>	Pg11 <b>Pg13,5</b> Pg16	1 / 2" <b>3 / 4"</b>	1 / 2" <b>3 / 4"</b>	228	20	64	20	30	33	32	35
25	8 ÷ 10,5 10,5 ÷ 13 13 ÷ 15,5 15,5 ÷ 18	15 ÷ 20 19 ÷ 24	0 ÷ 0,5	0,5 ÷ 1,25	M20x1,5 <b>M25x1,5</b>	<b>3 / 4"</b> 1"	Pg16 Pg21	<b>3 / 4"</b> 1"	<b>3 / 4"</b> 1"	264	25	64	20	35	38	36	39
32	13 ÷ 15,5 15,5 ÷ 18 18 ÷ 21 21 ÷ 24	20 ÷ 26 25 ÷ 31	0 ÷ 1	1 ÷ 1,6	M25x1,5 <b>M32x1,5</b>	1"	Pg21 Pg29	1"	1"	484	32	83	25	42	47	45	49
40	21 ÷ 24 24 ÷ 27 27 ÷ 30	26 ÷ 32 31 ÷ 37	0 ÷ 1	1 ÷ 1,6	<b>M40x1,5</b>	1" 1/4	Pg29	1" 1/4	1" 1/4	576	38	83	25	48	53	50	55
50	24 ÷ 27 27 ÷ 30 30 ÷ 33 33 ÷ 36	31 ÷ 37 36 ÷ 43	0 ÷ 1	1 ÷ 2	M40x1,5 <b>M50x1,5</b>	1" 1/2	Pg36	1" 1/2	1" 1/2	730	44	83	25	55	60	57	62
63	36 ÷ 39 39 ÷ 42 42 ÷ 45	42 ÷ 48 47 ÷ 53	0 ÷ 1	1 ÷ 2	M50x1,5 <b>M63 x 1,5</b>	2"	Pg42 Pg48	2"	2"	961	54	83	25	68	74	67	73
75	45 ÷ 48 48 ÷ 51 51 ÷ 54	52 ÷ 58 52 ÷ 64	0 ÷ 1	1 ÷ 2	M63x1,5 <b>M75x1,5</b>	2" 1/2	Pg48	2" 1/2	2" 1/2	1392	65	83	25	80	86	80	88
90a	54 ÷ 58 58 ÷ 62	64 ÷ 72	0 ÷ 2	2 ÷ 2,5	M75x1,5 <b>M90x2</b>	3"	/	3"	3"	3026	74	115	30	100	107	100	107
90b	60 ÷ 64 64 ÷ 68	70 ÷ 78								2432	80						

• Standard Threads in bold • Dimensions are in millimeters • Weight in grams (gr) of brass version

• Inside the size, the external rubber seals may be matched with any interior rubber seals, compatible with the cable size. (See on page 55)

\* Standard cone X: Suitable for all approved armour cables except SWA cables \*\* 8 Reduced cone Y: Suitable for SWA cables (code: BS)