

# sealrad®

## SYSTEM FOR SEALING PIPES



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elcon megarad

ARE YOU FAMILIAR WITH ANY OF THOSE SITUATIONS?



## WHEN DO WE USE SEALRAD?

### SEALING CABLE PIPES IS NECESSARY FOR:

**1) Protect cables and equipment in case of water leakage and/or humidity.**

**2) It gives a safe environment for workers.**

**3) Avoid the risks associated with the penetration of gas and/or dangerous fluids at the workplace.**

## WHEN DO WE USE SEALRAD?

### FURTHERMORE:

**4) It reduces time and cost due to the use of pumps for emptying the water and disinfestations in the workplace.**

**For Example: in areas of heavy traffic is very important to close the trap door of the room as quickly as possible.**

THESE PROBLEMS CAN BE AVOIDED WITH A SIMPLE  
AND LASTING SOLUTION:

**sealrad !!**



## APPLICATIONS:

**1) Seal conducts from seepage of gas and water in the nodes of the underground networks such as :**

- Telephone networks

- Substations and electrical substations

- Cable tray

**2) Suitable for plastic pipes, concrete and steel**

**3) Seal empty conducts or filled by one or more cables**

# THE PRODUCT



## TECHNOLOGY

### Sealrad consist of:

- An inflatable sealed envelope based of flexible laminate metal / plastic.
- Two strips of mastic sealant applied on each side of the envelope.
- Inside the envelope there are reagents which putted in contact, through a simple pressure using your fingers, it activates a natural reaction developing gas causing the swelling of the envelope.

# INSTALLATION

## Empty ducts or filled by 1 or 2 cables/wires:

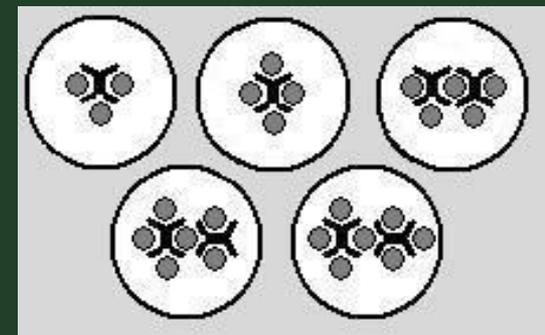
Lathering strips of mastic, wrap around the cable, crush with two fingers where indicated in the corner and insert into the conduct.



# INSTALLATION

## ducts with 3 or more cables/wires:

Insert between the cables a spacing diaphragm sealant (Sealclip)



# UNINSTALL

Pierce the envelope with a screwdriver and pull it out with pliers.



## PROS

- Is self-inflatable, so there is no need of installation equipments (ie. manual inflator, pressurized cylinder, etc.);
  - There is no need to measure pressure and no pressure gauge;
- It does not produce residues to send to landfill;
- The operation does not depend on the skill of the worker or from the installation conditions.

## CHARACTERISTICS

**Quick and easy to install,  
clean and non-toxic**

**Applicable on cables with  
sheath in PVC, PE, Pb  
o Al.**

**Applicable to a wide  
range with a single size**

**It adapts to ducts that have  
a oval shape as well.**

## CHARACTERISTICS

**It resists up to 5 meters of water column (0,5 bar)**

**Allows natural movement of torsion of the cables**

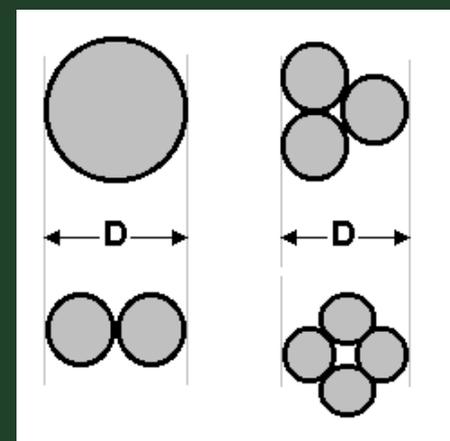
**Resists environmental aggressions (Chemicals, bacteria, salt, mushrooms, etc.)**

**It's easy to remove**

# SELECTION TABLES

1) Measure the inside diameter of the pipe

2) If the tube is not empty, measure the diameter  $D$  of the wire or the wiring harness



# SELECTION TABLES

**4) Choose the appropriate size in Table. 1. In case of a bundle of 3 or more cables subtract from DMAX, 5 mm for each Sealclip to use.**

Tabella 1 Scelta del formato / Table 1 Size selection

Dimensioni del conduttore Diametro D (mm)	sealrad 100° sealrad 100° D (mm)		sealrad 75° sealrad 75° D (mm)		sealrad 50° sealrad 50° D (mm)		sealrad 100° sealrad 100° D (mm)		sealrad 75° sealrad 75° D (mm)		Sealclip Sealclip
	0	1	0	1	0	1	0	1	0	1	
25											sealclip 50
30											
35											
40											sealclip 60
45											
50											
55											sealclip 70
60											
65											
70											sealclip 80
75											
80											
85											sealclip 90
90											
95											
100											sealclip 100
105											
110											

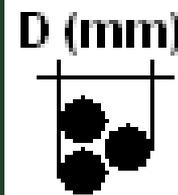
\* Per le scelte del tipo A o B vedere Tab. 2. Per ogni A o B scegliere una Tab. 2.  
 \* Per le configurazioni B il più esatto B è sostituito da un'altra.

Diametro del conduttore Diametro D (mm)	1 cavo 1 cable		2 cavi uguali 2 cables same diameter		2 cavi 2 cables different diameter		3 cavi uguali 3 cables same diameter		3 cavi 3 cables different diameter		4 cavi 4 cables	
	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)	D (mm)
25	30	35	40	45	50	55	60	65	70	75	80	85
30	35	40	45	50	55	60	65	70	75	80	85	90
35	40	45	50	55	60	65	70	75	80	85	90	95
40	45	50	55	60	65	70	75	80	85	90	95	100
45	50	55	60	65	70	75	80	85	90	95	100	105
50	55	60	65	70	75	80	85	90	95	100	105	110
55	60	65	70	75	80	85	90	95	100	105	110	115
60	65	70	75	80	85	90	95	100	105	110	115	120
65	70	75	80	85	90	95	100	105	110	115	120	125
70	75	80	85	90	95	100	105	110	115	120	125	130
75	80	85	90	95	100	105	110	115	120	125	130	135
80	85	90	95	100	105	110	115	120	125	130	135	140
85	90	95	100	105	110	115	120	125	130	135	140	145
90	95	100	105	110	115	120	125	130	135	140	145	150
95	100	105	110	115	120	125	130	135	140	145	150	155
100	105	110	115	120	125	130	135	140	145	150	155	160
105	110	115	120	125	130	135	140	145	150	155	160	165
110	115	120	125	130	135	140	145	150	155	160	165	170
115	120	125	130	135	140	145	150	155	160	165	170	175
120	125	130	135	140	145	150	155	160	165	170	175	180
125	130	135	140	145	150	155	160	165	170	175	180	185
130	135	140	145	150	155	160	165	170	175	180	185	190
135	140	145	150	155	160	165	170	175	180	185	190	195
140	145	150	155	160	165	170	175	180	185	190	195	200
145	150	155	160	165	170	175	180	185	190	195	200	205
150	155	160	165	170	175	180	185	190	195	200	205	210
155	160	165	170	175	180	185	190	195	200	205	210	215
160	165	170	175	180	185	190	195	200	205	210	215	220
165	170	175	180	185	190	195	200	205	210	215	220	225
170	175	180	185	190	195	200	205	210	215	220	225	230
175	180	185	190	195	200	205	210	215	220	225	230	235
180	185	190	195	200	205	210	215	220	225	230	235	240
185	190	195	200	205	210	215	220	225	230	235	240	245
190	195	200	205	210	215	220	225	230	235	240	245	250
195	200	205	210	215	220	225	230	235	240	245	250	255
200	205	210	215	220	225	230	235	240	245	250	255	260
205	210	215	220	225	230	235	240	245	250	255	260	265
210	215	220	225	230	235	240	245	250	255	260	265	270
215	220	225	230	235	240	245	250	255	260	265	270	275
220	225	230	235	240	245	250	255	260	265	270	275	280
225	230	235	240	245	250	255	260	265	270	275	280	285
230	235	240	245	250	255	260	265	270	275	280	285	290
235	240	245	250	255	260	265	270	275	280	285	290	295
240	245	250	255	260	265	270	275	280	285	290	295	300
245	250	255	260	265	270	275	280	285	290	295	300	305
250	255	260	265	270	275	280	285	290	295	300	305	310
255	260	265	270	275	280	285	290	295	300	305	310	315
260	265	270	275	280	285	290	295	300	305	310	315	320
265	270	275	280	285	290	295	300	305	310	315	320	325
270	275	280	285	290	295	300	305	310	315	320	325	330
275	280	285	290	295	300	305	310	315	320	325	330	335
280	285	290	295	300	305	310	315	320	325	330	335	340
285	290	295	300	305	310	315	320	325	330	335	340	345
290	295	300	305	310	315	320	325	330	335	340	345	350
295	300	305	310	315	320	325	330	335	340	345	350	355
300	305	310	315	320	325	330	335	340	345	350	355	360
305	310	315	320	325	330	335	340	345	350	355	360	365
310	315	320	325	330	335	340	345	350	355	360	365	370
315	320	325	330	335	340	345	350	355	360	365	370	375
320	325	330	335	340	345	350	355	360	365	370	375	380
325	330	335	340	345	350	355	360	365	370	375	380	385
330	335	340	345	350	355	360	365	370	375	380	385	390
335	340	345	350	355	360	365	370	375	380	385	390	395
340	345	350	355	360	365	370	375	380	385	390	395	400
345	350	355	360	365	370	375	380	385	390	395	400	405
350	355	360	365	370	375	380	385	390	395	400	405	410
355	360	365	370	375	380	385	390	395	400	405	410	415
360	365	370	375	380	385	390	395	400	405	410	415	420
365	370	375	380	385	390	395	400	405	410	415	420	425
370	375	380	385	390	395	400	405	410	415	420	425	430
375	380	385	390	395	400	405	410	415	420	425	430	435
380	385	390	395	400	405	410	415	420	425	430	435	440
385	390	395	400	405	410	415	420	425	430	435	440	445
390	395	400	405	410	415	420	425	430	435	440	445	450
395	400	405	410	415	420	425	430	435	440	445	450	455
400	405	410	415	420	425	430	435	440	445	450	455	460
405	410	415	420	425	430	435	440	445	450	455	460	465
410	415	420	425	430	435	440	445	450	455	460	465	470
415	420	425	430	435	440	445	450	455	460	465	470	475
420	425	430	435	440	445	450	455	460	465	470	475	480
425	430	435	440	445	450	455	460	465	470	475	480	485
430	435	440	445	450	455	460	465	470	475	480	485	490
435	440	445	450	455	460	465	470	475	480	485	490	495
440	445	450	4									

# SELECTION TABLES

## EXAMPLES:

In a conduit with an internal diameter of 100mm, are present 3 cables Unipolar  $U_{max} = 15kV$ , XLPE insulated, non-armored, section of  $120mm^2$



The diameter  $D$  of the bundle measured is approximately 65mm

Since it will be use a Seal Clip, in Table 1

We should subtracted from the values  $D$  5mm maximum indicated.

Therefore, in correspondence with the diameter of the conduct 100mm, it can be used only the Sealrad 100, which can accommodate all cables or bundles between 0 and 80mm footprint. The size of the Sealclip, is always obtained from Table 1, according to the diameter of the conduct (Sealclip 60).

Finally, in Table 2, in the section relating to the Sealed 100, in correspondence with the diameter of the duct 100mm, and of the combination of three cables equal, it turns out that a beam with  $D = 65mm$ , can be sealed either with a Sealrad 100a (which seals  $0 < D < 69$ ) that with a Sealrad 100 B (which seals  $57 < D < 75$ )

## TYPE TESTS

Specific: LN 584 for Duct Seal 1 British Telecom plc

### Axial tension

Temperature:  $23 \pm 3$  ° C; Distance:  $10 \times D$  (cable diameter);  
Load  $D / 2 \times 10N$ ; Duration: 4 hours

### Bending

Temperature:  $23 \pm 3$  ° C; Distance:  $10 \times D$ ;  
Bending: 45 degrees; Duration: 5 minutes

### Torsion

Temperature:  $23 \pm 3$  ° C; Distance:  $10 \times D$  (min 250mm);  
Strength:  $D / 2 \times 10 Nm$  (max 50 Nm); Duration: 5 minutes

## TYPE TESTS

Specific: LN 584 for Duct Seal 1 British Telecom plc

### Vibration

Temperature:  $23 \pm 3$  ° C; Distance: 10 x D (min 250mm);  
Vibration: 10Hz; 6mm peak to peak; Duration: 10 days

### Water Column

Temperature:  $23 \pm 3$  ° C; 5 meters of water;  
Duration: 30 days

### Chemical Resistance

Temperature:  $23 \pm 3$  ° C;  
Plunges the product in solution; Time: 30 Days.

### Thermal Cycles

20 thermal cycles between  $-15$  ° and  $+30$  °C

***THANKS FOR YOUR ATTENTION***



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**DERRICK**  
INTERNATIONAL

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