

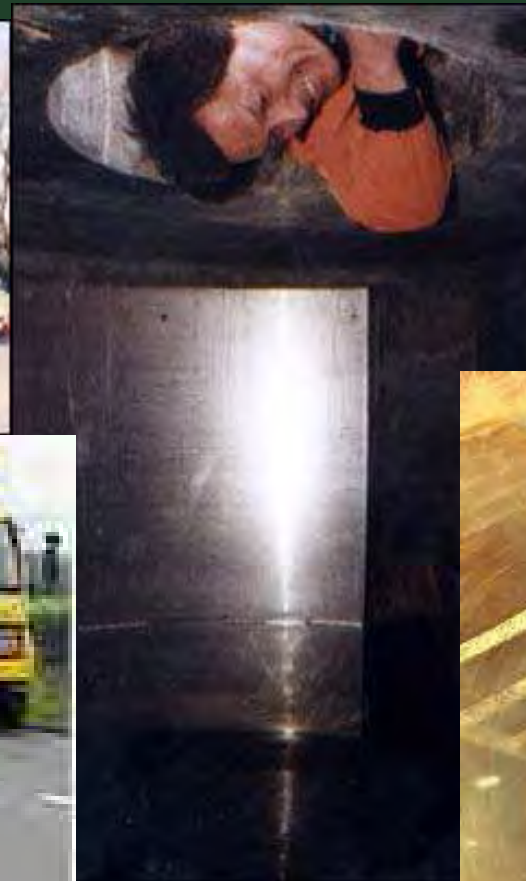
# sealrad®

## SYSTEM FOR SEALING PIPES



The logo for elcon megarad, featuring a stylized grey wing-like graphic above the text 'elcon megarad' in a green and red font.

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:

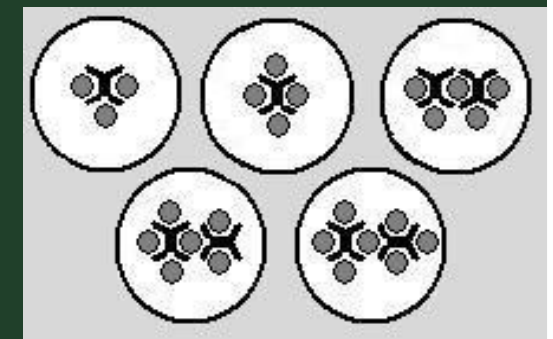
Lathering strips of mastic, wrap around the cable, crush with two fingers where indicated in the corner and insert into the conduct.



# 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**

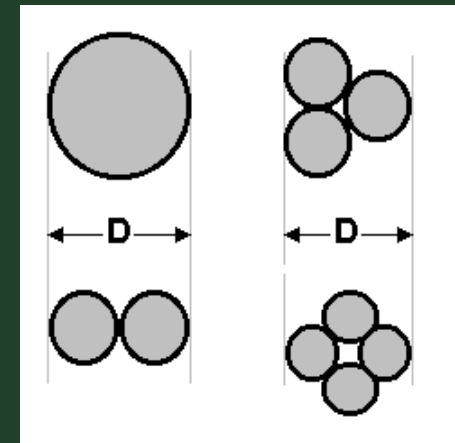
**Resists environmental aggressions (Chemicals, bacteria, salt, mushrooms, etc.)**

**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. Selezione Formato / Table 1. Size selection.

Dimensione del conduttore Cable size	Sealclip Type	Sealrad 100A Sealrad 100A Dmax	Sealrad 72A Sealrad 72A Dmax	Sealrad 60A Sealrad 60A Dmax	Sealrad 100A Sealrad 100A Dmax	Sealrad 102A Sealrad 102A Dmax	Sealclip Type
mm²		mm	mm	mm	mm	mm	
25						2.163	
35						2.163	
50						2.163	
70						2.163	
95						2.163	
120						2.163	
150						2.163	
185						2.163	
240						2.163	
300						2.163	
370						2.163	
450						2.163	
540						2.163	
630						2.163	
720						2.163	
810						2.163	
900						2.163	
1000						2.163	
1100						2.163	
1200						2.163	
1300						2.163	
1400						2.163	
1500						2.163	
1600						2.163	
1700						2.163	
1800						2.163	
1900						2.163	
2000						2.163	
2100						2.163	
2200						2.163	
2300						2.163	
2400						2.163	
2500						2.163	
2600						2.163	
2700						2.163	
2800						2.163	
2900						2.163	
3000						2.163	
3100						2.163	
3200						2.163	
3300						2.163	
3400						2.163	
3500						2.163	
3600						2.163	
3700						2.163	
3800						2.163	
3900						2.163	
4000						2.163	
4100						2.163	
4200						2.163	
4300						2.163	
4400						2.163	
4500						2.163	
4600						2.163	
4700						2.163	
4800						2.163	
4900						2.163	
5000						2.163	
5100						2.163	
5200						2.163	
5300						2.163	
5400						2.163	
5500						2.163	
5600						2.163	
5700						2.163	
5800						2.163	
5900						2.163	
6000						2.163	
6100						2.163	
6200						2.163	
6300						2.163	
6400						2.163	
6500						2.163	
6600						2.163	
6700						2.163	
6800						2.163	
6900						2.163	
7000						2.163	
7100						2.163	
7200						2.163	
7300						2.163	
7400						2.163	
7500						2.163	
7600						2.163	
7700						2.163	
7800						2.163	
7900						2.163	
8000						2.163	
8100						2.163	
8200						2.163	
8300						2.163	
8400						2.163	
8500						2.163	
8600						2.163	
8700						2.163	
8800						2.163	
8900						2.163	
9000						2.163	
9100						2.163	
9200						2.163	
9300						2.163	
9400						2.163	
9500						2.163	
9600						2.163	
9700						2.163	
9800						2.163	
9900						2.163	
10000						2.163	

5) The suitable Sealclip have to be chosen based on the diameter of the Conduct, according to the Table 1.

6) Depending on the particular configuration of the cables, the choice should be completed distinguishing between type A and B, by consulting the Table. 2

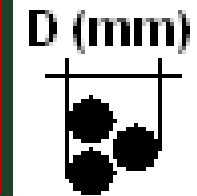
Tabella 2. Selezione Formato / Table 2. Size selection.

Dimensione del conduttore Cable size	Sealclip Type	Sealrad 100A Sealrad 100A Dmax	Sealrad 72A Sealrad 72A Dmax	Sealrad 60A Sealrad 60A Dmax	Sealrad 100A Sealrad 100A Dmax	Sealrad 102A Sealrad 102A Dmax	Sealclip Type
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4400						2.163	
4500						2.163	
4600						2.163	
4700						2.163	
4800						2.163	
4900						2.163	
5000						2.163	
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5200						2.163	
5300						2.163	
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6600						2.163	
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7700						2.163	
7800						2.163	
7900						2.163	
8000						2.163	
8100						2.163	
8200							

## 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<sup>2</sup>



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 x D (cable diameter);  
Load  $D / 2 \times 10\text{N}$ ; Duration: 4 hours

### Bending

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

### Torsion

Temperature:  $23 \pm 3$  ° C; Distance: 10 x D (min 250mm);  
Strength:  $D / 2 \times 10 \text{ Nm}$  (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**

*"Sealand" is a patented product  
by Elcon Megarad S.p.A.*

*+39.08.25.60.77*

*[www.elconmegarad.com](http://www.elconmegarad.com)*