



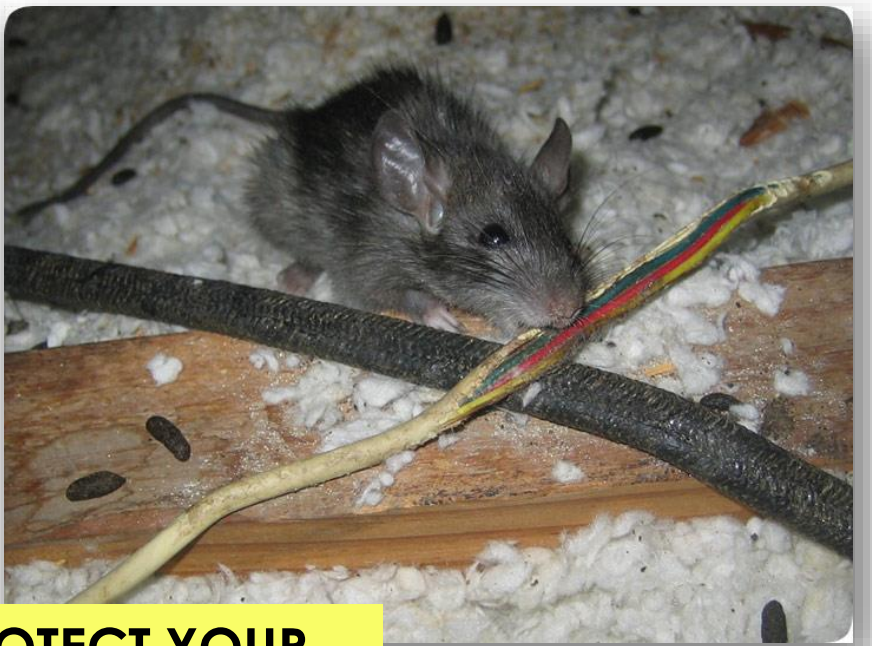
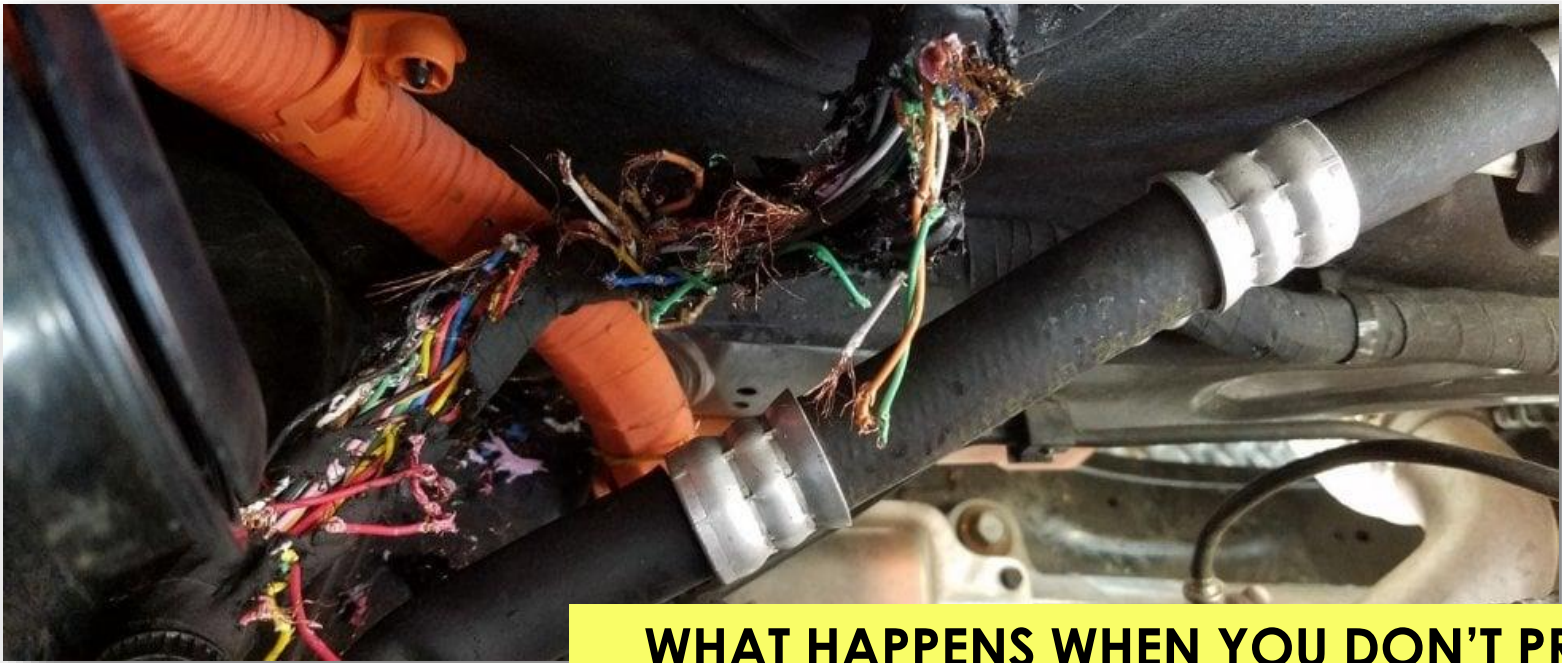
SEALING BAGS



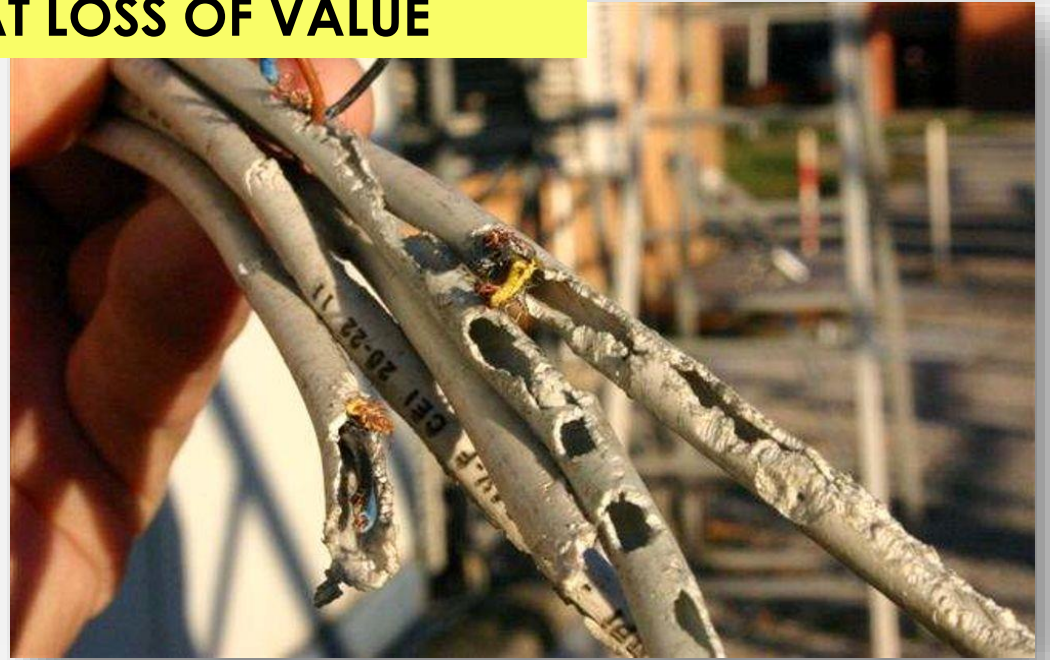
SELF INFLATING SYSTEM FOR OCCUPIED DUCTS

albre**mb**
BEYOND INNOVATION





**WHAT HAPPENS WHEN YOU DON'T PROTECT YOUR
INFRASTRUCTURE? A GREAT LOSS OF VALUE**





CAUTION !!!!

**DIRT, MUD AND
RODENTS OBSTRUCT
AND DESTROY YOUR
INFRASTRUCTURE
SPOLING ITS VALUE.**

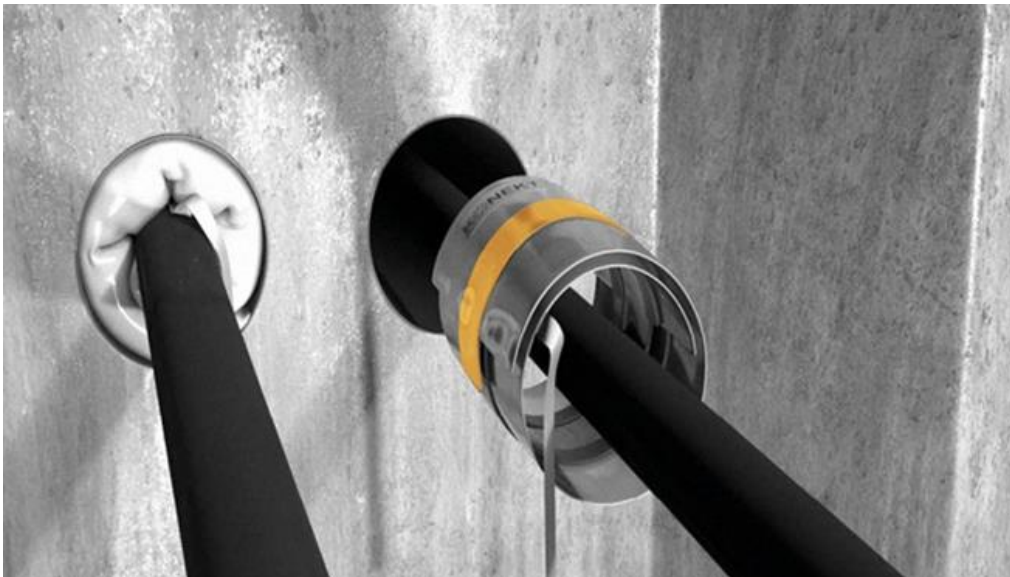


SEALING BAG OKT

The OKT system is designed to ensure watertightness between an underground conduit and the cable/(s) located inside.

In this way, we can prevent the entry of mud, dirt, water, gas and humidity into the duct(s), which could damage or cause malfunctions to the system, as well as being particularly dangerous to health and to the environment.

This system is also recommended to close the entry of pipes in buildings, external cabinets and transformer cores.



The bag is made of Aluminum foil, Polyethylene and Polyester.

It is equipped with an adhesive closure base.

The gas used to inflate the bag is located in a **CO2** cartridge under pressure that is activated from the outside.

OKT KONEKT - TECHNICAL SHEET

LABORATORY TESTS

TEMPERATURE TEST

20 cycles of 12 hours at 50 kPa of pressure, switching temperature between -15°C and $+30^{\circ}\text{C}$.



VIBRATION TEST

10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.



MECHANICAL TESTS

Tensile test $D/2 \times 10 \text{ N}$ (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).



CHEMICAL RESISTANCE TEST

Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.



LEAK TEST

Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.



RECOMMENDATIONS

It is recommended to store the OKT in a dry and closed place and far away from different chemical products. The use of OKT shutter is specified at entry of impermeable pipe (plastic, metal, etc.) to ensure the complete sealing of the pipe. It is important to follow the installation instructions for a correct installation and uninstallation.

PRODUCT FEATURES

Internal pressure of $300 \pm 30 \text{ Kpa}$. Used for sealing and shutter occupied ducts subjected to an internal maximum pressure of 50 kPa (5 meter water level in the access manholes).





EXTERNAL MEASURES OF THE DUCT TO BE OBTURED

Model	Ø (mm) Cond. Ext.	Ø (mm) Cables max.	Ø (mm) Cables min.	Weight (g)
OKT 25	25	12	7	13 ± 3 g
OKT 32	32	17	7	19 ± 3 g
OKT 40	40	22	7	40 ± 5 g
OKT 50	50	30	7	53 ± 5 g
OKT 63	63	45	7	125 ± 5 g
OKT 75	80	55	10	135 ± 5 g
OKT 90	90	70	12	193 ± 5 g
OKT 110	110	85	12	230 ± 5 g
OKT 160	160	99	14	292 ± 5 g
OKT 200	200	132	19	350 ± 7 g

INTERNAL MEASURES OF THE DUCT TO BE OBTURED

Model	Ø (mm) Cond. Int.	Ø (mm) Cables max.	Ø (mm) Cables min.	Weight (g)
OKT 25	20-21	12	5	13 ± 3 g
OKT 32	27-28	17	5	19 ± 3 g
OKT 40	33-36	21	5	40 ± 5 g
OKT 50	45-48	30	7	53 ± 5 g
OKT 63	54-60	45	7	125 ± 5 g
OKT 75	68-72	55	10	135 ± 5 g
OKT 90	85-90	65	12	193 ± 5 g
OKT 110	100-107	75	12	230 ± 5 g
OKT 160	125-135	90	14	292 ± 5 g
OKT 200	155-165	120	19	350 ± 7 g

FISS - FIRESTOP SEALING SYSTEMS



FISS represents the type of Sealing Bag with excellent FIRE RESISTANCE thanks to the innovative System placed internally.

STRATEGIC AREAS

- *Data-centers*
- *Airports*
- *Business centers*
- *Military bases*
- *Public Services*
- *Eex areas*



The FISS is designed to withstand more than 2 hours in case of fire, so the installation will be protected until the intervention of the means of extinction.

The FISS works like a fire door and prevents the spread of fumes and gases harmful to people.



The products are placed in the pipes prepared to analyze their behavior in real fire conditions. Thermocouples are installed to measure the temperature.

AFTER 120 MINUTES OF TEST, THE FISS ALLOWED TO STRONGLY REDUCE THE FIRE PROPAGATION



↓
The fire on this side of the wall makes its action.

FISS - TECHNICAL SHEET



FIRE RESISTANCE

Ta > 1000°C. EI 120, according UNE EN 1366-1.

LABORATORY TESTS



TEMPERATURE TEST

20 cycles of 12 hours at 50kPa of pressure, switching temperature between -15°C and +30°C.



VIBRATION TEST

10 days with 10 Hz frequency cycles, 6 mm amplitude and pressure of 50 kPa.



MECHANICAL TESTS

Tensile test D/2 x 10 N (5h), D twisting N (5 min in each direction) and folding action between 35 and 45 degrees (5 min each way).



CHEMICAL RESISTANCE TEST

Chlorhydric acid (pH 2), sodium hydroxide (pH 12), sodium sulfate, sodium chloride, and diesel oil.



LEAK TEST

Water immersion for 48 hours with 50 kPa of pressure in the conduit after the previous tests.

RECOMMENDATIONS

It is recommended to store the FISS in a dry and closed place and far away from different chemical products. The use of FISS shutter is specified at entry of impermeable pipe (plastic, metal, etc.) to ensure the complete sealing of the pipe. It is important to follow the installation instructions for a correct installation and uninstallation (same instructions that the OKT)

The FISS is environmentally friendly.

PRODUCT FEATURES

Internal pressure of 300 ± 30 kPa. Used for sealing and shutter occupied ducts subjected to an internal maximum pressure of 50 kPa (5 meter water level in the access manholes).



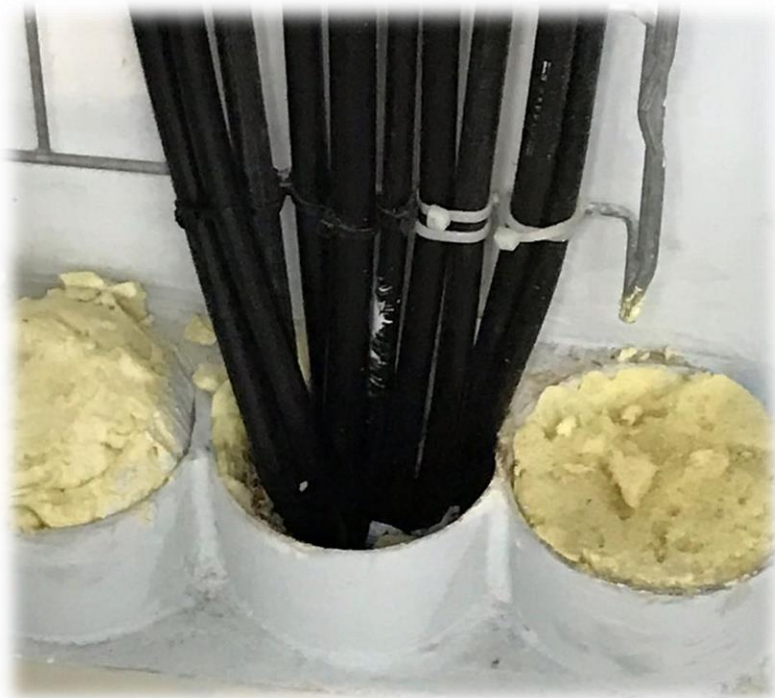
Example of securing Data-Center

COMPARISON WITH OTHER DEVICES

Compared to other duct systems available on the international market, the decisive factor for choosing OKT is the simplicity of installation.

In fact, we can find systems where a gun that injects air or gas, supplied by a compressor or a pressurized bottle, is needed to operate the system.

Instead, installing OKT requires manual pressure only, thus allowing us to install our seal in a matter of seconds, in an absolutely economical way and without the aid of any equipment.



INSTALLATION

JUST SIX QUICK STEPS

1



2



1. *Clean the interior of the conduit and the cable with a cloth.*
2. *Remove the wrapping and unroll.*
3. *Open the bag OKT and remove the adhesive internal protection film.*
4. *Apply lubricant on both OKT bag sides and on cable sheath.*

3



4



5



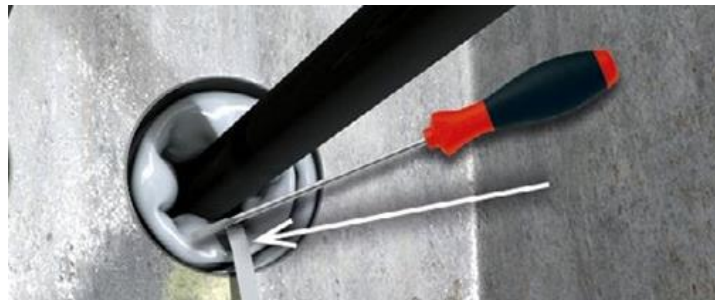
6



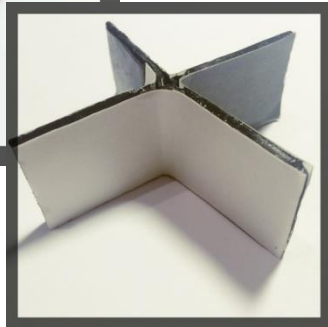
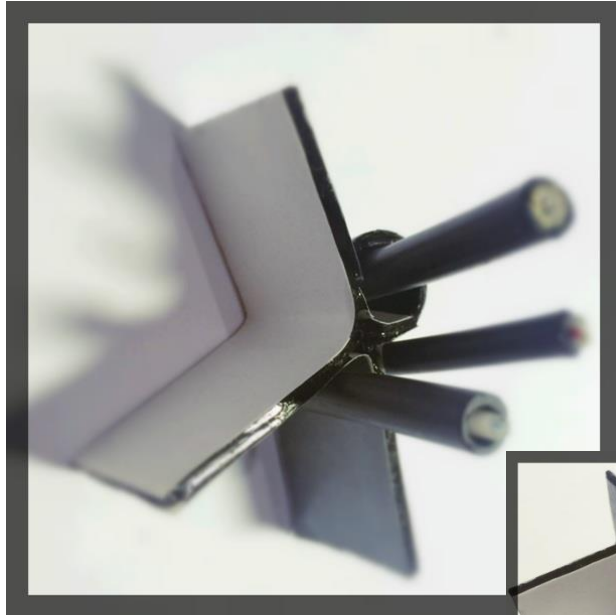
5. *Roll up the OKT around the cable, overlapping the two adhesive sides and leveling it inside the conduit.*
6. *Pull the ribbon upwards to inflate the OKT*

UNINSTALLING:

Pierce OKT bag, separate cables and extract it with mechanical clamp, turning it on itself.



CROSS ELEMENT



The cross element is used to correctly place the OKT when there are more cables in the duct. This element fixes, seals preventing water or air leakage between the cables.

Type 70 - 70 mm length – 30 mm width and 3 mm thickness

Type 30 - 30 mm length – 30 mm width and 1,5 mm thickness

Use: *To use it you must first apply the lubricant on the surfaces. If one needs to obtain a greater thickness it is possible to apply more than one cross.*





SOLUTIONS DESIGNED TO LAST AND ADD VALUE AT YOUR INVESTMENTS

PREPARE CABLES CHAMBERS TO FUTURE DEPLOYMENT

The complete solution for sealing that KONEKT provide allow several benefits in the short and medium term.

We recommend the installation of our OKT, TO, TA products in each cable chamber to secure the infrastructures. These products can be adapted according to the technical needs of the operators.

SHORT TERM

- Reduced incidence rate
- Reduce breakdowns rate
- Faster deployment of fibre optic network and lower cost in civil engineering

MEDIUM / LONG-TERME

- Better management in case of changing technology
- Faster deployment of future fibre optic network
- Maintain the value of infrastructure assets

SHORT-TERM BENEFITS

REDUCTION OF THE NUMBER OF INCIDENTS

Class of most common incidents: floods and Effects of floods that block the ducts.

REDUCTION OF BREAKDOWNS

Class of major breakdowns: cable cutting by rodents or Sunken.

FASTER DEPLOYMENT OF FIBRE OPTIC NETWORK AND REDUCTION OF CIVIL ENGINEERING COSTS

Having the cable chamber protected and sealed allows to add cables without problems over the existing pipeline network.

MEDIUM AND LONG-TERM BENEFITS

BETTER MANAGEMENT IN CASE OF CHANGING TECHNOLOGY

Time and money saved in case of changing from copper to fibre. In addition, the technology may change after the fibre, however, chamber will be prepared for those changes.

FASTER DEPLOYMENT OF FUTURE FIBRE OPTIC NETWORK

Direct consequences of good infrastructure ready for future projects. No additional investment to provide in civil engineering.

MAINTAIN THE VALUE OF INFRASTRUCTURE ASSETS

Investments in infrastructure are very expensive in civil engineering. So, we preserve the value of the network with our products.

CHAMBER (MANHOLE) WITHOUT PROTECTION

HIGH INTERVENTION COSTS

In case of flood for example: sending a team with a pump and equipment to empty the register rooms. Our products work as a dam to each chamber.

HIGH COSTS BECAUSE OF LOST TIME

Localisation of Incidences or localisation of breakdowns. To start construction work we often need works permits issued by town halls to intervene and make a trench for example.

DIRECT COSTS ON INFRASTRUCTURE

Staff + Authorizations + Excavator ... etc.
= All expensive work when an entire pipe is lost.

DIRECT IMPACT ON TURNOVER

Claims, commercial rebates, increased customer service calls and high image cost.

Sometimes it is possible to bypass the service or reconnect the user in another area however, at some point it will be necessary to intervene directly in the infrastructure. Unless deciding to abandon this portion of the network therefore we have a direct loss.

At the short term, our products help solve more quickly problems in case of incidents and breakdowns.

ADVANTAGES

- ✓ NO INSTALLATION EQUIPMENT IS REQUIRED
- ✓ NO NEED OF ANY MAINTENANCE
- ✓ FAST, FLEXIBLE AND EASY TO INSTALL, SAVING INSTALLATION TIME (AND MONEY)
- ✓ POSSIBILITY OF INSTALLATION IN PRESENCE OF RUNNING WATER ON THE PIPES
- ✓ EASY DISASSEMBLY
- ✓ ADAPABLE TO DIFFERENT CABLE DIAMETERS
- ✓ ZERO RISK OF TOXICITY
- ✓ THE VALUE OF YOUR INFRASTRUCTURE IS SAFE



alb**re**mb

BEYOND INNOVATION



Have a look at our website
www.albrenb.it