

Part 5.4: Short installation instructions

Art.-Group <b>19</b>	<b>WOLF® Sealing Bag</b> Rohr-Inner-Ø 40 - 150 mm TELECOMMUNICATION CABLES
-------------------------	--

Subsequent sealing of empty or occupied ducts (underground) or in cable cabinets against gas diffusion and 5 m water column.

Features of the coating material

Sealing element type	Material	Note	Reuseable (reassembly)
„ZK“	Cellular rubber sealing strip	Installation possible in standing or running water	The strip must not be damaged. The sealing element can be installed as soon as the deformed cellular rubber has regained its original shape.
„Q“	Non-woven waterproofing sealing strip (PP-fleece with water swelling polymer)	Installation <b>not</b> possible in standing or running water	The sealing element can be installed as soon as the sealing strip has completely dried out
„SQ“	SQB-V-sealing strip (PES/CO with water swelling SAP)		The strip must not be damaged. The sealing element can be installed as soon as the sealing strip has completely dried out

**NOTES ON USE**

In order to ensure reliable retro-sealing of empty or occupied ducts, the following information is needed:

1. Inner Ø of the outer protective pipe
2. Number and Ø of multiple cable entries in the pipe
3. Distribution of the cable entries
4. Number and outer Ø of cables and/or ducts

SealingBags must be protected against wetness, dampness and direct sunlight. Storage is possible for up to 4 years without any impairment of the sealing-system function.

**SAFETY INSTRUCTIONS FOR PRESSURE-FILLING SI 05\_1.1**



**Caution!**

Take care to comply with our safety instructions for handling sealing elements made of aluminium-plastic laminate.

## REQUIREMENTS FOR THE INFLATION TOOL

- Filling capacity ≤ 20 litres/min
- Automatic pressure shut-off or pressure gauge for 0 - 4 bar
- The filling-pressure display must be accurate in the range from 0.5 to 3.5 bar (with a tolerance of ± 0.1 bar) at +20 °C

## INFLATION IN RELATION TO INSTALLATION CONDITIONS

Inflation must be carried out in accordance with the instructions printed on the sealing cushion.

See specification in MA 05-2.1, table 2

Example: Product label (ref. value for ± 20°C).

**WOOLF**  
GmbH  
Charge-no. 116/22

**ZKSB L100**  
Rohr Innen-Ø/Duct inner Ø: 105 mm (4.1 inch)  
Belegung / Config.: 0 <70 mm (0 - <2.8 inch)  
Fülldruck / Filling pressure: 2,6 bar (37.7 psi)

MA 05_2.1 Table 2	Filling pressure [bar   psi] at ambient / operating temperature					
	[n °C ± Δ 5 °C] / [n °F ± Δ 9 °F]					
SealingBag size	-20 °C -4 °F	-10 °C 14 °F	0 °C 32 °F	+20 °C 68 °F	+30 °C 86 °F	+40 °C 104 °F
L 40*	2.4 bar 34.8 psi	2.5 bar 36.3 psi	2.6 bar 37.7 psi	2.8 bar 40.6 psi	2.9 bar 42.1 psi	3.0 bar 43.5 psi
L 45*						
L 50*						
L 60*						
L 80	2.2 bar 31.9 psi	2.3 bar 33.4 psi	2.4 bar 34.8 psi	2.6 bar 37.7 psi	2.7 bar 39.2 psi	2.8 bar 40.6 psi
L 90						
L 100						
L 115	1.7 bar 24.7 psi	1.8 bar 26.1 psi	1.9 bar 27.6 psi	2.1 bar 30.5 psi	2.2 bar 31.9 psi	2.3 bar 33.4 psi
L 125						
L 150	1.4 bar 20.3 psi	1.5 bar 21.8 psi	1.6 bar 23.2 psi	1.8 bar 26.1 psi	1.9 bar 27.6 psi	2.0 bar 29.0 psi

\*Automatic fill-stop [33 DB VG8-M8] required

## INSTALLATION ACCESSORIES

Multi-configurations:	Wolf® cable separator (QV, SQ) or Wolf ® sealing strip are necessary.
Pressing the crimp sleeve/ pressure tight	Single-die crimp tool Art. No. 19.5 BC with automatic locking. For pressing the crimp sleeve. Service life warranty only applies if the original tool is used
Inflation (special tool)	Inflation adapter (2 parts) Art. No. 19.5 SSB-A. For connecting the inflation tube on the SealingBag and the torque plug nipple of the compressor tube.
Minimum sealing area:	The specified "minimum sealing area per configuration" (see Table 1, MA 05 Part 2.1) must always be complied with, otherwise a dummy tube plug must be used.
Additional sealing in the direction of the protective pipe or channel	The outer surface of the sealing cushion must be completely coated with f.ex. self-adhesive cellular rubber in the case of: <ul style="list-style-type: none"> <li>- rough surrounding surfaces e.g. wall openings</li> <li>- debris in the channel (e.g. lumps of concrete in wall openings)</li> <li>- cavities, objects (such as hose clamps for pipe couplings) or ridges &gt; 3 mm in the sealing area</li> <li>- corrugated ducts with a corrugation of &gt; 8 mm</li> </ul>

# INSTALLATION (OVERVIEW)

- 1.0 Preparation: Use a knife to scrape off and clear uneven surfaces in the cable channel.  
Select a sealing cushion and accessories from **MA 05 Part 3.1**.
- 1.1 Wrap the Sealing Bag over a mandrel, starting with the valve closure end and with the type identification text facing outwards (types up to 2.4" | 60 mm (mandrel-Ø 20 mm) Types 3.1" to 5.9" | 80 mm - 150 mm (mandrel-Ø 50 mm)). Press out residual air.
- 1.2 Spray the ZKSB2 on both sides with a lubricant mixture of water and detergent.

Application **A1**

**Duct either empty,  
or occupied by 1 cable or duct**

duct-ID ≤ 125 mm | ≤ 5 in.

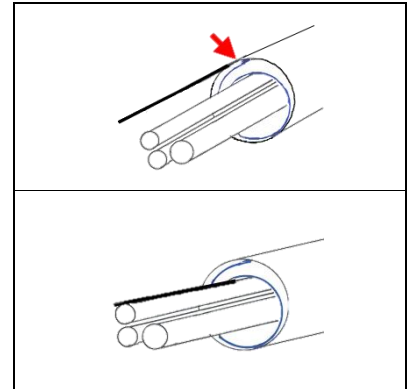
## 2.1 Types up to L60

Place the SealingBag around the cable(s), with the type identification text facing outwards, and filling end **facing the duct wall**. Push the cushion into the tube and loosen it, so that the ring rests against the duct wall.

## 2.2 Types up to L 80 - 150

Place the SealingBag around the cable(s), with the type identification text facing outwards, and filling end **facing the cable(s)**. Push the cushion into the duct and loosen it, so that the ring rests against the tube wall.

## 2.3 inflation acc. to **MA 05\_2.1** Table



Application **A2**

**Duct with multi-configuration**

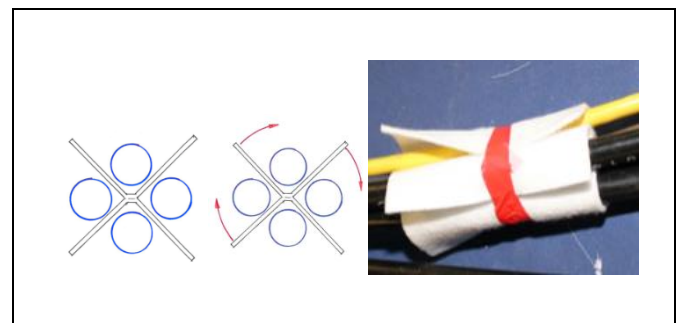
Duct inner Ø **40 - 250 mm |  
1.6 - 10 in.**

Accessories: **Wolf® Cable separator (QV, SQ..) with 4 spaces**

Position the sealing cushion round the cables with the valve facing the cables and loosen it so that it lies against the channel wall.

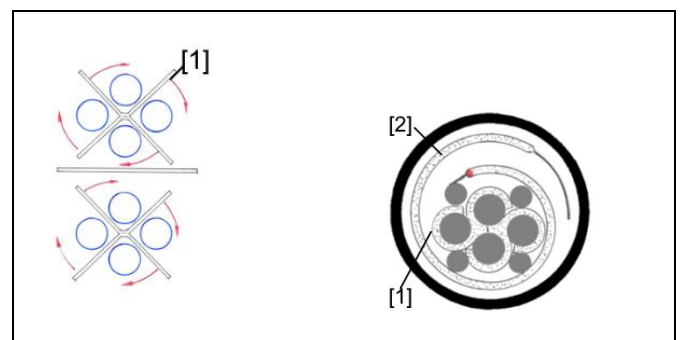
### Case 1: 2 - 4 cables or ducts

- Push apart the cables or microducts
- Lay cables Nos. 1-4 in the spaces of cable separator
- Wrap the arms of the cable separator round the cables and fix them loosely in position with adhesive tape.
- Push the cable separator to about 3 cm under the sealing cushion.



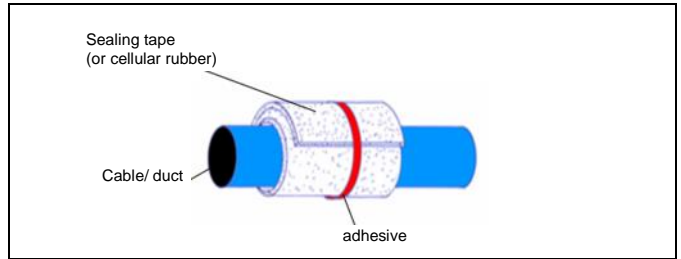
### Case 2: 5 - 8 cables or ducts

- For more than 4 cables, lay the cables at 180° to one another between (1) and (2) as shown in the diagram, or use a second cable separator



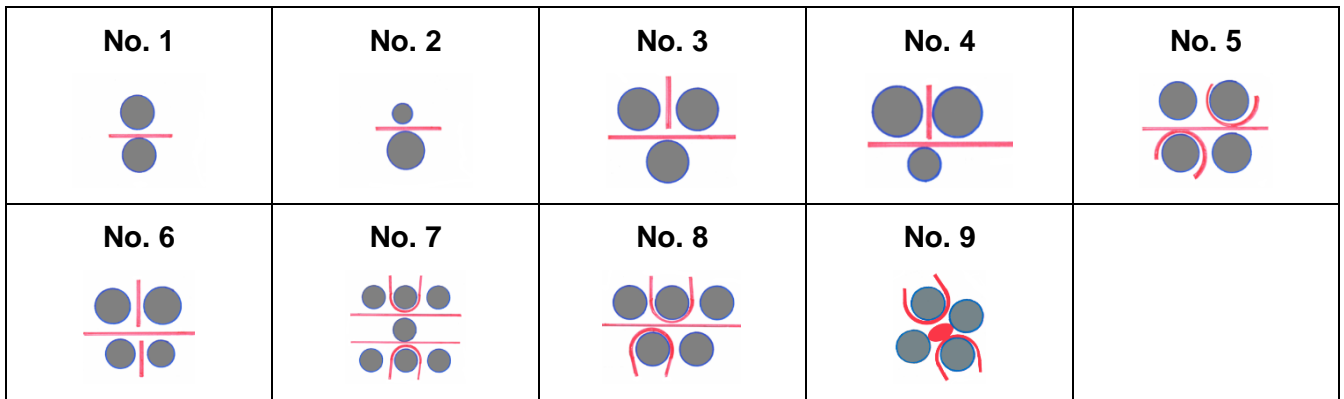
## ALTERNATIVE GAP-SEALING WOLF® Swelling sealing strips (QV, SQ)

- For each cable, cut a piece of sealing strip to a length of 4 x cable Ø and wrap it loosely round the cable with an overlap of ≥ 1 cm
- Fix in position with adhesive tape as shown in the diagram and push to about 1 cm under the sealing cushion.



### For cable/duct outer diameter ≥ 30 mm

- Any big spaces between individual cables have to be filled. To do this, an appropriate length of sealing tape is cut, rolled it into a ball and positioned in the gap. [See the following sketches Nos. 1 to 9]



## IF THE "MINIMUM SEALING AREA" IS NOT REACHED

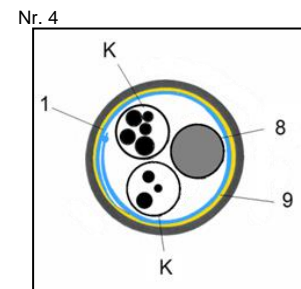
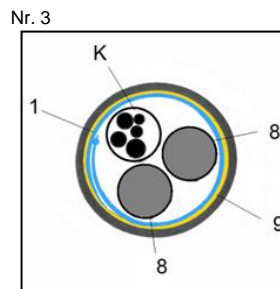
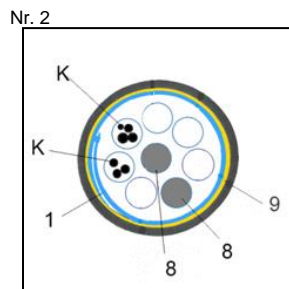
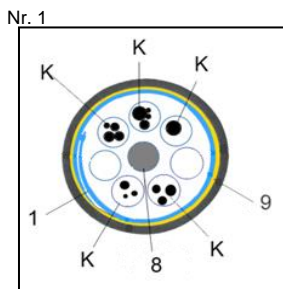
The specified "minimum sealing area per configuration" (see Table 1, **WO MA 05\_2.1**) must always be complied with, otherwise a dummy tube plug Wolf-Art.-No. 32.01 DRS-ZK must be used.

### For a single dummy tube plug

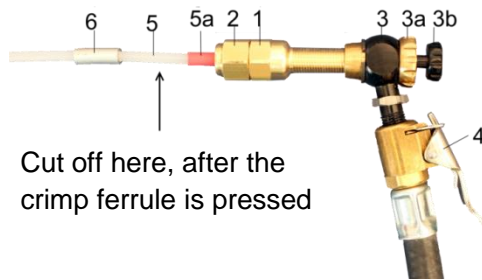
- Position the dummy tube plug [8] in the centre of the cable configuration as shown in sketch 1.
- For a 3-cable configuration, see sketch 4.

### For more than one dummy tube plug

- Place one of the dummy tube plugs in the centre and a second dummy tube plug [8] on the opposite side to an occupied cable duct (Sketch 2). For a 3-cable configuration, see sketch 3



# PRESSURE INFLATION & CLOSING OF THE FILLING HOSE



Steps in order 1 to 3

## **1A SealingBag Type 80 up to 150**

- Remove the **end-cap** from inflation adapter [1] and attach it **firmly** to inflation tube [5a]
  - Attach filling-tool chuck [4] to inflation adapter [1] and inflate the sealing cushion in accordance with the instructions in *MA 05\_2.1 table 2* or product label
  - Remove chuck [4]
- **Continue with steps 2 and 3 (below)**

## **1B SealingBag Typ 40, 50 and 60**

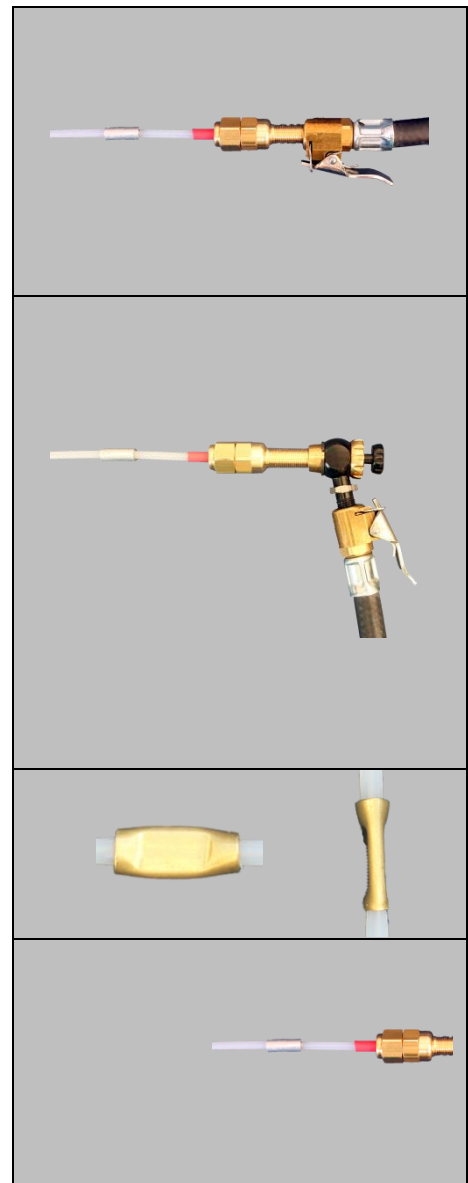
- Attach inflation adapter [1] to inflation tube [5a].
  - Screw automatic shut-off device [3] onto inflation adapter connection [1].
  - Use ring screw [3b] to open the valve at inflation adapter [1].
  - Attach filling-tool chuck [4] to automatic shut-off device [3] and inflate the sealing cushion in accordance with the instructions *MA 05\_2.1 Table 2* or product label
  - Close valve [1] at inflation adapter by means of ring screw [3b].
  - Remove chuck [4].
- **Continue with steps 2 and 3 (below)**

## **2 Pressure-tight pressing**

- Using the Wolf crimping tool. Press the middle of crimp sleeve [6] until the preset ratchet mechanism causes the tool to automatically open (automatic unlocking)

## **3 Removal of the inflation adapter**

- Remove the inflation adapter [1] by cutting inflation tube [5a].
  - Separate the two parts of inflation adapter [1] and remove **to the inside** the section of inflation tube [5a].
- Screw the two parts of the filling adapter [1] back together, insert and store the protective cap.



## REMOVAL OF THE SEALING BAG

Cut off the valve extension or puncture the Sealing Bag. Press the cable ends against the duct wall so that the remaining air can escape. The Sealing Bag can be removed non-destructively after 1 min.

## RETROFITTING CABLES (SECOND INFLATION)

- The cellular rubber strip must not be damaged. The sealing element can be installed as soon as the deformed cellular rubber has regained its original shape. The cellular rubber regenerates after approx. 4 h. Alternatively, the self-adhesive cellular rubber sealing tape can be removed and replaced.
- Swellable sealing tapes: SQ or non-woven QV: Allow to dry completely or peel off and replace with a new one. SQ-strip must not be damaged on PES/CO-layer. QV (non-woven) is self-healing.

## GUARANTEE OF TIGHTNESS

The low leakage rate of  $\leq 2.7$  mbar/year (= long service life) for the sealing cushion can only be guaranteed if it can be proved that the original Wolf crimp tool was used (Art.-No. 19.1 BC).

## CONTACT

**WOOLF**<sup>®</sup> GmbH ☎ ++49 (0) 711 87 39 41 | [service@wolf-systems.com](mailto:service@wolf-systems.com) | [www.wolf-systems.com](http://www.wolf-systems.com)

All information, pictures and graphic representations correspond to our current state of information and are correct to the best of our knowledge and belief. However, they cannot be considered as a binding warranty of the properties described. Such a warranty applies only to our product standards. The user must judge for himself on his own responsibility whether the product described is suitable for his intended application. Our liability for this product is based exclusively on our general terms and conditions of business. We reserve the right to alter our specifications without prior notice. We reserve the right to alter our specifications without prior notice. We also reserve the right to make, without prior notice to the buyer such changes to materials or processes as do not affect compliance with the specification