

Inflatable duct seal for telephone cable ducts

TELECOM OUTSIDE PLANT

**Selection table
(dimensions in mm/inches)**

Maximum cable diameter for duct with 1 cable or sum of 2 cables.

Each TDUX size will seal vacant ducts for the duct range shown in the table.

Product description		TDUX-35		TDUX-45		TDUX-60		TDUX-75		TDUX-90		TDUX-100		TDUX-125		To seal 3 or more cables, use TDUX-CL clip (*) Clip size
Duct	Ø	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
125	4.9													103	4.0	TDUX-CL-80
120	4.7													95	3.7	
115	4.5													91	3.6	
110	4.3											90	3.5	83	3.3	
105	4.1											85	3.3			
100	3.9									83	3.3	80	3.1			
95	3.7									76	3.0	74	2.9			TDUX-CL-60
90	3.5									70	2.8	66	2.6			
85	3.3									62	2.4	60	2.4			
80	3.1									54	2.1	52	2.0			TDUX-CL-40
75	2.9							56	2.2	50	2.0	45	1.8			
70	2.8							46	1.8	42	1.6					
65	2.7							40	1.6	30	1.2					TDUX-CL-20
60	2.4					45	1.8	30	1.2	22	0.9					
55	2.2					38	1.5	28	1.1							
50	2.0					30	1.2									TDUX-CL-20
45	1.8			32	1.3	18	0.7									
40	1.6			27	1.1											
35	1.4	25	1.0	18	0.7											
30	1.2	19	0.7													
25	1.0	12	0.5													

* **Note:** in case 3 or more cables have to be sealed, the cable bundle diameter needs to be determined. Subtract 5 mm/0.2 inches for each clip used from max. cable diameter shown in table, to determine the max. cable bundle diameter. TDUX-clips must be ordered as a separate item. TDUX-CL clips are not to be used with TDUX-35. They are applicable to TDUX-45 and larger. TDUX-35 is suitable for use in vacant ducts or ducts with 1 cable.

1 Safety rules

Lubricant

Protect from frost. In case of eye contact, flush with clean water during 15 minutes, holding eyelids open. Seek medical attention if irritation persists. Wash with mild soap and water if skin irritation occurs.

Gas cylinders

If the carbon dioxide gas cylinders are used to inflate TDUX, following safety rules

should be considered. The gas pressure in the cylinder is approximately 60 bar (900 p.s.i.) at room temperature. Max. operational temperature is 50°C/122°F. Keep cool and dry. Use only as instructed in operating manual of TDUX-IT-16 inflator. Misuse can be dangerous. Do not handle the cylinder with unprotected hands immediately after filling a TDUX duct seal. Frostbite can result.

2 Application

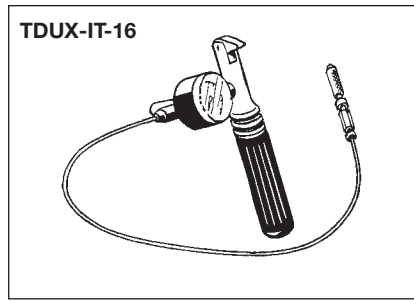
TDUX will seal ducts with/without cable(s) and can be installed even while water is flowing out of the duct. Avoid exposure of the installed TDUX duct seal to direct sunlight.

3 Unit packaging

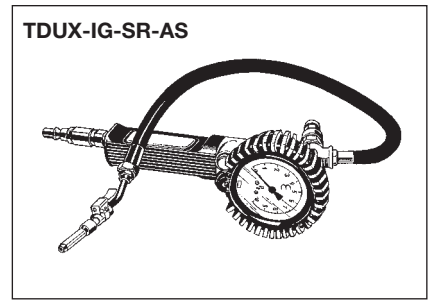
TDUX duct seals are packed per 10 pcs/box, including 1 lubricant dispenser and 1 installation instruction.

4 Tooling

TDUX duct seals can be installed with a variety of inflation tools, having the capability to inflate TDUX to $3,0 \pm 0,2$ bar/ 45 ± 3 p.s.i. of pressure. Following tools are available from Raychem.

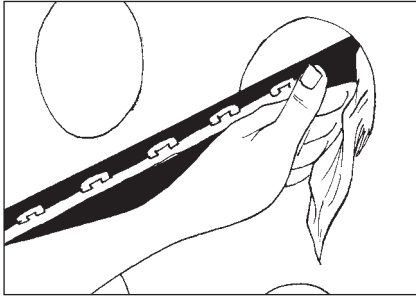


A Inflation tool using compressed CO₂ gas cylinders (to be ordered separately) equipped with a manometer and safety relieve valve.

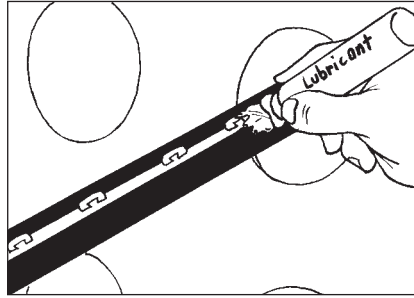


B Inflation gun to be connected to pressurised air bottle, pump or compressor. The inlet pressure to the inflation gun should be min. 4 bar/60 p.s.i. and max.10 bar/150 p.s.i..

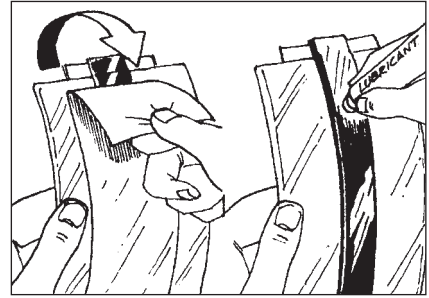
5 Installation procedure



5.1 It is recommended to wet clean the duct and cable sheath.

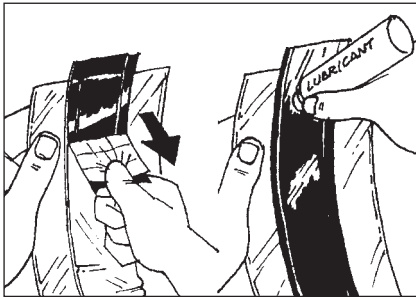


5.2 For ease of installation, lubricate the cable sheath.

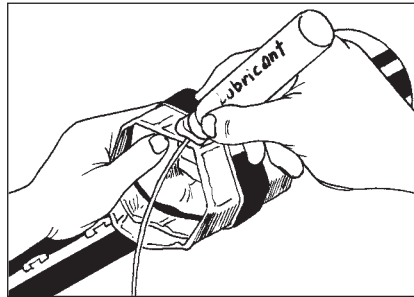


5.3 Remove the protective paper from the outside of the sealing strip and lubricate abundantly. Lubricate also outside of TDUX:

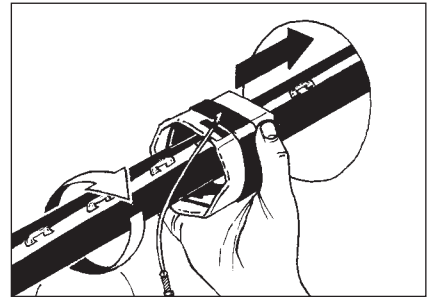
- in case of PE or concrete ducts
- when using TDUX-35



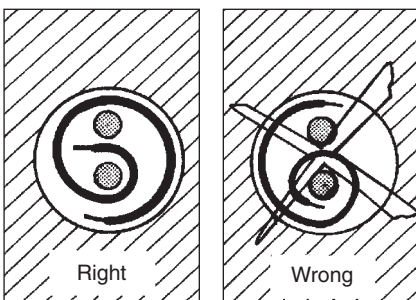
5.4 Remove the protective paper from the inside of the sealing strip. Lubricate abundantly.



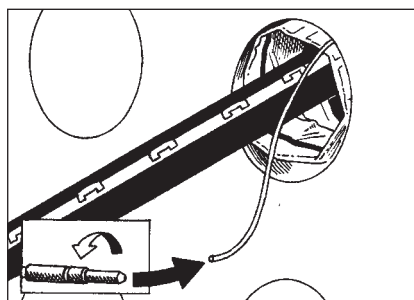
5.5 Lubricate the filling tube on the TDUX section.



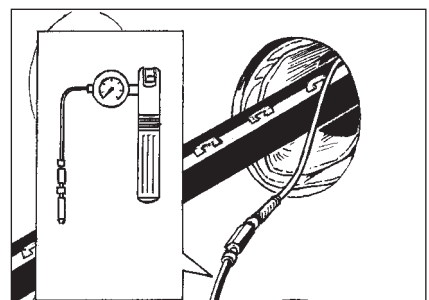
5.6 Wrap TDUX around the cable and slide completely into the duct.



5.7 In case of 2 cables, wrap TDUX around the cables as shown, starting with the largest cable.

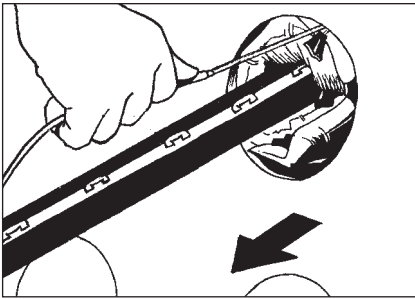


5.8 Connect the filling tube to the tube-snap of the inflation tool.



5.9 Inflate TDUX up to the pressure of 3,0 bar/45 p.s.i. and keep the pressure at $3,0 \pm 0,2$ bar/ 45 ± 3 p.s.i. during 30 seconds after which the tool must be shut-off.

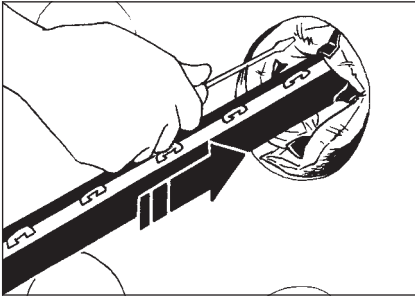
Note: please refer to the operating manual for the specific inflation tool being used.



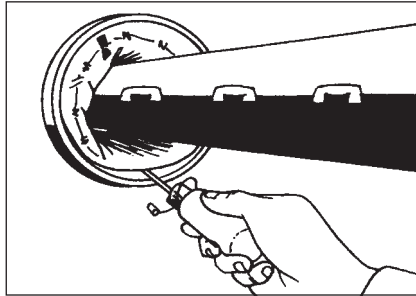
5.10 Pull-out the filling tube in one gentle move in the direction of the cable.

6 Removal

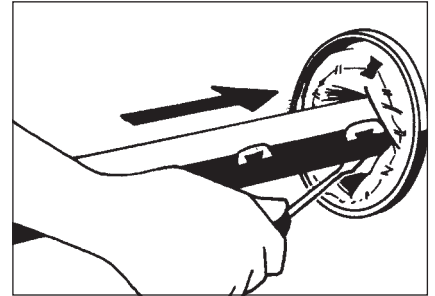
Where use of accessory is required, refer to separate installation procedure which is provided.



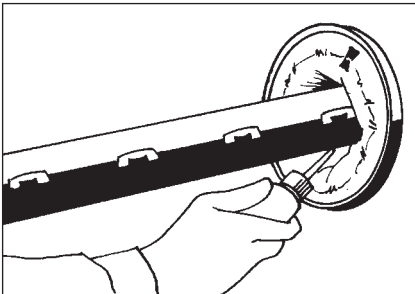
6.1 Deflate the TDUX seal by piercing with a screw-driver. Release the TDUX from the duct wall by using a blunt tool.



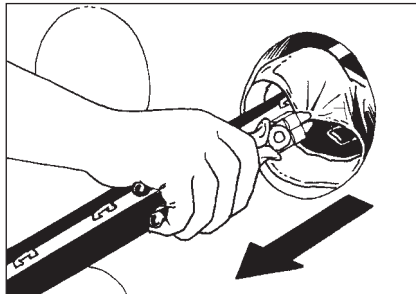
6.2 Apply lubricant on the released areas to facilitate removal of the TDUX from the duct wall with the removal lubricant bottle.



6.3 Release TDUX from the cable bundle.



6.4 Apply lubricant on the released areas.



6.5 Pull TDUX out of the duct with a pair of pliers.

Lubricant for removal E4540-1436 is separately available.

TDUX-CL

Sealing system for multiple telephone cable configurations, to be used in combination with TDUX inflatable duct seals

Application

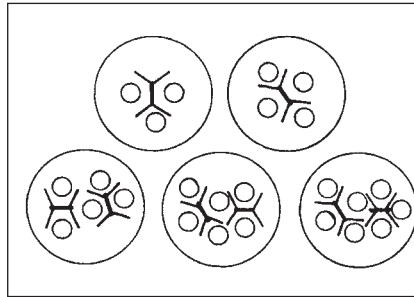
TDUX-CL duct seal clip is used in combination with TDUX inflatable duct seal, if the duct is occupied with 3 cables or more.

TDUX-CL duct seal clips must be ordered as a separate item.

For sizing information, please refer to selection table on the front page.

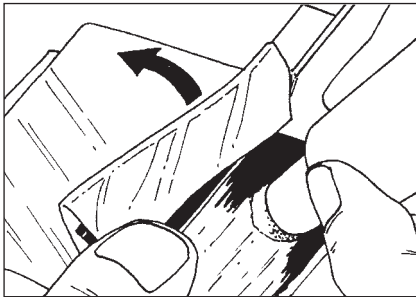
One TDUX-CL clip can seal up to 4 cables.

If more cables are to be sealed, use 1 extra clip per 3 additional cables.

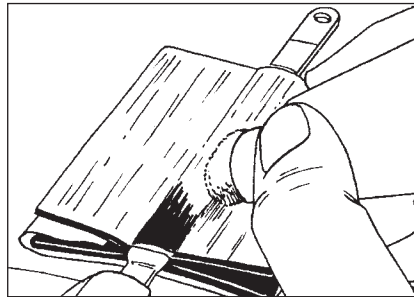


A Examples for different multiple cable configuration.

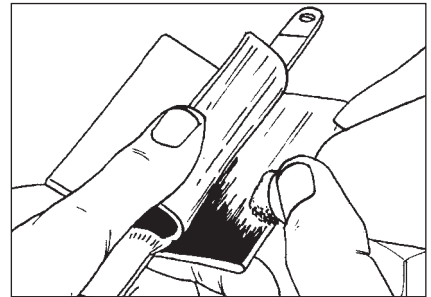
Installation instruction



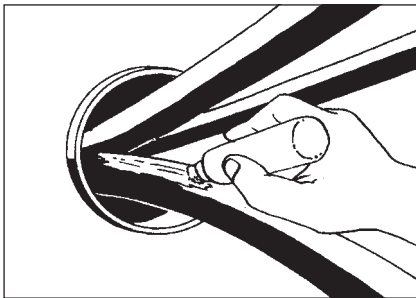
1 Open clip wings on one side. Lubricate the wings abundantly, to ensure that they don't stick together.



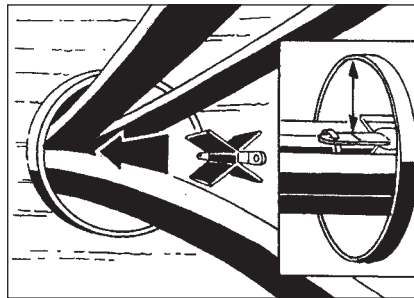
2 Remove one protection paper and lubricate abundantly the larger surface of the clip wing



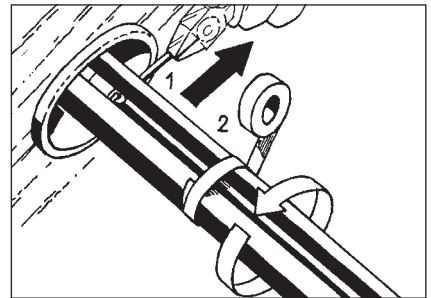
3 Repeat steps 1 and 2 for the other clip wings. Remove protection paper only after lubricating at least one wing side.



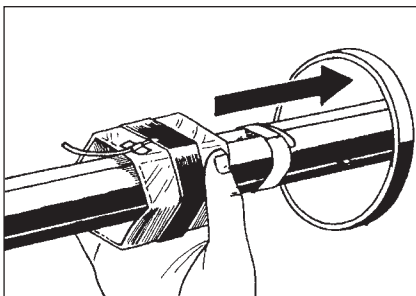
4 Abundantly lubricate the cables in the crunch area as much as possible.



5 Insert the clip in between the cables, assuring that there is only one cable between each clip wing (see picture A "configurations). Make sure that the central part of the clip is well positioned in the crunch area (mark flush with duct entrance).

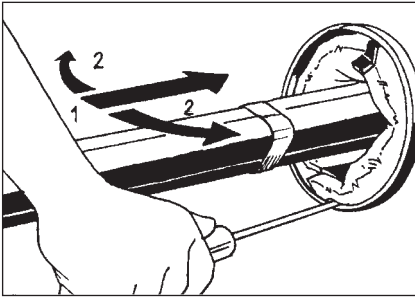


6 If necessary use a tie-wrap to hold the clip in place. Cut off the excess of the tie-wrap and position the locking part between the cables. Tape all cables together close to the duct.

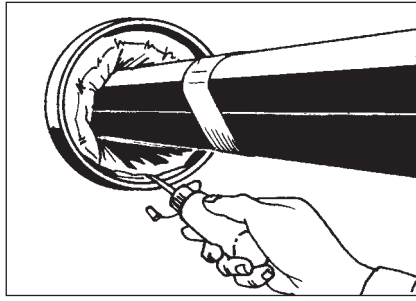


7. Install the TDUX duct seal following the standard TDUX installation procedure.

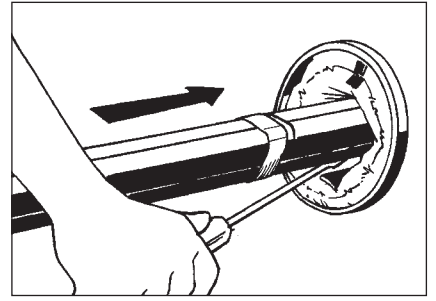
Removal



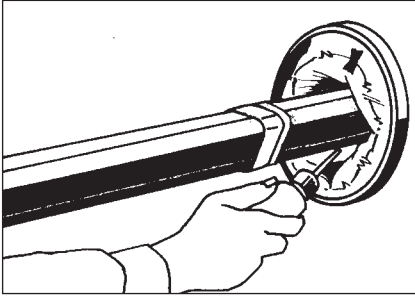
8 Deflate the TDUX duct seal by piercing with a screwdriver. Release the TDUX from the duct wall by using a blunt tool.



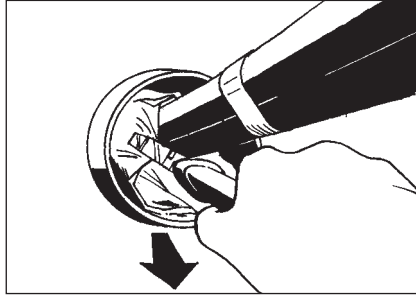
9 Apply lubricant on the released areas to facilitate removal of TDUX from the duct wall.



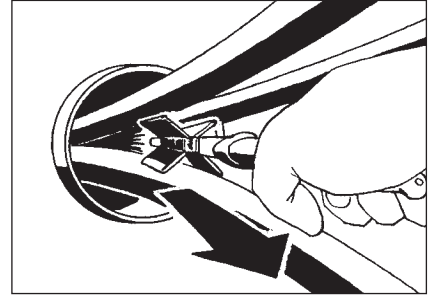
10 Release TDUX from the cable bundle.



11 Apply lubricant on the released areas.



12 Remove TDUX out of the duct with a pair of pliers.



13 If necessary, remove tape (and tie wrap) from the cable bundle. Spread cables and apply lubricant in the crunch area. Remove clip core and sealant as much as possible with a pair of pliers.

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Inflatable duct seal for telephone cable ducts

TELECOM OUTSIDE PLANT

1 Application

TDUX-90S and TDUX-100S are special sizes to seal ducts occupied with very large cable diameters. For these sizes a min. cable diameter is specified. To seal empty ducts, we recommend to use the standard TDUX sizes. TDUX will seal ducts with cable while water is flowing out of the duct.

Avoid exposure of installed TDUX duct seal to direct sunlight.

2 Selection table (dimensions in mm)

Maximum cable diameter for duct with 1 cable.

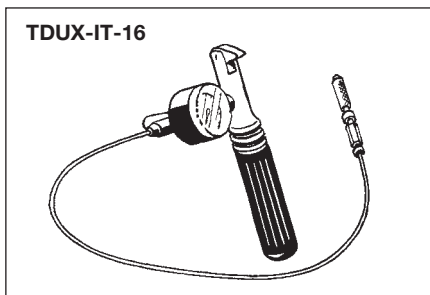
Product description Duct inside ø	TDUX-90S		TDUX-100S	
	min. cable	max. cable	min. cable	max. cable
100			50	83
90	40	72		
85	35	70		
80	30	62		

4 Unit packaging

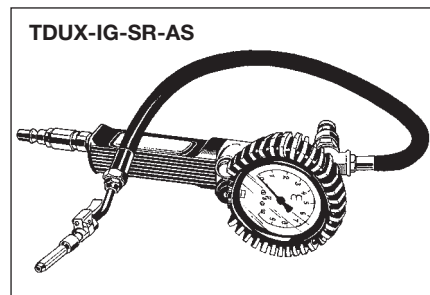
TDUX duct seals are packet per 10 pcs/box, including 1 lubricant dispenser and 1 installation instruction.

5 Tooling

TDUX duct seals can be installed with a variety of inflation tools, having the capability to inflate TDUX to $3,0 \pm 0,2$ bar of pressure. Following tools are available from Raychem



A Inflation tool using compressed CO2 gas cylinders (to be ordered separately) equipped with a manometer and safety relieve valve.



B Inflation gun to be connected to pressurised air bottle, pump or compressor. The inlet pressure to the inflation gun should be min. 4 bar and max. 10 bar.

3 Safety rules

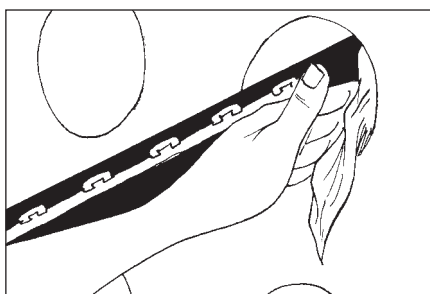
Lubricant.

Protect from frost. In case of eye contact, flush with clean water during 15 minutes, holding eyelids open. Seek medical attention if irritation persists. Wash with mild soap and water if skin irritation occurs.

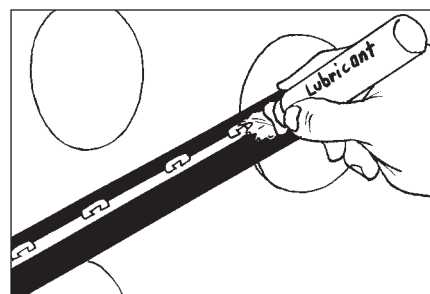
Gas cylinders.

If the carbon dioxide gas cylinders are used to inflate TDUX, following safety rules should be considered. The gas pressure in the cylinder is approximately 60 bar (900 lbf/in²) at room temperature. Max. operational temperature is 50°C. Keep cool and dry. Use only as instructed in operating manual of TDUX-IT-16 inflator. Misuse can be dangerous. Do not handle the cylinder with unprotected hands immediately after filling a TDUX duct seal. Frostbite can result.

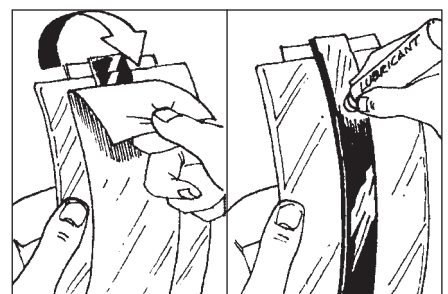
5 Installation procedure



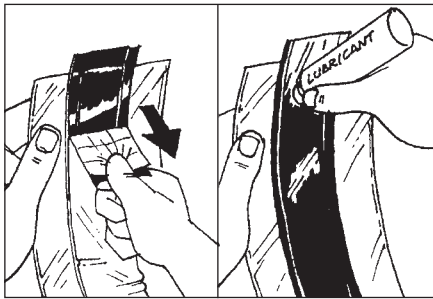
5.1 It is recommended to wet clean the duct and cable sheath.



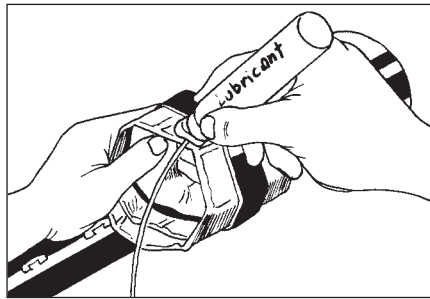
5.2 For ease of installation, lubricate the cable sheath.



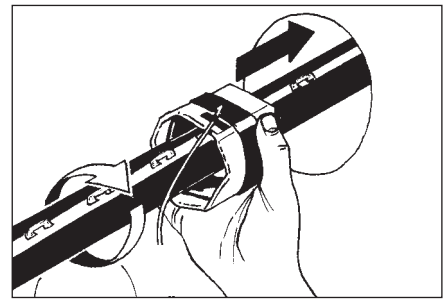
5.3 Remove the protective paper from the outside of the sealing strip and lubricate abundantly.



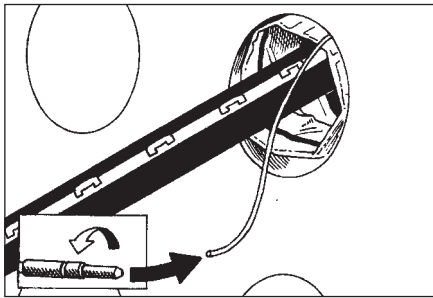
5.4 Continue with lubrication of the inside of the sealing strip.
Lubricate also the sealing strip at the outside of the product.



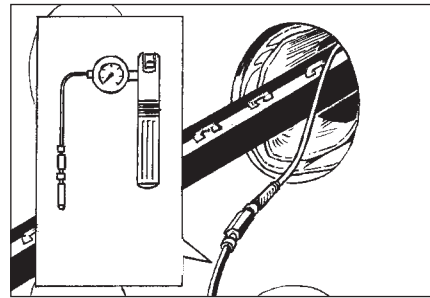
5.5 Lubricate the filling tube on the TDUX section.



5.6 Wrap TDUX around the cable and slide completely into the duct.

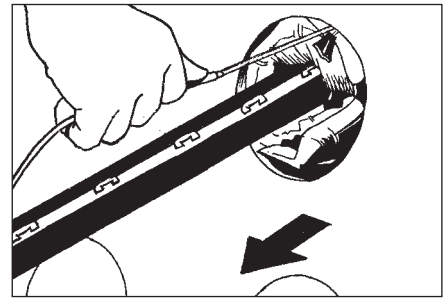


5.7 Connect the filling tube to the tube-snap of the inflation tool.



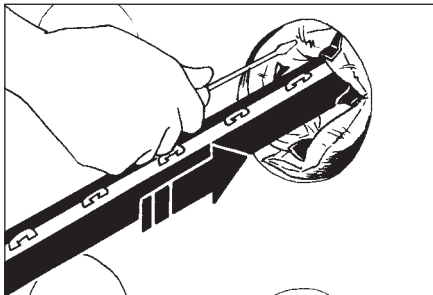
5.8 Inflate TDUX up to the pressure of 3,0 bar and keep the pressure at $3.0 \pm 0,2$ bar during 30 seconds.

Note: please refer to the operating manual for the specific inflation tool being used.

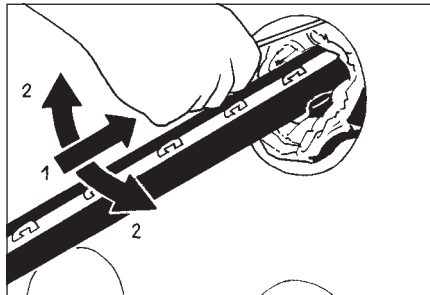


5.9 Pull-out the filling tube with a pair of pliers, in one gentle move in the direction of the cable.

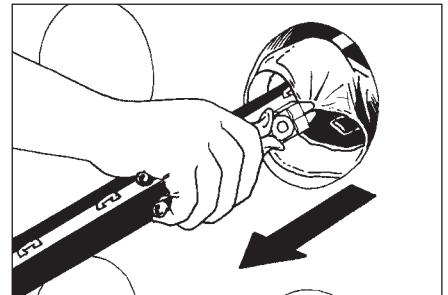
6 Removal



6.1 Deflate TDUX by piercing with a screw-driver.



6.2 Release TDUX from the duct and from the cable sheath with a blunt tool.



6.3 Pull TDUX out of the duct with a pair of pliers.

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