



Duct Seal 1

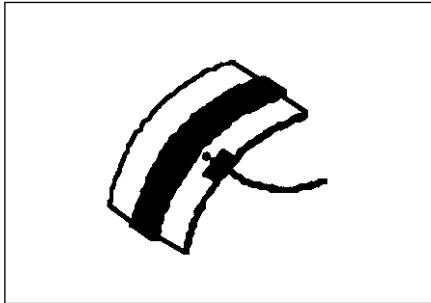
TC 314/SIP/UK/1 09/96

1. Kit contents

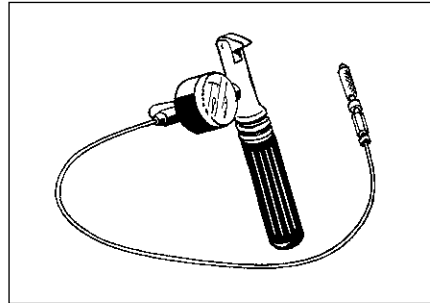
- 10 Duct Seal 1
- 1 Lubricant dispenser
- 1 Installation instruction sheet

Associated items

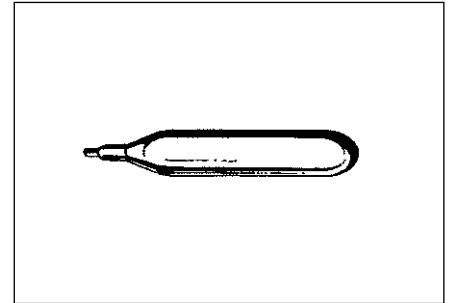
- | | |
|-------------------------------|------------|
| Duct Seal 1 Insert 1A | I/C 074999 |
| Duct Seal 1 Insert 1B | I/C 074998 |
| Duct Seal 1 Rope Anchor | I/C 075833 |
| Duct Seal 1 Inflation Tool | I/C 074996 |
| Duct Seal 1 Gas Cylinder (10) | I/C 074997 |
| Duct Seal 1 Guide 1 | I/C 075852 |



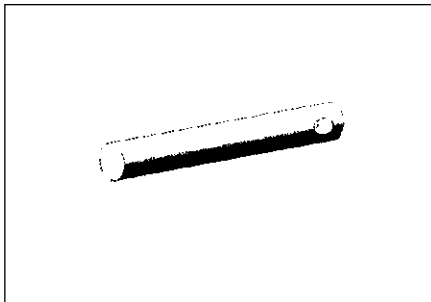
1.1. Duct Seal 1



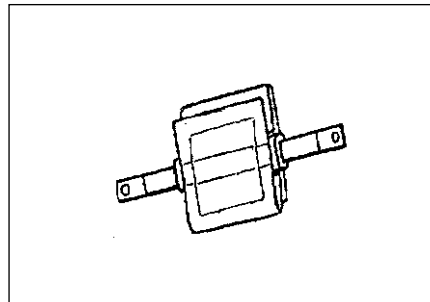
1.2. Duct Seal 1 Inflation Tool



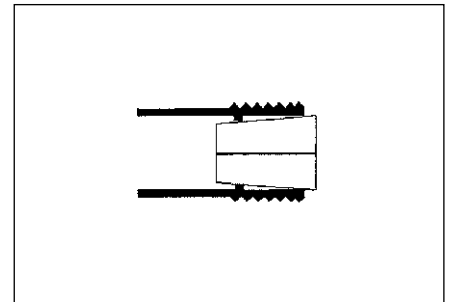
1.3. Duct Seal 1 Gas Cylinder



1.4. Duct Seal 1 Rope Anchor



1.5. Duct Seal 1 Insert



1.6. Duct Seal 1 Guide 1 usage in Gland Caulking.

2. Safety rules

2.1. Lubricant

Protect from frost.

Gloves disposable must be worn (If skin contact occurs wash with mild soap and water).

Eye-shields must be worn (In case of eye contact, flush with clean water for 15 minutes, holding eyelids open.

Seek medical attention if irritation persists).

2.2. Gas cylinders

The gas pressure in the cylinder is approximately 60 bar (900 p.s.i.) at room temperature.

Maximum operational temperature is 50 °C/122 °F.

Keep cool and dry.

Use only as instructed in the operating manual supplied with the Duct Seal 1 Inflation Tool.

Misuse can be dangerous.

Do not handle the cylinder with unprotected hands immediately after filling a Duct Seal 1, as frostbite can result.

2.3. Duct Seal removal.

Eye-shields must be worn. When the Duct Seal 1 is punctured, although the gas does not exit at a great velocity, dust/muck particles could be blown at the operator. Similarly, when the Duct Seal 1 is removed, any water which may still be in the duct could be forced at the operator.

3. Application

Duct Seal 1 may be used for sealing empty or cabled bores.

The maximum number of cables which may be sealed in one duct can be calculated using the following criteria:

The spacing between cables must be at least 10 mm.

The spacing between cables and inside wall of duct must be at least 6 mm.

(These requirements are purely to calculate the maximum number and variety of cables which may be in the duct, the Duct Seal 1 will not hold the cables in these positions).

3.1. Environment

Duct Seal 1 can be installed even while water is flowing out of the duct.

Avoid exposure of the installed Duct Seal 1 to direct sunlight.

3.2. Sealing method

The seal is produced by mastic between the cables and the duct. With multiple cables use a Duct Seal 1 Insert to provide the necessary mastic between cables. When fitting make sure that the wings of the mastic Duct Seal 1 Insert are between the cables (see diagram 3.5). When adding cable(s) to an existing seal it is generally unnecessary to remove the existing Duct Seal 1 Insert, just use another for the new cable(s).

3.3. Draw rope

Draw rope cannot be sealed in a Duct Seal 1 as gas can pass through the interstices of the rope. Tie the draw rope to a Duct Seal 1 Rope Anchor, and seal the Duct Seal 1 Rope Anchor in the Duct Seal 1 (see diagram 4.1).

3.4. Selection table

| Duct type | Duct contents | Duct Seal | Item Code | Duct Seal 1 Insert | Item code |
|-----------|---|-----------|-----------|--------------------|-----------|
| 56 | Empty | 1C | 074995 | - | - |
| 56 | 1 Cable | 1C | 074995 | - | - |
| 56 | 2 Cables or more | 1C | 074995 | 1B | 074998 |
| 54D | Empty | 1A | 074835 | - | - |
| 54D | 1 Cable less than 40 mm diameter | 1A | 074835 | - | - |
| 54D | 1 Cable greater or equal to 40 mm diameter | 1B | 074836 | - | - |
| 54D | 2 or more Cables with a bundle diameter less than 40 mm | 1A | 074835 | 1A | 074999 |
| 54D | 2 or more Cables with a bundle diameter greater or equal to 40 mm | 1B | 074836 | 1A | 074999 |
| All | Draw Rope - requires Duct Seal 1 Rope Anchor | All | - | - | 075833 |

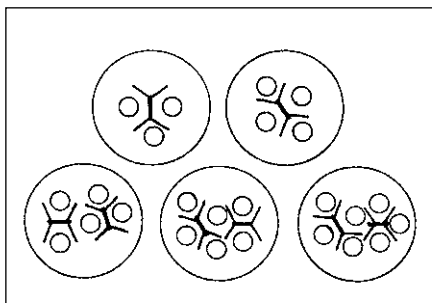
Note: For duct with a bore in the range 49 - 51 mm or Gland Caulking 3, use as Duct 56.

For duct with a bore in the range 66 - 76 mm use as Duct 54D but with Insert 1B.

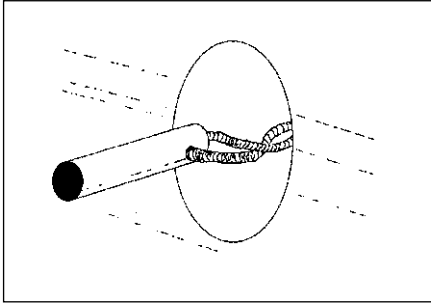
For duct with a bore in the range 83 - 102 mm or Gland Caulking 2, use as Duct 54D.

For use in Gland Caulking 2&3 a Duct Seal 1 Guide is required as an insertion guide to ease the Duct Seal 1 past the internal shoulder (see diagram 1.6). For Gland Caulking 3 use a out section of Duct Seal 1 Guide 1. The insertion guide is removed after the Duct Seal 1 is in place

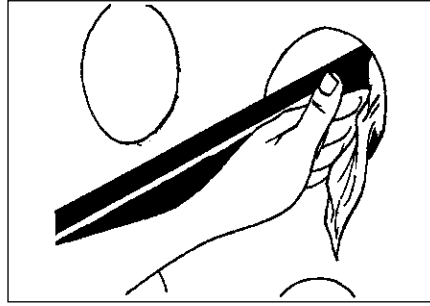
3.5 Duct Seal 1 Insert configuration



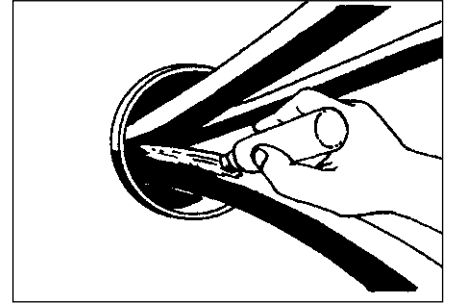
4. Installation instructions



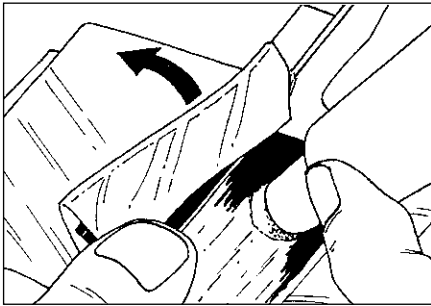
4.1. Duct Seal 1 Rope Anchor placement.



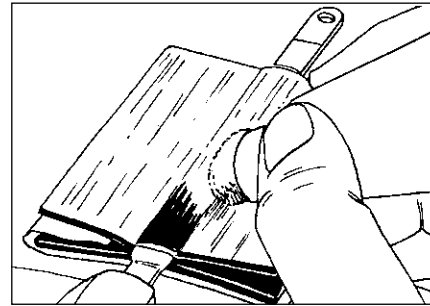
4.2. Wet clean the duct and cable sheath at the duct mouth area for 150 mm either side of the duct entrance (if practical).



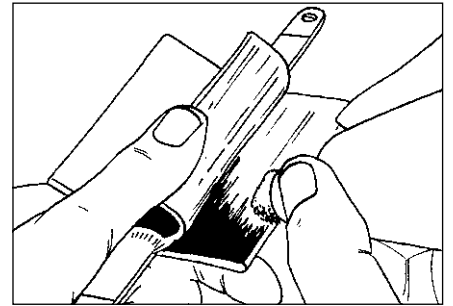
4.3. Abundantly lubricate the cable(s) for 150 mm either side of the duct entrance (if practical).
Note: For 1 or no cables go to 4.12.



4.4. Open Insert wings on one side. Lubricate the wing exposed abundantly.



4.5. Peel back the protection paper from the larger surface of the wing just lubricated and lubricate abundantly.

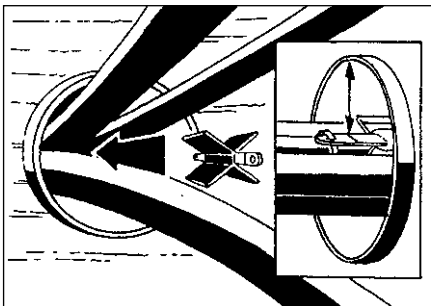


4.6. Peel the wing from the protection paper unfolded in 4.5 and lubricate abundantly.

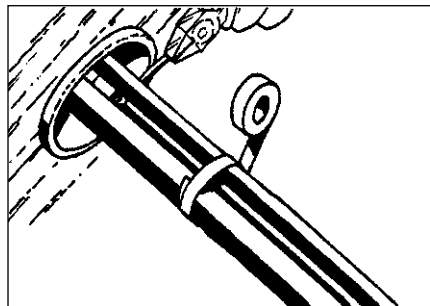
4.7. Repeat 4.4 for other wing.

4.8. Repeat 4.5 for other wing.

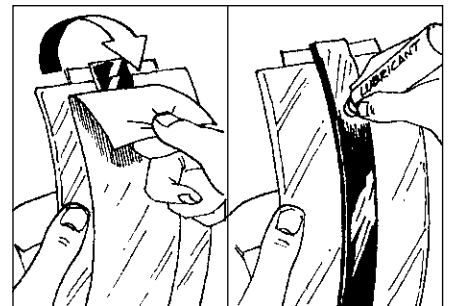
4.9. Repeat 4.6 for other wing.



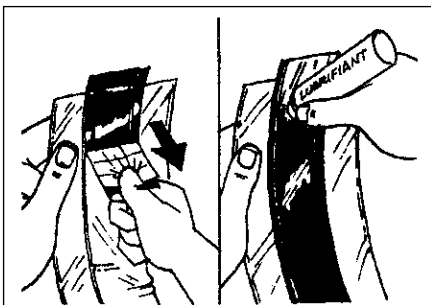
4.10. Place the Insert in between the cables, assuring that there is at least 1 wing between adjacent cables (see diagram 3.5 configurations). Position the Insert so that the mark on the Insert is level with the duct entrance.



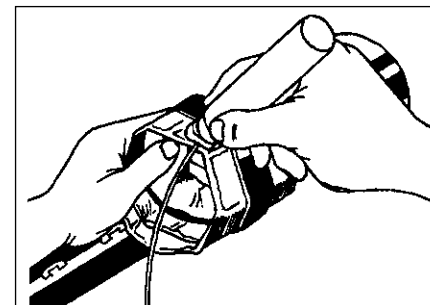
4.11. Use the cable tie to hold the insert in place. Cut off the excess of the cable tie and position the locking portion of the cable tie between the cables. Tape all cables together close to the duct entrance.



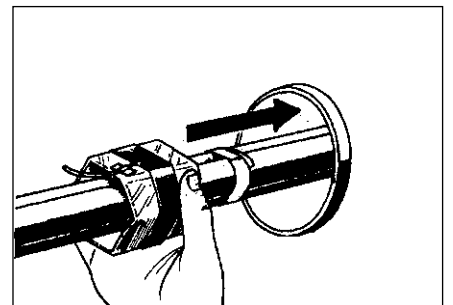
4.12. Remove the protective paper from the outside of the Duct Seal 1 sealing strip and lubricate abundantly.
Note: For earthenware duct lubricate the entire outside of the Duct Seal 1.



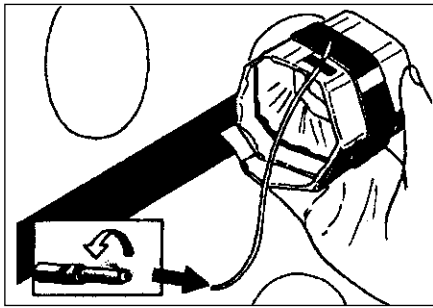
4.13. Continue with lubrication to the inside sealing strip.



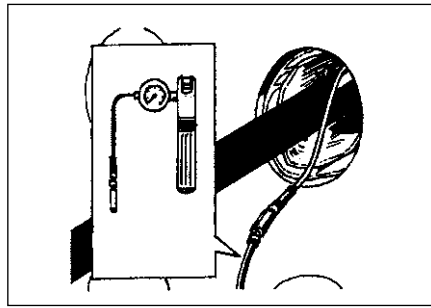
4.14. Lubricate the filling tube on the area shown.



4.15. Wrap the Duct Seal 1 around the cable(s) and slide into the duct, finishing with the Duct Seal 15 mm inside the duct entrance.

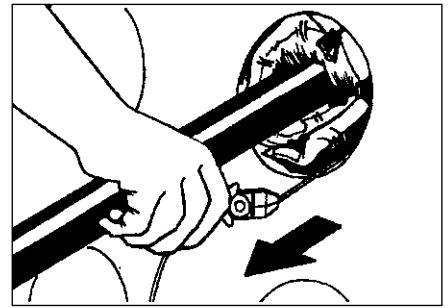


4.16. Loosen the threaded connector of the inflation tool and insert the filling tube into the connector, making sure that the tube is fully inserted (a slight resistance will be felt as the tube pushes through the gas seal). Hand tighten the threaded portion of the connector.



4.17. Inflate the Duct Seal 1 by pushing the ON/OFF lever to the ON position. When the pointer reaches the green sector of the gauge, wait a further 30 seconds and push the lever to the OFF position.

Note: If the pointer does not reach the green zone, turn the lever to the OFF position and change the Duct Seal 1 Gas Cylinder (See note 2.2).

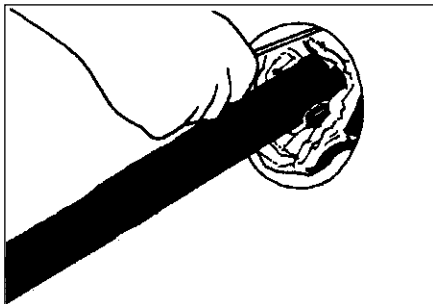


4.18. Pull out the filling tube with a pair of pliers, in one gentle move in the direction of the cable.

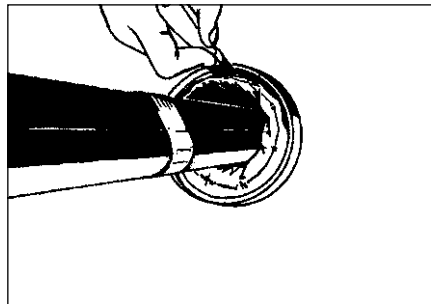
5. Removal

The tools required for removal are:

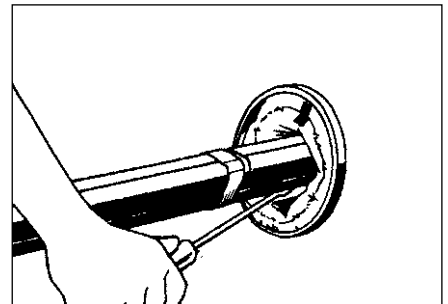
No. 6 or small Cabinet Screwdriver, Pliers, Sash Brush, Eye-shields and Lubricant (supplied with new Duct Seal 1).



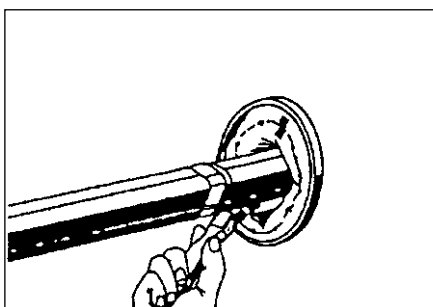
5.1. Deflate the Duct Seal 1 by piercing with the screwdriver in several places (a slight twisting movement may help). Use the screwdriver to release the Duct Seal 1 from the duct wall.



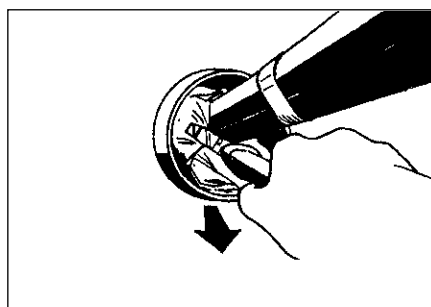
5.2. Apply lubricant, with the brush, to the released areas to facilitate removal of the Duct Seal 1.



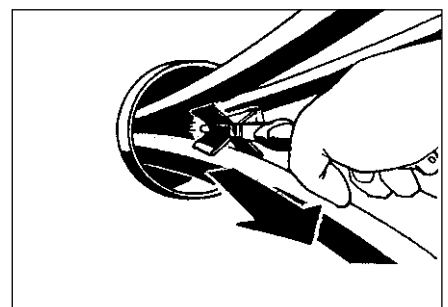
5.3. Use the screwdriver to release the Duct Seal 1 from the cable(s).



5.4. Apply lubricant, with the brush, to the released areas to facilitate removal of the Duct Seal 1.



5.5. When the Duct Seal 1 has been fully released pull it out of the duct with the pliers.



5.6. If required to remove the existing Insert (see note in 3.2), remove the tape and cable tie from the cable bundle. Spread cables by hand and apply lubricant, with the brush, to the released areas to facilitate removal of the Insert. When fully released pull it from the cables with the pliers.