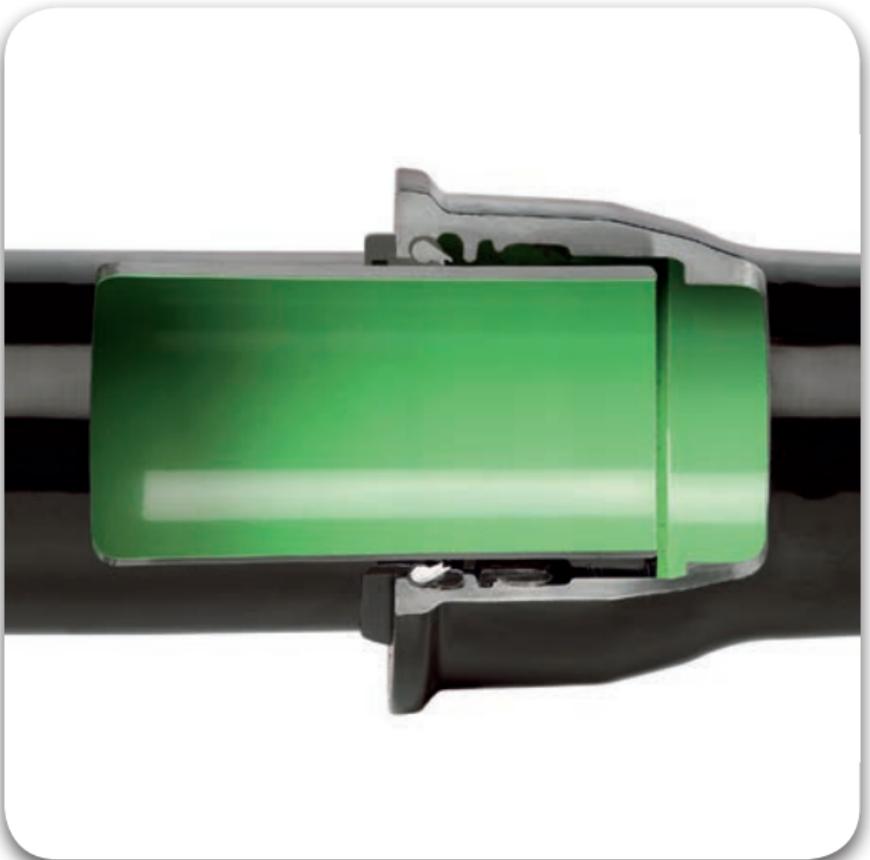


## Assembly instruction

for push-in joint pipe DN 80 - 500 mm with  
internal restrained joint

Fig. 2807A / 2807B



## 1. General remarks

Following the instructions below will guarantee correct and professional assembly.

## 2. Cleaning the push-in sockets

Check cleanness the push-in sockets: groove (A), tightness chamber (B) and pipe spigot.



## 3. Placing the rubber gasket Fig. 2810 / 2811

**The groove (A) and the tightness chamber (B) should never be lubricated.**

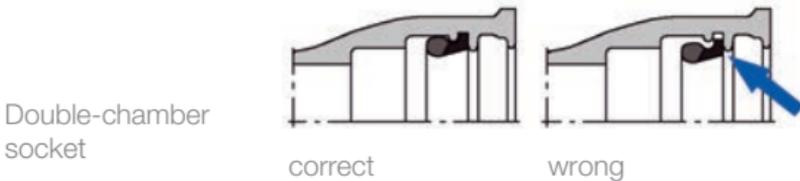


Double-chamber socket

- The placing of a rubber gasket is always necessary.
- The rubber gasket is placed manually by forming a loop.
- Press in and smooth out the remaining loop.
- If you have difficulties smoothing out the loop, form a second loop. The two smaller loops can be easily smoothed out.



**The rubber gasket has to be placed correctly in the groove. Must not rise.**



Double-chamber socket

correct

wrong

**Remarks:**

- Rubber gasket are to be stored in a sheltered place away from sunlight and moisture.
- They are to be placed into the push-in socket just before placed.
- By cold weather, it is recommended the assembly in a warm place.

## 4. Lubricating

Lubricate the placed rubber gasket, the spigot end with the delivered lubricant.



Double-chamber socket

## 5. Internal restrained joint in double-chamber socket of pipes, valves and UNI-TE

Internal restrained joint Fig. 2807

- Lubricate the restrained chamber with sufficient lubricant.
- Make a simple loop between two segments of the restrained joint (C).
- Insert the restrained joint (C) in the chamber.

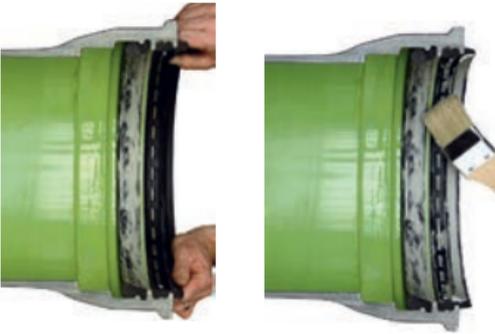


The lip of the joint must be outwards!



**Check:**

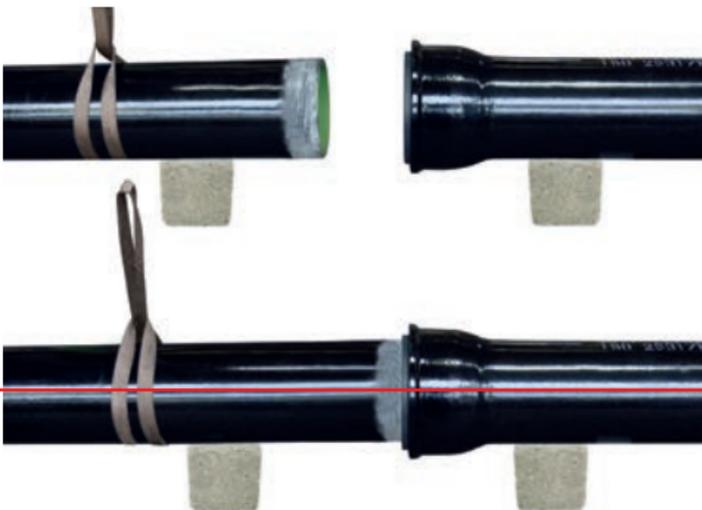
- The internal restrained joint can be turned easily by hand.
- Lubricate the inner of the restrained joint.



External restrained joint Fig. 2806 or rubber gasket with integrated segments, Tyton-Sit / Tyton-Sit PLUS can be used in the socket of pipes and single-chamber fittings.

## 6. Centring and alignment of the push-in joint assembly

- Insert spigot end of pipe into the pipe socket and center it using the lip of the internal restrained joint.
- The pipes must be perfectly aligned before the assembly.



## 7. Assembly

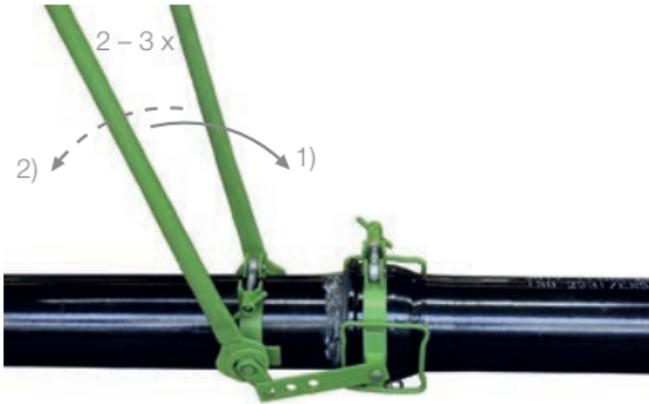
**Insertion depth must be checked during and after assembly.  
See point 8.**

Use the laying tool Fig. 293 for the assembly of pipes and fittings  
DN 80 - 350

1) After centring, the use of the laying tool ensures a quick and easy assembly.

### Locking!

2) By the assembly of a push-in joint restrained with Fig. 2807, a locking movement with the spanners in the opposite direction is necessary.



Use the laying tool Fig. 254 for the assembly of pipes and fittings  
DN 400 - 500

When assembling a push-in joint with internal thrust-resisting Fig. 2807, locking is attained by making movement with the hydraulic tool in the opposite direction. Reverse the oil-flow direction in the hydraulic unit by changing over the valve levers. By pumping with the levers, the cylinder travels outwards and the pipe connection is locked.



## 8. Check during and after assembly

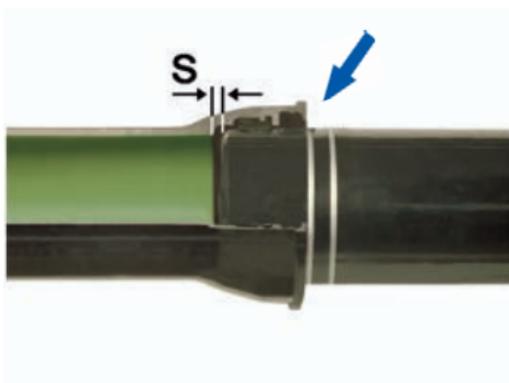
The gap between the spigot end of the pipe and the socket end is necessary to ensure a deflection of the connection.

### Push-in joint pipes with double-chamber socket DN 80-500 (pipes)

Position of the marking:

#### Without internal restrained joint

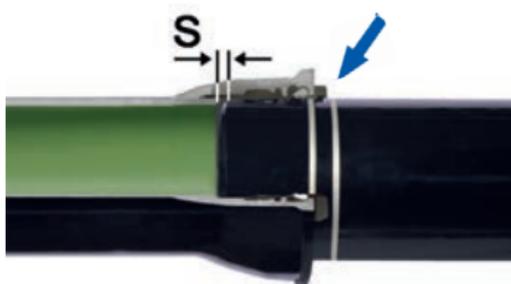
Make the assembly until the first line.



Without internal  
restrained joint

#### With internal restrained joint Fig. 2807

Make the assembly until the second line.



With internal  
restrained joint

## 9. Deflection of the connection with and without internal restrained joint

Only once the assembly is finished, the pipes can be **deflected**.

**The allowable deflection:**

**Without internal restrained joint**

$\leq 5^\circ$  for DN 80-300

$\leq 4^\circ$  for DN 350-400

$\leq 3^\circ$  for DN 500-700

**With internal restrained joint**

$\leq 3^\circ$  for DN 80-500



## 10. Dismantling the push-in joint

Be aware that the dismantling operations are different for a restrained or not restrained connection.

**Dismantling a push-in connection without internal restrained joint**

**Using the assembly tool Fig. 293**

Pull the spigot out of the socket using the spanners.



### Using the assembly tool Fig. 254

Reverse the oil-flow direction in the hydraulic unit by changing over the valve levers.

By pumping with the levers, the cylinder travels outwards and the pipe

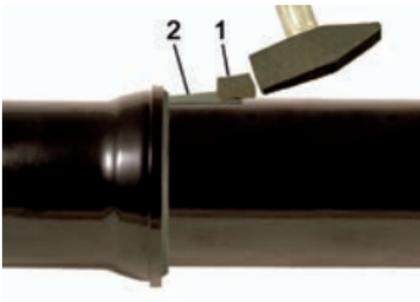


Dismantling push-in joint assembled for a long time: place the thin steel leaves Fig. 255-2 in the gap between the spigot and the socket using hammering accessories Fig. 255-1.

### Rubber gasket must be rejected after the disassembly.

#### Dismantling a push-in connection with internal restrained joint

- Using the laying tool Fig. 293, push the spigot into the socket.
- Place the dismantling steel leaves Fig. 255-2 (2) over the whole circumference between the spigot and the lip of the internal restrained joint using hammering accessories Fig. 255-1 (1)



Number of dismantling leaves for each DN:

DN	Number
80	4
100	5
125	6
150	7
200	9
250	12
300	15
350	16
400	17
500	20

The connection can be now dismantled using the laying tools Fig. 293 or Fig. 254.

**Internal restrained joint can be re-used if they are undamaged (no broken teeth of the segments). Visual check.**

# 11. Pipe cutting

## Prevention of injuries

Please follow the manufacturer's instructions of the used devices to prevent injuries by cutting. Use appropriate clothes and equipment.

## Marking the position of the cut

- The cut must be made perpendicular to the pipe axis.
- The position must be marked around the whole circumference of the pipe.

Tip: Use a steel band around the pipe.

## Put reference marking

The reference marking for the assembly should be done on the spigot-end of the shortened pipe in accordance with the use connection.



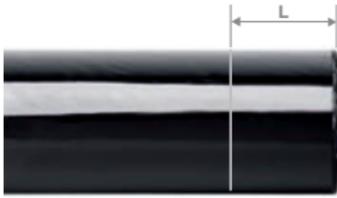
### For single-chamber fittings

### For pipes, valves and UNI-T with double chamber

With internal restrained joint  
fig. 2807

Without internal restrained joint  
fig. 2807

DN	L mm	DN	L mm	DN	L mm
80	80	80	126	80	109
100	82	100	127	100	110
125	85	125	130	125	113
150	88	150	133	150	116
200	94	200	138	200	121
250	94	250	138	250	121
300	95	300	137	300	120
350	98	350	142	350	125
400	100	400	149	400	135
500	105	500	149	500	135



## Cutting

Suitable tool for cutting: Cutting disc.

## Chamfer the pipe-end after cutting:

Chamfer the spigot end of the shortened pipe.

Suitable tool for chamfering: Manual grinder.

## Specification:

The appropriate radius (R) is the same as the supplied pipe.

DN 80-150 R 5 mm

DN 350-400 R 7 mm

DN 200-300 R 6 mm

DN 500 R 8 mm

Avoid sharp edges, they must be rounded off. Sharp edges damage the rubber gasket and lead to untight connections.



**Never peel off or remove the PUR coating further than the chamfer!**

## Protect the chamfer

Clean the surface in the interior of the shortened pipe thoroughly.

Coat the uncoated surfaces of the chamfer:

- For DUCPUR pipes with bitumen varnish that is suitable for drinking-water use.
- For ECOPUR pipes with RESICOAT RS 2-component repair set or with bitumen varnish.

