

## Dr. Schnabel® POLYFLURON® Dip Pipes

Safe introduction of corrosive media into vessels and columns



# POLYFLURON® PTFE lined Dip Pipes

PTFE-lined dip pipes are used to introduce gases or liquids into vessels/columns due to their universal corrosion resistance. They represent a robust alternative to other materials. The most common applications are described in the following standard program. In addition, many variants can be constructed. Please tell us your wishes.

PTFE-lined dip pipes consist of a steel pipe that is lined on both sides with the highly corrosion-resistant material POLYFLURON® PTFE. The PTFE casing has a minimum wall thickness of 3 mm. We use paste-extruded PTFE, which ensures optimal permeation behavior. As a variant, the PTFE casing can also be supplied in an antistatic version, with a leakage resistance of  $\leq 10^8$  and a surface resistance of  $\leq 10^9$ .

At the upper end of the pipe (outside the reaction space) there is a vent hole that serves to drain off any diffusing media. On request, this can also be designed as a ventilation connection or vacuum connection.

PTFE-lined dip pipes can be used in the temperature range from  $-10\text{ °C}$  to  $+200\text{ °C}$ . These limit values can also be exceeded or fallen short of in individual cases. Please ask us.

PTFE-lined dip pipes can be used up to DN 100 in a vacuum range of up to  $-1\text{ bar}$ . Even larger nominal diameters can work in the negative pressure range depending on the temperature. We are happy to answer any questions you may have.



↑ POLYFLURON® PTFE-lined dip pipes in different geometric designs

# POLYFLURON® PTFE-lined Dip Pipes

## Materials

Pipes: P235GH, API 5L Gr.B, A106 Gr.B  
 Flanges: P250GH, P265GH, A105/C21  
 Lining: POLYFLURON® PTFE (virginal, paste extruded PTFE) DIN 2874 and GKV-Guideline from 1993.

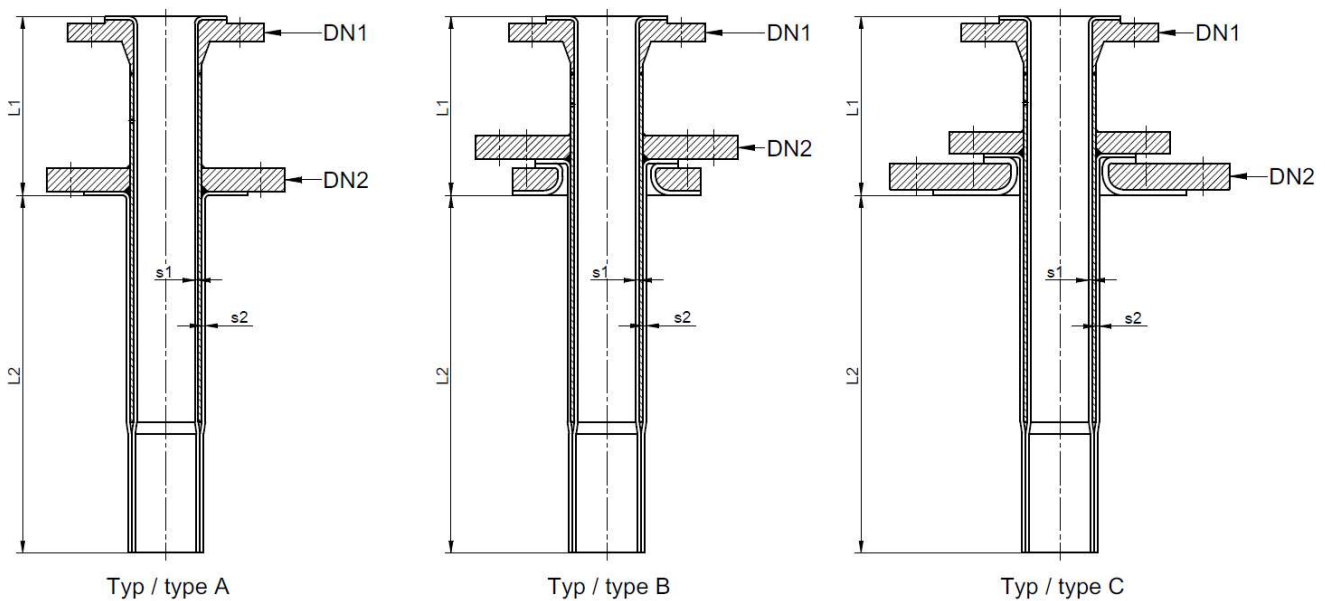
For manufacturing reasons (size ratio of pipe flange to vessel flange), immersion and inlet pipes are produced in types A, B or C.

Additionally available as alternatives:

- Other or larger nominal widths (DN1) and immersion lengths (L2)
- Other materials (e.g. stainless steel)
- Special constructions
- Antistatic PTFE lining

Please ask us, stating the operating conditions.

**Not suitable for use in mixing vessels!**



## DIN EN 1092-1 PN10 / ASME B 16.5 150 lbs

| DN1      |             | L1            | L2       |          | PTFE    |         |
|----------|-------------|---------------|----------|----------|---------|---------|
| DIN [mm] | ASME [inch] | Standard [mm] | min [mm] | max [mm] | s1 [mm] | s2 [mm] |
| 25       | 1"          | 150           | 200      | 6000     | 3       | 3       |
| 32       | 1-1/4"      | 150           | 200      | 6000     | 3       | 3       |
| 40       | 1-1/2"      | 150           | 200      | 6000     | 3       | 3       |
| 50       | 2"          | 150           | 200      | 6000     | 3       | 3,5     |
| 65       | 2-1/2"      | 150           | 250      | 6000     | 3,5     | 3,5     |
| 80       | 3"          | 150           | 250      | 6000     | 3,5     | 4,5     |
| 100      | 4"          | 150           | 300      | 6000     | 4,5     | 4,5     |
| 125      | 5"          | 150           | 300      | 6000     | 5       | 5       |
| 150      | 6"          | 150           | 300      | 6000     | 5       | 4,5     |
| 200      | 8"          | 200           | 400      | 3500     | 5       | 4,5     |
| 250      | 10"         | 200           | 400      | 3500     | 5       | 5,5     |

## Comments:

- Order text: TR DN1 / DN2 – L1 + L2
- Type A, B or C according to combination of nominal diameters

Subject to technical modifications.

# POLYFLURON® PTFE-lined Dip Pipes

## Heavy duty version for mixing vessels

### Materials

In the heavy duty version, the flange connection is mechanically supplemented by additional ribs to protect against bending stress.

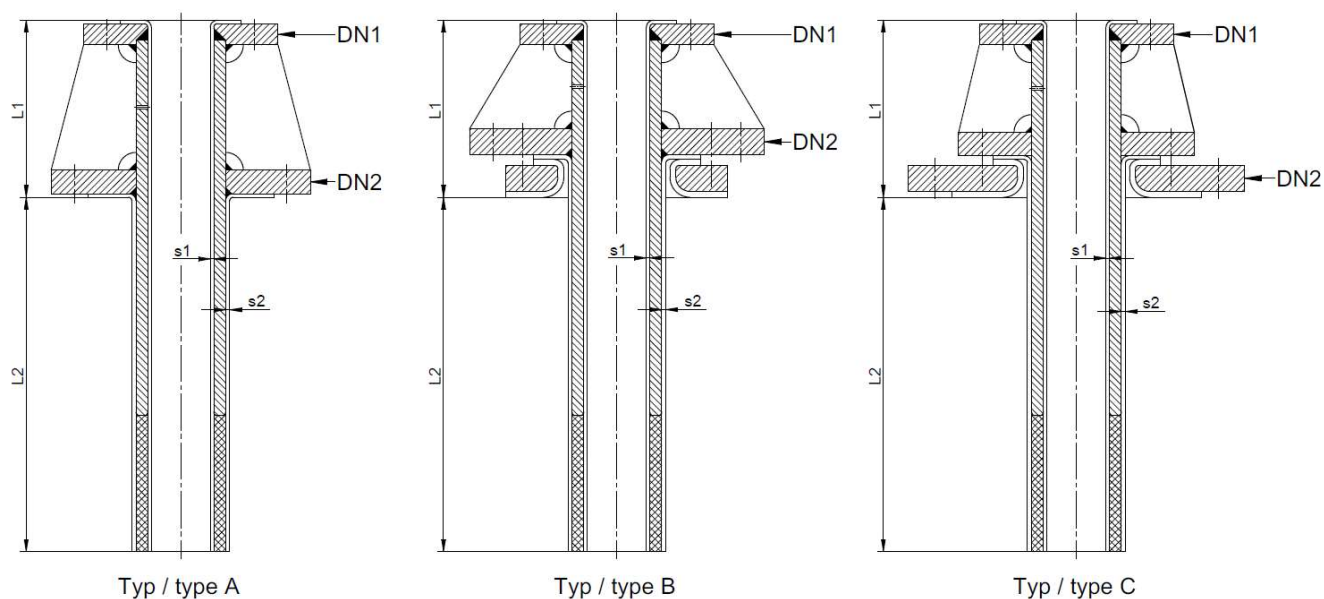
The lined steel pipe is designed with a higher wall thickness.

For manufacturing reasons (size ratio of pipe flange to vessel flange), immersion and inlet pipes are produced in types A, B or C.

Additionally available as alternatives:

- Other or larger nominal widths (DN1) and immersion lengths (L2)
- Other materials (e.g. stainless steel)
- Special constructions (e.g. with rotating nozzle)
- Antistatic PTFE lining

Please ask us, stating the operating conditions.



### DIN EN 1092-1 PN10 / ASME B16.5 150 lbs

| DN1  |        | L1       | L2   | L2   | PTFE |      |
|------|--------|----------|------|------|------|------|
| DIN  | ASME   | Standard | min  | max  | s1   | s2   |
| [mm] | [inch] | [mm]     | [mm] | [mm] | [mm] | [mm] |
| 25   | 1"     | 150      | 200  | 6000 | 3    | 3    |
| 32   | 1-1/4" | 150      | 200  | 6000 | 3    | 3    |
| 40   | 1-1/2" | 150      | 200  | 6000 | 3    | 3    |
| 50   | 2"     | 150      | 200  | 6000 | 3    | 3,5  |
| 65   | 2-1/2" | 150      | 250  | 6000 | 3,5  | 4,5  |
| 80   | 3"     | 150      | 250  | 6000 | 3,5  | 4,5  |
| 100  | 4"     | 150      | 300  | 6000 | 4,5  | 5    |
| 125  | 5"     | 150      | 300  | 6000 | 5    | 5    |
| 150  | 6"     | 150      | 300  | 6000 | 5    | 5,5  |

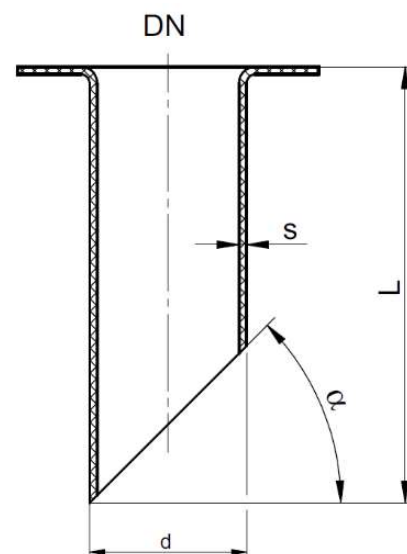
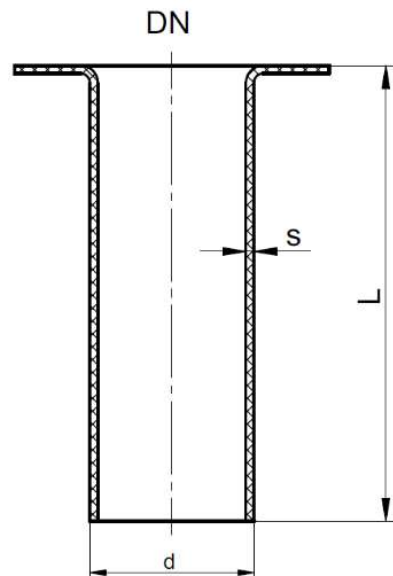
### Anmerkungen:

- Order text: TRS DN1 / DN2 – L1 + L2
- Type A, B or C according to combination of nominal diameters

Subject to technical modifications.

# POLYFLURON® PTFE Dip Pipes

Due to their universal corrosion resistance, dip pipes are used to introduce corrosive media into vessels/columns. Further dimensions, intermediate sizes and PTFE thicknesses are available on request.



| DN   |        | L max. | d    | s    |
|------|--------|--------|------|------|
| [mm] | [inch] | [mm]   | [mm] | [mm] |
| 15   | 1/2"   | 6000   | 14   | 3    |
| 20   | 3/4"   | 6000   | 18   | 3    |
| 25   | 1"     | 6000   | 21   | 3,5  |
| 32   | 1 1/4" | 4000   | 29   | 3,5  |
| 40   | 1 1/2" | 6000   | 38   | 3    |
| 50   | 2"     | 6000   | 45   | 3    |
| 65   | 2 1/2" | 6000   | 56   | 3    |
| 80   | 3"     | 6000   | 72   | 3,5  |
| 100  | 4"     | 6000   | 85   | 3,5  |
| 125  | 5"     | 6000   | 109  | 4,5  |
| 150  | 6"     | 6000   | 134  | 4,5  |
| 200  | 8"     | 4000   | 178  | 4,5  |
| 250  | 10"    | 3500   | 232  | 4,5  |
| 300  | 12"    | 3500   | 290  | 5    |

Subject to technical modifications.

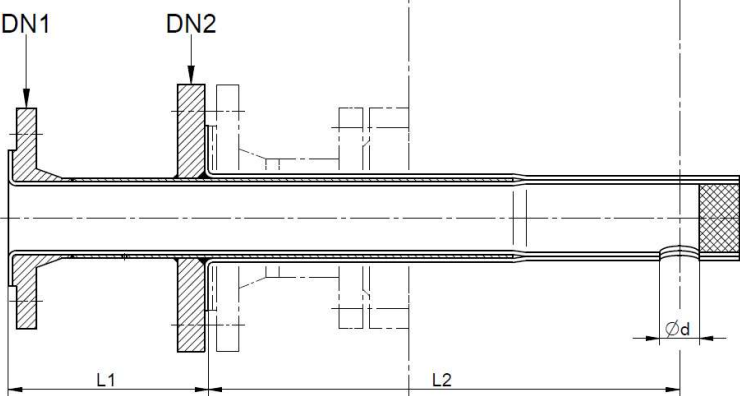
## Order text:

- EL DN – L
- EL DN – L - α

# Special designs

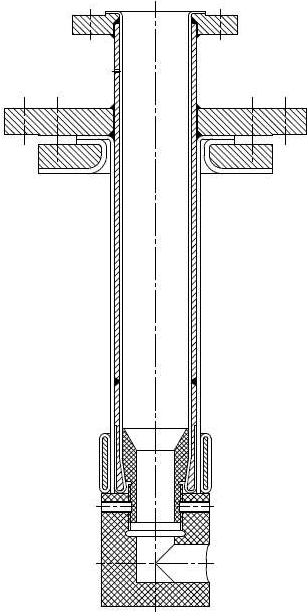
In addition to our standard designs, we can also offer you special designs upon request.

POLYFLURON® PTFE lined dip pipes are used to introduce gases or liquids into columns made of corrosion-resistant materials such as steel/PTFE, glass, titanium, Hastelloy, etc.

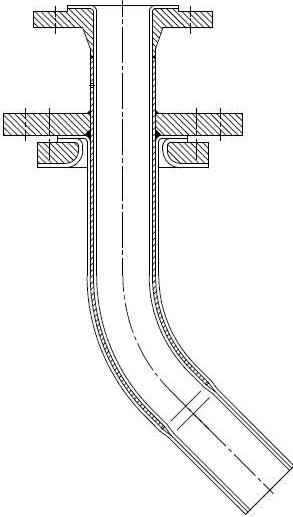


Order text: EKL DN1 / DN2 – L1 + L2 + d

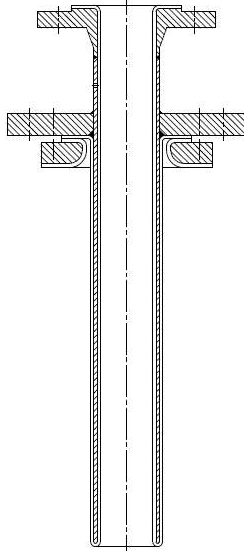
Further examples:



Dip pipe with PTFE end piece



Dip pipe with bent design



Dip pipe with single piece lining (installation depth max. 1000 mm for DN ≥ 50 / 2")

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