

## 1.6.1.2 Elbows with long radii

Table 1.6.1.2\_1: Elbow with long radii

Outside pipe diameter (mm)	Wall thickness (mm)	Minimum radius (mm)
18.0 – 60.3	1.5 – 5.0	300
> 60.3 – 76.1	2.0 – 5.0	300
> 60.3 – 76.1	1.5 – 2.0	400
> 76.1 – 88.9	2.0 – 4.0	300
> 76.1 – 88.9	1.5 – 2.0	500
> 76.1 – 88.9	4.0 – 5.0	500
> 88.9 – 98.0	1.5 – 4.0	500
> 98.0 – 101.6	2.0	500
> 98.0 – 101.6	2.0 – 4.0	1 000
>101.6 – 114.3	1.5 – 4.0	1 000
104.0	2.0	300
105.0	2.0 – 2.5	300
106.0	2.0 – 3.0	300
108.0	2.0 – 4.0	300
110.0 – 120.0	2.0 – 5.0	300
>120.0 – 145.0	2.0 – 6.0	375
>145.0 – 168.3	2.0 – 6.0	450
>168.3 – 184.0	2.0 – 6.0	525
>184.0 – 195.0	2.0 – 6.0	600
>195.0 – 219.1	3.0 – 6.0	600
>195.0 – 219.1	2.5 – 8.0	1 000
>195.0 – 219.1	2.0 – 8.0	1 500
>219.1 – 240.0	3.0 – 6.0	675
>219.1 – 240.0	3.0 – 8.0	1 000
>219.1 – 240.0	2.5 – 8.0	1 200
>219.1 – 240.0	2.0 – 8.0	1 800
>240.0 – 273.0	3.0 – 6.0	750
>240.0 – 273.0	3.0 – 8.0	1 000
>240.0 – 273.0	2.0 – 8.0	2 000
>273.0 – 290.0	3.0 – 6.0	800
>273.0 – 290.0	3.0 – 8.0	1 200
>290.0 – 318.0	3.0 – 6.0	900
>290.0 – 318.0	3.0 – 8.0	1 200
323.9	3.0 – 6.0	900
323.9	3.0 – 8.0	1 200

### Elbows with long radii from BUTTING:

- Cold-bent, without folds
- With or without straight ends (without circumferential weld), sawn ends
- Range of outer pipe diameter from 18 mm to 323.9 mm
- Large selection of materials

### Used in pneumatic extraction

The large radius of the elbows reduces the effect of a collision and hence avoids damage to the extracted material and the pipe wall. The separation of air and extracted material caused by transportation is reduced. The transportation runs smoothly, thus preventing plug formation and any resultant loss of pressure.

### Radius tolerance

Up to DN 80	+ / - 15 mm
More than DN 80	+ / - 30 mm
> Radius 1 500 mm	+ / - 50 mm
> Radius 2 500 mm	+ / - 80 mm

### Weakening of wall thickness depending on degree of bend:

10% – 30%

### Minimum radius:

400 mm or 4 x DN for material with 0.2% limit  $\geq 300 \text{ N/mm}^2$

