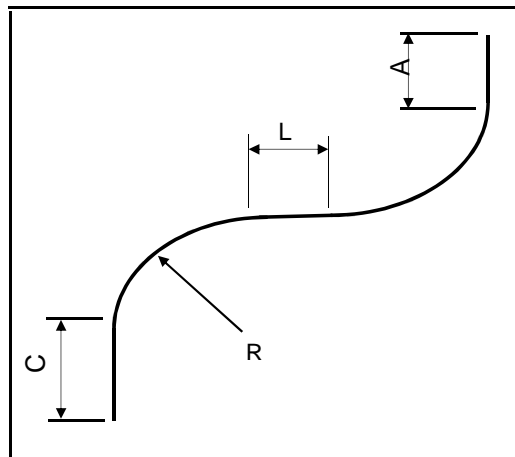


29.1.2019 TPu

Do = PIPE OUTSIDE DIAMETER  
 R = BENDING RADIUS (to pipe centerline)  
 R / Do = RADIUS / DIAMETER  
 S min = WALL MINIMUM  
 S max = WALL MAXIMUM

A = LENGTH OF STARTING  
 C = LENGTH OF END  
 L = LENGTH OF LOCK  
 K = BENDING MACHINE  
 S = RECOMMENDATION

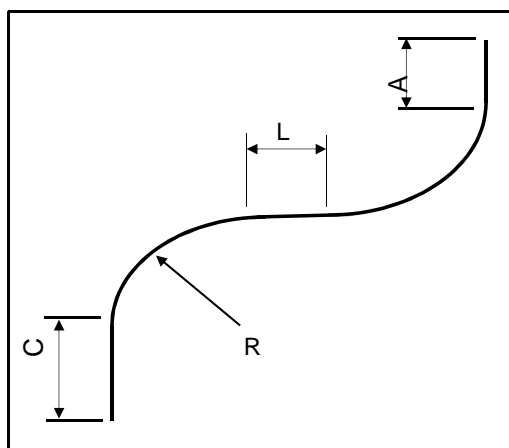


Do	R	R / Do	S min	S max	A and L	C	K	S
<b>219,1</b>	<b>660</b>	<b>3,0</b>	<b>5,9</b>	<b>8,8</b>	<b>330</b>	<b>1140</b>	<b>220</b>	<b>X</b>
193,7	660	3,4	6,3	12,5	330	1140	220	
191,0	660	3,5	6,0	12,5	330	1140	220	
168,3	600	3,6	5,0	28,0	300	600	220	
<b>168,3</b>	<b>510</b>	<b>3,0</b>	<b>5,0</b>	<b>28,0</b>	<b>250</b>	<b>600</b>	<b>220</b>	<b>X</b>
168,3	420	2,5	5,0	14,0	250	600	220 / 150	
159,0	500	3,1	4,0	25,0	250	600	220	
152,4	500	3,3	5,0	20,0	250	600	220	
141,0	350	2,5	4,0	25,0	250	550	220	
139,7	500	3,6	4,0	25,0	250	550	220	
<b>139,7</b>	<b>350</b>	<b>2,5</b>	<b>4,0</b>	<b>20,0</b>	<b>250</b>	<b>550</b>	<b>220</b>	<b>X</b>
<b>133,0</b>	<b>400</b>	<b>3,0</b>	<b>3,0</b>	<b>14,0</b>	<b>340</b>	<b>550</b>	<b>220</b>	<b>X</b>
133,0	335	2,5	3,0	10,0	250	550	150	
127,0	870	6,9	2,8	20,0	250	550	220	
127,0	500	3,9	2,8	20,0	250	550	220	
<b>127,0</b>	<b>350</b>	<b>2,8</b>	<b>2,8</b>	<b>20,0</b>	<b>250</b>	<b>550</b>	<b>220</b>	<b>X</b>
114,3	920	8,0	5,0	20,0	200	400	220	
114,3	500	4,4	5,0	25,0	230	400	220	
114,3	400	3,5	5,0	25,0	230	400	220	
114,3	350	3,1	3,6	25,0	230	400	220 / 150	
114,3	305	2,7	3,6	20,0	230	400	220 / 150	
<b>114,3</b>	<b>285</b>	<b>2,5</b>	<b>3,6</b>	<b>25,0</b>	<b>230</b>	<b>400</b>	<b>220 / 150</b>	<b>X</b>
114,3	250	2,2	3,6	20,0	200	400	150	
114,3	224	2,0	3,0	25,0	200	400	220 / 150	
114,3	171	1,5	3,0	20,0	200	400	150	
108,0	285	2,6	3,5	20,0	280	400	220	
<b>108,0</b>	<b>270</b>	<b>2,5</b>	<b>2,5</b>	<b>15,0</b>	<b>160</b>	<b>400</b>	<b>150</b>	<b>X</b>
101,6	920	9,1	2,6	20,0	200	400	220	
<b>101,6</b>	<b>500</b>	<b>4,9</b>	<b>2,5</b>	<b>20,0</b>	<b>160</b>	<b>400</b>	<b>220</b>	<b>X</b>
101,6	285	2,8	4,0	20,0	200	400	220	
<b>90,0</b>	<b>265</b>	<b>2,9</b>	<b>4,0</b>	<b>15,0</b>	<b>230</b>	<b>400</b>	<b>150</b>	<b>X</b>
88,9	920	10,3	4,5	15,0	160	400	220	
88,9	700	7,9	4,5	20,0	180	400	220	
88,9	500	5,6	4,5	25,0	180	400	220	
88,9	351	3,9	2,9	15,0	180	400	220 / 150	
88,9	285	3,2	2,9	15,0	180	400	220 / 150	
<b>88,9</b>	<b>225</b>	<b>2,5</b>	<b>2,9</b>	<b>15,0</b>	<b>180</b>	<b>400</b>	<b>150 / 80</b>	<b>X</b>
88,9	180	2,0	7,0	15,0	180	400	150 / 80	
88,9	133	1,5	2,9	15,0	180	400	150 / 80	

29.1.2019 TPu

Do = PIPE OUTSIDE DIAMETER  
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 S max = WALL MAXIMUM

A = LENGTH OF STARTING  
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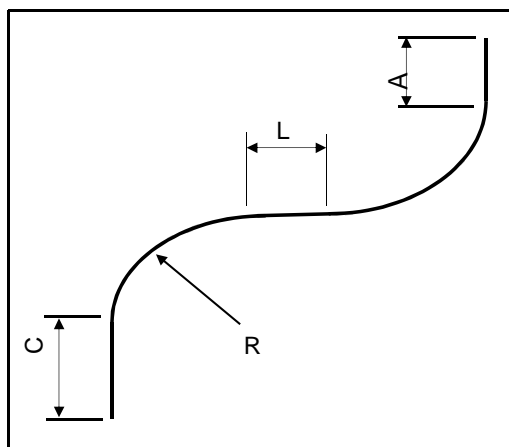


Do	R	R / Do	S min	S max	A and L	C	K	S
<b>80,0</b>	<b>260</b>	<b>3,3</b>	<b>4,0</b>	<b>15,0</b>	<b>230</b>	<b>400</b>	<b>150</b>	<b>X</b>
80,0	225	2,8	4,0	5,0	180	400	80	
76,1	920	12,1	5,0	8,8	150	350	220	
76,1	300	3,9	5,0	10,0	150	350	220 / 150	
<b>76,1</b>	<b>190</b>	<b>2,5</b>	<b>2,9</b>	<b>20,0</b>	<b>150</b>	<b>350</b>	<b>220 / 150 / 80</b>	<b>X</b>
76,1	175	2,3	2,9	20,0	150	350	220 / 80	
76,1	150	2,0	2,9	5,0	150	350	80	
76,1	114	1,5	2,9	10,0	170	350	150 / 80	
<b>70,0</b>	<b>225</b>	<b>3,2</b>	<b>4,0</b>	<b>5,0</b>	<b>180</b>	<b>400</b>	<b>80</b>	<b>X</b>
70,0	190	2,7	4,0	5,0	150	350	80	
70,0	135	1,9	5,0	5,0	130	250	80	
<b>65,0</b>	<b>190</b>	<b>2,9</b>	<b>4,0</b>	<b>7,0</b>	<b>150</b>	<b>350</b>	<b>80</b>	<b>X</b>
63,5	240	3,8	2,9	7,0	110	250	80	
<b>63,5</b>	<b>175</b>	<b>2,8</b>	<b>2,9</b>	<b>7,0</b>	<b>110</b>	<b>250</b>	<b>80</b>	<b>X</b>
63,5	130	2,0	2,9	7,0	110	250	80	
<b>63,0</b>	<b>120</b>	<b>1,9</b>	<b>5,0</b>	<b>7,0</b>	<b>110</b>	<b>250</b>	<b>80</b>	<b>X</b>
60,3	300	5,0	5,0	15,0	110	250	220 / 150	
60,3	241	4,0	2,9	8,0	110	250	80	
60,3	225	3,7	2,9	7,0	180	250	80	
60,3	175	2,9	2,9	15,0	110	250	150 / 80	
<b>60,3</b>	<b>150</b>	<b>2,5</b>	<b>2,9</b>	<b>15,0</b>	<b>110</b>	<b>250</b>	<b>150 / 80</b>	<b>X</b>
60,3	120	2,0	2,9	5,0	110	400 / 250	150 / 80	
60,3	110	1,8	3,0	5,0	110	250	80	
57,0	150	2,6	2,9	10,0	110	250	80	X
57,0	135	2,4	3,0	10,0	110	250	80	
57,0	100	1,8	2,9	10,0	110	250	80	
<b>54,0</b>	<b>150</b>	<b>2,8</b>	<b>2,6</b>	<b>10,0</b>	<b>80</b>	<b>250</b>	<b>80</b>	<b>X</b>
51,0	110	2,2	3,0	10,0	110	250	80	
48,3	250	5,2	2,6	20,0	80	250	80	
48,3	145	3,0	2,6	20,0	80	250	80	
<b>48,3</b>	<b>120</b>	<b>2,5</b>	<b>2,6</b>	<b>20,0</b>	<b>80</b>	<b>250</b>	<b>80</b>	<b>X</b>
44,5	150	3,4	2,6	20,0	80	250	80	
<b>44,5</b>	<b>100</b>	<b>2,2</b>	<b>2,0</b>		<b>75</b>	<b>250</b>	<b>80</b>	<b>X</b>
42,4	250	5,9	3,0		90	250	80	
42,4	130	3,1	2,5		75	250	80	
<b>42,4</b>	<b>106</b>	<b>2,5</b>	<b>2,0</b>		<b>75</b>	<b>250</b>	<b>80</b>	<b>X</b>
42,4	80	1,9	3,0		80	250	80	
42,4	65	1,5	3,0		70	250	80	

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Do	R	R / Do	S min	S max	A and L	C	K	S
42,0	145	3,5	2,6		75	250	80	
42,0	100	2,4	2,6		90	250	80	
40,0	240	6,0	2,6		90	250	80	
<b>40,0</b>	<b>85</b>	<b>2,1</b>	<b>2,6</b>		<b>75</b>	<b>250</b>	<b>80</b>	<b>X</b>
38,0	145	3,8	2,6		75	250	80	
<b>38,0</b>	<b>130</b>	<b>3,4</b>	<b>2,6</b>		<b>75</b>	<b>250</b>	<b>80</b>	<b>X</b>
38,0	80	2,1	2,6		75	250	80	
38,0	60	1,6	2,6		75	250	80	
<b>35,0</b>	<b>130</b>	<b>3,7</b>	<b>2,6</b>		<b>75</b>	<b>250</b>	<b>80</b>	<b>X</b>
35,0	55	1,6	2,6		75	250	80	
33,7	200	5,9	2,6		75	250	80	
33,7	150	4,5	2,6		75	250	80	
33,7	120	3,6	2,6		75	250	80	
<b>33,7</b>	<b>100</b>	<b>3,0</b>	<b>2,6</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>
33,7	95	2,8	2,6		70	250	80	
33,7	85	2,5	2,6		70	250	80	
33,7	70	2,1	2,6		70	250	80	
33,7	60	1,8	2,6		70	250	80	
<b>30,0</b>	<b>100</b>	<b>3,3</b>	<b>2,6</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>
30,0	85	2,8	2,6		70	250	80	
<b>28,0</b>	<b>100</b>	<b>3,6</b>	<b>2,0</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>
26,9	160	5,9	2,0		70	250	80	
<b>26,9</b>	<b>100</b>	<b>3,7</b>	<b>2,0</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>
26,9	54	2,0	2,0		70	250	80	
26,9	48	1,8	2,0		70	250	80	
<b>25,0</b>	<b>45</b>	<b>1,8</b>	<b>2,0</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>
<b>23,0</b>	<b>45</b>	<b>2,0</b>	<b>2,0</b>		<b>70</b>	<b>250</b>	<b>80</b>	<b>X</b>

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**Olavi Hautamäki** tel. 040 840 2557  
[firstname.lastname@recion.fi](mailto:firstname.lastname@recion.fi)

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