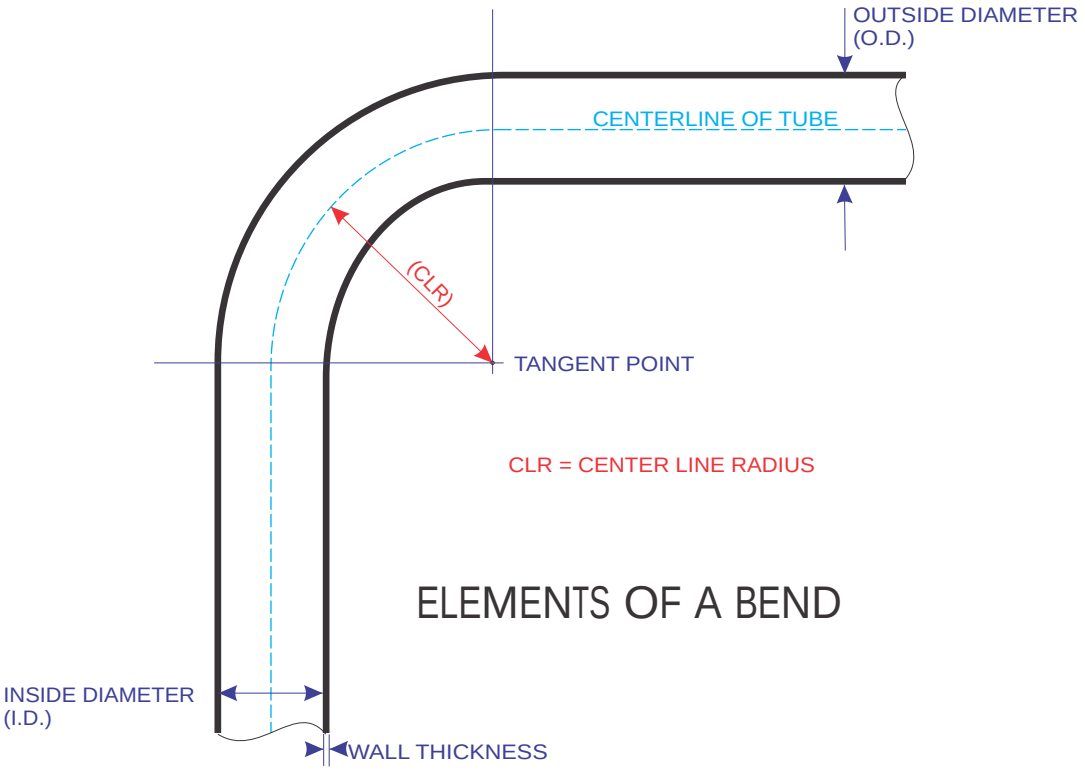
Technical Resources from Trick-Tools.com

Useful calculations for bending tubing and pipe.



Length of tube consumed in a bend =
CLR(center line radius) x DOB (degree of bend) x .01745

Circumference of a circle = 3.14 x Diameter

Weight of steel tubing in lbs per foot = 10.6802 x wall thickness x (diameter - wall thickness)

Multiply inches x 25.4 to get millimeters
Multiply millimeters x .03937 to get inches

Materials Tensile Strength Comparison (approximate psi)	
5052 Aluminum	**30,000**
Mild steel tube (HREW)	**40,000**
6061 Aluminum	**45,000**
Black iron pipe	**47,000**
304 Stainless steel	**65,000**
DOM Steel	**75,000**
4130 Chromoly	**100,000**

Nominal Pipe Size	Outside Diameter	Nominal Pipe Sizes Wall Thickness					
		Sch. 5	Sch. 10	Sch. 40	Sch. 80	Sch. 160	XXS
1/4"	0.540"	N/A	.065	.088	.119	N/A	N/A
3/8"	0.675"	N/A	.065	.091	.126	N/A	N/A
1/2"	0.840"	.065	.083	.109	.147	.187	.294
3/4"	1.050"	.065	.083	.113	.154	.218	.308
1"	1.315"	.065	.109	.133	.179	.250	.358
1-1/4"	1.660"	.065	.109	.140	.191	.250	.382
1-1/2"	1.900"	.065	.109	.145	.200	.281	.400
2"	2.375"	.066	.109	.164	.218	.343	.436
2-1/2"	2.875"	.083	.120	.203	.276	.375	.552

Gauge	Wall Thickness - based on 1" tube
22	.0312
21	.0344
20	.0375
19	.0437
18	.0500
17	.0562
16	.0625
15	.0703
14	.0781
13	.0937
12	.1094
11	.1250
10	.1406
9	.1562
8	.1719
7	.1875
6	.2031
5	.2187
4	.2344
3	.2500