

FIG. 7050 3D

Long Radius Elbows

- 3D long radius elbows are available in sizes up to 24". Sizes 4" and below are provided with a 4" (101.6 mm) long integral tangent. Remaining sizes are provided with integral tangents with lengths equal to the nominal pipe size.
- Grooved or plain-end available - specify choice on order.
- Material: standard wall steel pipe to ASTM A 53, Grade B. (Other materials available on request).
- Bends to conform to above radii.
- C to E tolerances: 2" through 6" $\pm \frac{1}{8}$ " (3.2 mm); 8" through 16" $\pm \frac{1}{4}$ " (6.4 mm); 18" through 24" $\pm \frac{3}{8}$ " (9.5 mm).
- All weights are approximate, based on calculated weight of pipe.

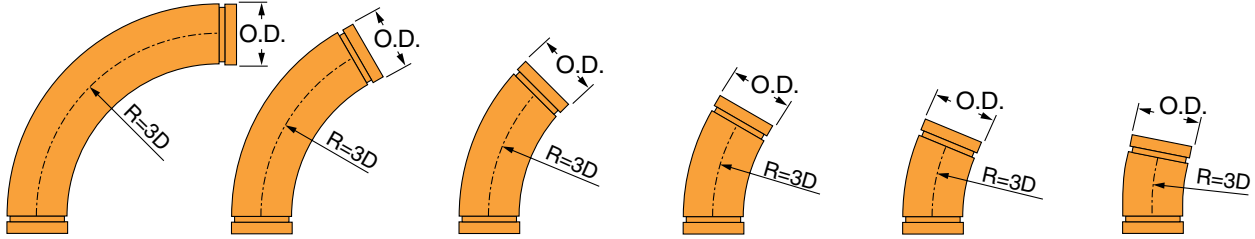


Fig. 7050-3D, 90° Elbow
 Fig. 7057-3D, 60° Elbow
 Fig. 7051-3D, 45° Elbow
 Fig. 7058-3D, 30° Elbow
 Fig. 7052-3D, 22½° Elbow
 Fig. 7053-3D, 11¼° Elbow

FIGURE 7050-3D 90° ELBOW				FIG. 7057-3D 60° ELBOW		FIG. 7051-3D 45° ELBOW		FIG. 7058-3D 30° ELBOW		FIG. 7052-3D 22½° ELBOW		FIG. 7053-3D 11¼° ELBOW	
Nominal Size	O.D.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.	Center to End	Approx. Wt. Ea.
In./DN(mm)	In./mm	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg	In./mm	Lbs./Kg
2	2.375	10	5.3	7½	4.3	6½	3.9	5¾	3.4	5¼	3.2	4½	2.8
50	60.3	254	2.4	191	2.0	165	1.8	146	1.5	133	1.5	114	1.3
2½	2.875	11½	9.5	8¼	7.7	7¼	6.7	6	5.8	5½	5.3	4¾	4.6
65	73	292	4.3	210	3.5	184	3.0	152	2.6	140	2.4	121	2.1
3	3.500	13	14.0	9¼	11.0	7¾	9.5	6½	8.0	5¾	7.3	5	6.2
80	88.9	330	6.4	235	5.0	197	4.3	165	3.6	146	3.3	127	2.8
3½	4.000	14½	18.6	10	14.4	8½	12.3	6¾	10.2	6	9.2	5	7.6
90	101.6	368	8.4	254	6.5	216	5.6	171	4.6	152	4.2	127	3.4
4	4.500	16	24.1	11	18.5	9	15.7	7¼	12.8	6½	11.4	5¼	9.3
100	114.3	406	10.9	279	8.4	229	7.1	184	5.8	165	5.2	133	4.2
5	5.563	20	40.9	13¾	31.3	11¼	26.5	9	21.8	8	19.4	6½	15.8
125	141.3	508	18.6	349	14.2	286	12.0	229	9.9	203	8.8	165	7.2
6	6.625	24	63.7	16½	48.8	13½	41.3	10¾	33.9	9½	30.1	7¾	24.6
150	168.3	610	28.9	419	22.1	343	18.7	273	15.4	241	13.7	197	11.2
8	8.625	32	127.8	22	97.9	18	82.9	14½	68.0	12¾	60.5	10½	49.3
200	219.1	813	58.0	559	44.4	457	37.6	368	30.8	324	27.4	267	22.4
10	10.750	40	226.4	27¼	173.4	22½	146.9	18	120.5	16	107.2	13	87.3
250	273.1	1016	102.7	692	78.7	572	66.6	457	54.7	406	48.6	330	39.6
12	12.750	48	332.7	32¾	254.8	27	215.9	21¾	177.0	19¼	157.5	15½	128.3
300	323.9	1219	150.9	832	115.6	686	97.9	552	80.3	489	71.4	394	58.2
14	14.000	56	427.3	38¼	327.3	31½	227.3	25¼	227.3	22½	202.3	18¼	164.8
350	355.6	1422	193.8	972	148.5	800	103.1	641	103.1	572	91.8	464	74.8
16	16.000	64	560.1	43¾	429.0	36	363.5	29	297.9	25½	265.2	20¾	216.0
400	406.4	1626	254.1	1111	194.6	914	164.9	737	135.1	648	120.3	527	98.0
18	18.000	72	710.7	49¼	544.4	40½	461.3	32½	378.1	28¾	336.5	23.35	274.1
450	457.2	1829	322.4	1251	246.9	1029	209.2	826	171.5	730	152.6	593	124.3
20	20.000	80	879.3	54¾	673.5	45	540.7	36	467.8	32	416.3	26	339.2
500	508	2032	398.8	1391	305.5	1143	245.3	914	212.2	813	188.8	660	153.9
24	24.000	96	1270.3	65½	973.0	53¾	824.4	43¼	675.7	38¾	601.4	31	490.0
600	609.6	2438	576.2	1664	441.3	1365	373.9	1099	304.1	972	272.8	787	222.3

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

Gruvlok fittings are available through 24" nominal pipe size in a variety of styles. Use the Fitting Size Table to convert nominal pipe size to corresponding pipe O.D.

These fittings are designed to provide minimum pressure drop and uniform strength.

Depending on styles and size, Gruvlok fittings are provided in various materials including ductile iron, forged steel or fabricated steel.

Pressure ratings of Gruvlok standard fittings conform to those of Fig. 7001 Gruvlok coupling.

Not for use in copper systems.



FLOW DATA – FRICTIONAL RESISTANCE (EXPRESSED AS EQUIVALENT STRAIGHT PIPE)

Nom. Size	O.D.	Pipe Wall Thickness	Elbow		Tee	
			90°	45°	Branch	Run
In./DN(mm)	In./mm	In./mm	ft./m	ft./m	ft./m	ft./m
1 25	1.315 33.4	0.133 3.4	1.7 0.5	0.9 0.3	4.4 1.3	1.7 0.5
1¼ 32	1.660 42.2	0.140 3.6	2.3 0.7	1.2 0.4	5.8 1.8	2.3 0.7
1½ 40	1.900 48.3	0.145 3.7	2.7 0.8	1.3 0.4	6.7 2.0	2.7 0.8
2 50	2.375 60.3	0.154 3.9	3.4 1.0	1.7 0.5	8.6 2.6	3.4 1.0
2½ 65	2.875 73.0	0.203 5.2	4.1 1.2	2.1 0.6	10.3 3.1	4.1 1.2
3 O.D. 76.1	2.996 76.1	0.197 5.0	4.3 1.3	2.2 0.7	10.8 3.3	4.3 1.3
3 80	3.500 88.9	0.216 5.5	5.1 1.6	2.6 0.8	12.8 3.9	5.1 1.6
4¼ O.D. 108.0	4.250 108.0	0.220 5.6	6.4 2.0	3.2 1.0	16.1 4.9	6.4 2.0
4 100	4.500 114.3	0.237 6.0	6.7 2.0	3.4 1.0	16.8 5.1	6.7 2.0
5¼ O.D. 133.0	5.236 133.0	0.248 6.3	8.0 2.4	4.0 1.2	20.1 6.1	8.0 2.4
5½ O.D. 139.7	5.500 139.7	0.248 6.3	8.3 2.5	4.2 1.3	20.9 6.4	8.3 2.5
5 125	5.563 141.3	0.258 6.6	8.4 2.6	4.2 1.3	21.0 6.4	8.4 2.6
6¼ O.D. 159.0	6.259 159.0	0.280 7.1	9.7 3.0	4.9 1.5	24.3 7.4	9.7 3.0
6½ O.D. 165.1	6.500 165.1	0.280 7.1	10.0 3.0	5.0 1.5	24.9 7.6	10.0 3.0
6 150	6.625 168.3	0.280 7.1	10.1 3.1	5.1 1.6	25.3 7.7	10.1 3.1
8 200	8.625 219.1	0.322 8.2	13.3 4.1	6.7 2.0	33.3 10.1	13.3 4.1
10 250	10.750 273.1	0.365 9.3	16.7 5.1	8.4 2.6	41.8 12.7	16.7 5.1
12 300	12.750 323.9	0.375 9.5	20.0 6.1	10.0 3.0	50.0 15.2	20.0 6.1
14 350	14.000 355.6	0.375 9.5	22.2 6.8	17.7 5.4	64.2 19.6	22.9 7.0
16 400	16.000 406.4	0.375 9.5	25.5 7.8	20.4 6.2	73.9 22.5	26.4 8.0
18 450	18.000 457.2	0.375 9.5	28.9 8.8	23.1 7.0	87.2 26.6	31.1 9.5
20 500	20.000 508.0	0.375 9.5	32.2 9.8	25.7 7.8	97.3 29.7	34.8 10.6
24 600	24.000 609.6	0.375 9.5	38.9 11.9	31.1 9.5	113.0 34.4	40.4 12.3

For the reducing tee and branches, use the value that is corresponding to the branch size. For example: for 6" x 6" x 3" tee, the branch value of 3" is 12.8 ft (3.9).

MATERIAL SPECIFICATIONS

CAST FITTINGS:

Ductile iron conforming to ASTM A 536, Grade 65-45-12

Malleable iron conforming to ASTM A 47

FABRICATED FITTINGS:

1-12" Carbon steel, Schedule 40, conforming to ASTM A 53, Grade B

14-24" Carbon steel, 0.375 wall, conforming to ASTM A 53, Grade B

COATINGS:

Rust inhibiting paint – Color: ORANGE (standard)

Hot Dipped Zinc Galvanized conforming to ASTM A 153 (optional)

Other Colors Available (IE: RAL3000 and RAL9000)

FITTING SIZE

Nominal Size	O.D.	Nominal Size	O.D.
In./DN(mm)	In./mm	In./DN(mm)	In./mm
1 25	1.315 33.4	5 140	5.563 141.3
1¼ 32	1.660 42.4	6¼ O.D. 159.0	6.259 159.0
1½ 40	1.900 48.3	6½ O.D. 165.1	6.500 165.1
2 50	2.375 60.3	6 150	6.625 168.3
2½ 65	2.875 73.0	8 200	8.625 219.1
3 O.D. 76.1	2.996 76.1	10 250	10.750 273.0
3 80	3.500 88.9	12 300	12.750 323.9
3½ 90	4.000 101.6	14 350	14.000 355.6
4¼ O.D. 108.0	4.250 108.0	16 400	16.000 406.4
4 100	4.500 114.3	18 450	18.000 457.2
5¼ O.D. 133.0	5.236 133.0	20 500	20.000 508.0
5½ O.D. 139.7	5.500 139.7	24 600	24.000 609.6

The Fitting Size Chart is used to determine the O.D. of the pipe that the fittings is to be used with. Gruvlok Fittings are identified by either the Nominal size in inches or the Pipe O.D. in/mm.