

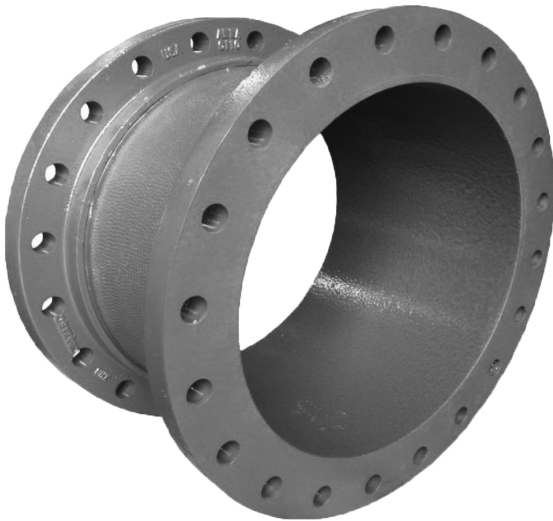


Ductile Iron Flanged Pipe

Ductile Iron Flanged Pipe is manufactured in accordance with ANSI/AWWA C115/A21.15

Application

Most commonly used in rigid pipe systems in well supported above ground pipe installations. Ductile iron Flanged pipe is particularly suited for water filtration plants, sewage disposal plants, waste-water treatment plants, pumping and lift stations, and industrial process plant applications.



Specification

- Ductile iron pipe conforms to ANSI/AWWA C151/A21.51. Pipe shall be minimum Class 53. C&B uses ductile iron pipe made in the USA. Pipe Class submitted is noted below.

CL53 ☒ CL54 ☐ CL55 ☐ CL56 ☐

- Flanges are made of ductile iron and are drilled in accordance with ANSI B16.1 CL 125 rated for 250 psi. ANSI CL 250 drilled flanges are available upon request. Flanges submitted are noted below. See attached TABLE 2 for technical data.

CL125 ☒ CL250 ☐

Flanges are manufactured from import sources. As an option to the customer, USA manufactured flanges may be selected. Flanges submitted are manufactured from

IMPORT ☒ USA ☐

- C&B wall collars are industry standard and are made of ductile iron (ASTM A536-70:50:05) and are welded continuously both sides of the collar with NI-55 weld rod. The collars are rated for 250 psi thrust load. See DI WALL PIPE submittal for technical data.
- C&B standard lining is double thickness cement mortar and bituminous seal coat in accordance with ANSI/AWWA C104/A21.4. C&B offers special linings when required by the project per pipe system. Linings submitted are noted below.

CEM ☒ PROTECTO 401 ☐ CBGL911 GLASS ☐

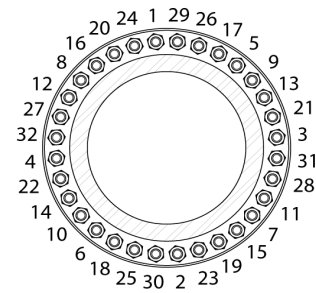
- C&B standard exterior coating is bituminous asphalt in accordance with ANSI/AWWA C151/A21.51. If the pipe is required to be shop coated for temporary jobsite protection, refer to the included C&B Piping Coating Submittal attached.

30"-64" Flanged Pipe fabricated by C&B Piping, Inc will be furnished with SBR TORUSEAL® Gaskets. This gasket is uniquely designed to perform best for use with ductile iron flanges.

If purchased from C&B, we can furnish 4"-24" TORUSEAL® Gaskets with your order at additional cost.



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Flanged faces should bear uniformly on the gasket. Bolts should be tightened in a progressively crisscrossed pattern (see bolt sequence diagram), such as tightening the top bolt first, then the bottom bolt next, the bolts at either side, and finally the remaining bolts. This process should be repeated until the appropriate torque is applied. Care should be taken NOT to over tighten the bolts. Over tightening the bolts, or attempting to close excess gaps between flanges will cause damage to the flanged joint thread sealant and potentially cause a leak.

All flanged joints must be properly supported during and after installation to eliminate torsional loads on the threaded flanges. If the pipe system is designed without flexible coupling connections, care must be taken during installation NOT to close gaps between flanges by over torquing the flanges. This will cause damage to the thread sealant and threads in the flanges.

Installation Care

The use of flanged joints in underground applications is generally not recommended. All piping must be properly supported, anchored, and restrained to prevent damage to threaded flanges.

DO NOT lift spools by the flanges as that will damage the thread seal. DO NOT pre-fab install flanged pipe spools and other components and hoist them into position as this method can cause thread seal damage. Demonstrate care while handling and moving flanged pipe as dropping flanges or rolling them to bang into each other can cause damage.

TORUSEAL® dual bulb gaskets are recommended by C&B Piping for all DI flanged pipe installations. These gaskets were designed specifically for the unique surface of Ductile Iron. Flat rubber gaskets are NOT considered equal in performance and may not provide the sealing capability the project requires. In addition, their use could result in unintended damage to

the flanges and threads of the fabricated pipe by applying excess torque to the bolts/ flanges to seal the joint. Hard plastic style gaskets have been known to contribute to over torquing and damage to threaded flanges.

Flanged faces must be prepped and cleaned prior to installing the gasket. Gaskets shall be minimum of 1/8" thick and shall require low torque ratings to minimize excessive loads on the threaded and sealed flanges.

Jobsite Storage

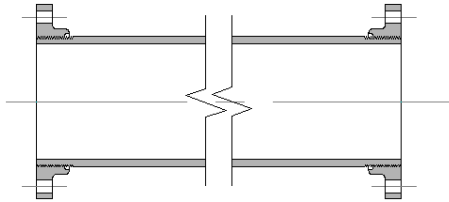
Flanged spools should be stored on wood pallets or wood dunnage for long pipes. Flanges and pipes should not be left on the ground or concrete. Care should be taken to limit handling scuffing/damage to prime coated materials. Contractor must consider the paint recoat window and follow proper repair and surface preparation instructions prior to application of additional coats of paint.



Ductile Iron Flanged Pipe



Flanged Pipe



Threaded Companion Flange

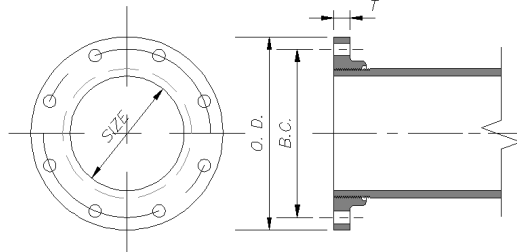


Table 1

| Size | Pressure Rating PSI | Outside Diam. (in.) | Min Wall Thickness (CL53) (in.) | Weight In Pounds | | | |
|------|------------------------|------------------------|---------------------------------------|-------------------------|--------|--------------------|---------------------|
| | | | | Max Length (ft.-in.) | Flange | W/O Flgs Per/ft | With Flgs Per/EA |
| 03" | 250 | 3.96 | 0.31 | 17' 6" | 7 | 10.9 | 205 |
| 04" | 250 + | 4.80 | 0.32 | 19' 6" | 13 | 13.8 | 295 |
| 06" | 250 + | 6.90 | 0.34 | 19' 6" | 17 | 21.4 | 451 |
| 08" | 250 + | 9.05 | 0.36 | 19' 6" | 28 | 30.1 | 643 |
| 10" | 250 + | 11.10 | 0.38 | 19' 6" | 38 | 39.2 | 840 |
| 12" | 250 + | 13.20 | 0.40 | 19' 6" | 58 | 49.2 | 1075 |
| 14" | 250 + | 15.30 | 0.42 | 19' 6" | 72 | 60.1 | 1316 |
| 16" | 250 + | 17.40 | 0.43 | 19' 6" | 80 | 70.1 | 1527 |
| 18" | 250 + | 19.50 | 0.44 | 19' 6" | 90 | 80.6 | 1752 |
| 20" | 250 + | 21.60 | 0.45 | 19' 6" | 115 | 91.5 | 2014 |
| 24" | 250 + | 25.80 | 0.47 | 19' 6" | 160 | 114.4 | 2551 |
| 30" | 250 | 32.00 | 0.51 | 17' 6" | 240 | 154.4 | 3182 |
| 36" | 250 | 38.30 | 0.58 | 17' 6" | 350 | 210.3 | 4380 |
| 42" | 250 | 44.50 | 0.65 | 17' 6" | 500 | 274.0 | 5795 |
| 48" | 250 | 50.80 | 0.72 | 19' 0" | 625 | 346.6 | 7835 |
| 54" | 250 | 57.56 | 0.81 | 19' 0" | 670 | 441.9 | 9736 |
| 60" | 250 | 61.61 | 0.83 ++ | 19' 0" | 1035 | 485.0 | 11285 |
| 64" | 250 | 65.67 | 0.87 ++ | 19' 0" | 1510 | 542.0 | 13318 |

Table 2

| Size (in.) | Dimensions In Inches | | | | # Bolts |
|---------------|----------------------|-------|------------|--------------------|---------|
| | OD | BC | T | Bolt Dia. & Length | |
| 03" | 7.50 | 6.00 | 0.75 ± .12 | 5/8 X 2 1/2 | 4 |
| 04" | 9.00 | 7.50 | 0.94 ± .12 | 5/8 X 3 | 8 |
| 06" | 11.00 | 9.50 | 1.00 ± .12 | 3/4 X 3 1/2 | 8 |
| 08" | 13.50 | 11.75 | 1.12 ± .12 | 3/4 X 3 1/2 | 8 |
| 10" | 16.00 | 14.25 | 1.19 ± .12 | 7/8 x 4 | 12 |
| 12" | 19.00 | 17.00 | 1.25 ± .12 | 7/8 x 4 | 12 |
| 14" | 21.00 | 18.75 | 1.38 ± .19 | 1 x 4 1/2 | 12 |
| 16" | 23.50 | 21.25 | 1.44 ± .19 | 1 x 4 1/2 | 16 |
| 18" | 25.00 | 22.75 | 1.56 ± .19 | 1 1/8 x 5 | 16 |
| 20" | 27.50 | 25.00 | 1.69 ± .19 | 1 1/8 x 5 | 20 |
| 24" | 32.00 | 29.50 | 1.88 ± .19 | 1 1/4 x 5 1/2 | 20 |
| 30" | 38.75 | 36.00 | 2.12 ± .25 | 1 1/4 x 6 1/2 | 28 |
| 36" | 46.00 | 42.75 | 2.38 ± .25 | 1 1/2 x 7 | 32 |
| 42" | 53.00 | 49.50 | 2.62 ± .25 | 1 1/2 x 7 1/2 | 36 |
| 48" | 59.50 | 56.00 | 2.75 ± .25 | 1 1/2 x 8 | 44 |
| 54" | 66.25 | 62.75 | 3.00 ± .25 | 1 3/4 x 8 1/2 | 44 |
| 60" | 73.00 | 69.25 | 3.12 ± .25 | 1 3/4 x 9 | 52 |
| 64" | 80.00 | 76.00 | 3.38 ± .25 | 1 3/4 x 9 | 52 |

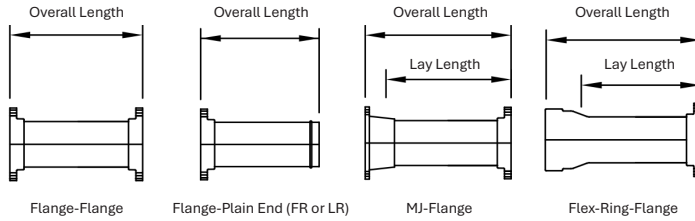
- This size may be rated at 350 psi if TORUSEAL® gaskets are utilized during installation.
- Wall thickness corresponds to CL350 or 60" and 64" diameters

- Flanges are plain faces without projection or raised face and are furnished smooth or with shallow serrations.
- Flanges may be back or spot faced for compliance with flange thickness tolerances.
- Pipe face-to-face dimensions conform to a tolerance of ±0.12 in. for FLG x FLG, ±0.25 in for FLG X PE per ANSI/AWWA C115/A21.51 standard. Some spools may be available at "exact" length if specified in advance. Additional charges will apply
- The bolt circle and bolt holes match those of ANSI/AWWA C115/A21.15 and CL125 flanges shown in ANSI B16.1. These flanges do not match the CL250 flange shown in ANSI B16.1 and cannot be joined with CL250 B16.1 fittings.

Ductile Iron Flanged Pipe



Flanged Pipe Min Lengths



| SIZE (IN.) | F-F OA | F-PE OA | F-FRP OA | TMJ-FLG | | TMJ-TMJ | | FR BELL-F | |
|---------------|-----------|------------|-------------|---------|-------|---------|-------|-----------|-------|
| | | | | OA | LL | OA | LL | OA | LL |
| 03" | 4.25 | 2.75 | X | 6.50 | 4.00 | 9.00 | 4.00 | X | X |
| 04" | 4.50 | 3.00 | 10.50 | 6.50 | 4.00 | 9.00 | 4.00 | 10.25 | 5.50 |
| 06" | 5.00 | 3.25 | 11.50 | 7.00 | 4.50 | 9.50 | 4.50 | 11.00 | 5.75 |
| 08" | 5.50 | 3.50 | 12.50 | 7.50 | 5.00 | 10.00 | 5.00 | 12.00 | 6.25 |
| 10" | 5.75 | 3.75 | 13.00 | 7.75 | 5.25 | 10.25 | 5.25 | 12.25 | 6.25 |
| 12" | 5.75 | 3.75 | 13.75 | 8.25 | 5.75 | 10.75 | 5.75 | 12.75 | 6.50 |
| 14" | 5.75 | 3.75 | 15.50 | 9.75 | 6.25 | 13.50 | 6.50 | 15.00 | 7.25 |
| 16" | 5.75 | 3.75 | 15.75 | 10.00 | 6.50 | 14.00 | 7.00 | 15.00 | 7.00 |
| 18" | 6.00 | 3.75 | 16.50 | 10.25 | 6.75 | 14.50 | 7.50 | 15.25 | 7.00 |
| 20" | 6.25 | 4.00 | 17.00 | 10.75 | 7.25 | 15.00 | 8.00 | 15.75 | 7.50 |
| 24" | 6.75 | 4.25 | 18.00 | 11.25 | 7.75 | 15.50 | 8.50 | 16.25 | 7.50 |
| 30" | 8.50 | 5.00 | 20.75 | 13.75 | 9.75 | 18.75 | 10.75 | 18.50 | 8.25 |
| 36" | 9.50 | 5.50 | 22.50 | 14.75 | 10.75 | 20.00 | 12.00 | 19.75 | 9.00 |
| 42" | 10.50 | 6.00 | 20.25 | 15.75 | 11.75 | 21.00 | 13.00 | 19.75 | 10.25 |
| 48" | 10.75 | 6.25 | 21.00 | 16.00 | 12.00 | 21.00 | 13.00 | 20.25 | 12.25 |
| 54" | 12.00 | 6.75 | 20.75 | X | X | X | X | 21.50 | 12.75 |
| 60" | 12.50 | 7.00 | 22.50 | X | X | X | X | 21.75 | 11.75 |
| 64" | 13.00 | 7.25 | 23.25 | X | X | X | X | 23.00 | 12.50 |

Flanged Pipe Min Lengths

For additional configurations not shown, please contact C&B Piping, Inc.

For RGRV x RGRV pipe, the min length for 3" & 4" is 4" OA, and 6"-36" is 0' 6" OA