

MCWANE DUCTILE FIELD ROUNDING PROCEDURE

Ovality is a fact of pipe. Fortunately, ductile means flexible. Internal stress contained in the metal wall from the foundry annealing process can be released when cutting a pipe, causing the pipe to “spring” out-of-round. This is not an indication of bad pipe, just one that has been heat treated (annealed).

A pipe can be deemed out-of-round when ovality is found to exceed AWWA standardized tolerances or where, in simple terms, there would be metal-to-metal conflict between the spigot and bell during assembly. This kit takes out-of-round out of your construction vocabulary.

In terms of fitness for duty, more important than shape is the size of the pipe. The purpose of this rounding kit is to allow you to easily change the shape of the pipe — from the outside, in plain sight, during joint assembly.

The size of the pipe (i.e., the diameter if it were a perfect circle) cannot be changed with this kit. It will not shrink or grow the pipe. That is why the first and most important aspect of cutting a ductile iron pipe is to confirm proper size (OD) prior to cutting.

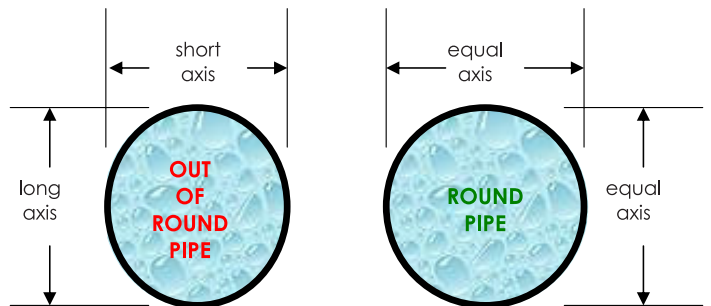
A direct-read OD measuring tape is included with the rounding kit. **Do not cut any pipe unless the diameter measured at the intended point of cut falls within tolerances shown in the table to the right.**

Once cut, any pipe has the potential to look as shown



SPOKEN Diameter	MINIMUM Outside Diameter	NOMINAL Outside Diameter	MAXIMUM Outside Diameter	MAXIMUM Diameter Closest 16th
6	6.84	6.90	6.96	6.9375
8	8.99	9.05	9.11	9.125
10	11.04	11.10	11.16	11.25
12	13.14	13.20	13.26	13.25
14	15.22	15.30	15.35	15.9375
16	17.32	17.40	17.45	17.4375
18	19.42	19.50	19.55	19.5625
20	21.52	21.60	21.65	21.625
24	25.72	25.80	25.85	25.8125
30	31.94	32.00	32.08	32.0625
36	38.24	38.30	38.38	38.375

AWWA C151 DUCTILE IRON PIPE DIMENSIONS (shown in inches)



on the left. The idea is to correct it as shown on the right. The external rounding kit is intended and designed for this purpose. **HINT: A mechanical joint gland can serve as a field ring to gauge roundness during adjustments with this kit.**



IRON STRONG

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PIPE ROUNDING INSTRUCTIONS



Step 1

Step 1. Measure pipe

Only cut pipe that measures within AWWA accepted standard ranges. The rounding kit can adjust only the shape of the barrel — not the size.



Step 5a

Step 2. Cut pipe

Use a pipe saw with carbide abrasive or diamond-tipped blade to safely and evenly cut the pipe at the location previously confirmed with OD tape.

Step 3. Bevel Spigot (if pipe intended for push-joint assembly)

Carefully use a rotary angle grinder to apply chamfered relief to the spigot end. Square or sharp edges can damage or displace a gasket during push-joint assembly.

Step 4. Place long axis vertical

The purpose of this rounding kit is to concurrently transform both the long and short axes of the pipe toward an equal measure, enabling entry into a companion fitting, pipe bell, or appropriate passage of the accessory gland.

Step 5. Set jack on pipe / wrap chain

The chain should be initially wrapped and hooked around the pipe in mild tension, thereby staying in place on its own. This makes each stroke of the rounding kit's jack more effective. Be sure to locate jack clear of the finished joint's insertion potential.



Step 5b

Step 6. Round pipe

In the simplest of terms, this kit is used to turn an oval back into a circle. Each pipe addressed will require different amounts of adjustment based upon the pipe size, wall thickness, and degree of original ovality.

DO NOT USE EXCESSIVE FORCE OR EXTENDED MEANS TO CREATE UNSAFE LEVERAGE OR STRAIN UPON THE JACK OR CHAIN.

Step 7. Assemble joint

Rounding is best done from a position behind the jack, while carefully observing progress into the recipient opening. The jack can and should be left in place during joint assembly. A properly lubricated gasket will adjust and successfully caulk the annular space within the joint.

Step 8. Remove jack

Release the tension on the chain by turning the jack valve in the direction indicated on the jack body. Remove the kit from the pipe. Check and ensure final torque of bolts if used on a mechanical joint assembly.



Step 5c

ROUNDING KIT PROVIDED COURTESY OF McWANE DUCTILE AND ITS AFFILIATES. NO SALE OR RESALE VALUE IS ATTACHED, PERMITTED, OR ENDORSED.

IMPORTANT NOTE: McWane Ductile and/or McWane, Inc. shall not be liable for injuries or damage caused through improper use or application of this equipment. Do not use the enclosed chain for any purposes other than as described with this kit.



Step 6



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