






**ROUNDING KIT PROVIDED COURTESY OF  
 THE MCWANE DUCTILE IRON PIPE GROUP  
 NO RESALE VALUE ATTACHED OR ENDORSED**

## Ductile Iron Pipe - 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.

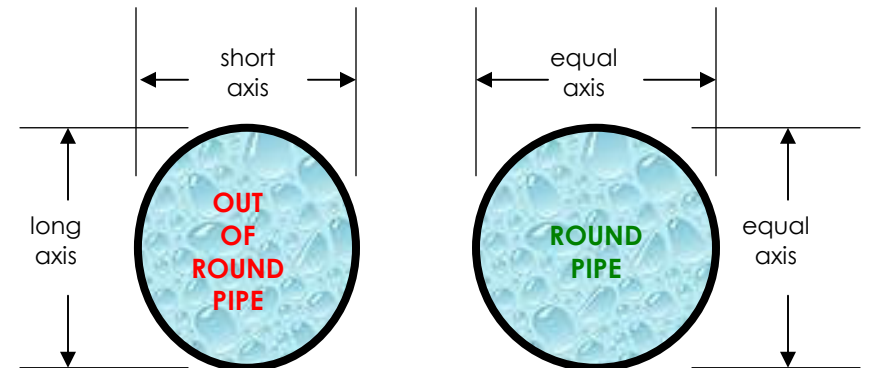
The size of the pipe ( i.e. the diameter if it were a perfect circle ) cannot be changed with this kit. It will not shrink or grow the pipe. That is why the first and most important aspect of cutting a ductile-iron pipe is to confirm proper size ( OD ) prior to cutting.



| SPOKEN Diameter | MINIMUM Outside Diameter | NOMINAL Outside Diameter | MAXIMUM Outside Diameter | MAXIMUM Diameter CLOSEST 16 <sup>th</sup> |
|-----------------|--------------------------|--------------------------|--------------------------|---|
| 6               | 6.84                     | 6.90                     | 6.96                     | 6 15/16                                   |
| 8               | 8.99                     | 9.05                     | 9.11                     | 9 1/8                                     |
| 10              | 11.04                    | 11.10                    | 11.16                    | 11 1/4                                    |
| 12              | 13.14                    | 13.20                    | 13.26                    | 13 1/4                                    |
| 14              | 15.22                    | 15.30                    | 15.35                    | 15 5/16                                   |
| 16              | 17.32                    | 17.40                    | 17.45                    | 17 7/16                                   |
| 18              | 19.42                    | 19.50                    | 19.55                    | 19 9/16                                   |
| 20              | 21.52                    | 21.60                    | 21.65                    | 21 10/16                                  |
| 24              | 25.72                    | 25.80                    | 25.85                    | 25 13/16                                  |
| 30              | 31.94                    | 32.00                    | 32.08                    | 32 1/16                                   |
| 36              | 38.24                    | 38.30                    | 38.38                    | 38 3/8                                    |

AWWA C151 DUCTILE IRON PIPE DIMENSIONS ( shown as inches )

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 ABOVE.



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

## STEP BY STEP – PIPE ROUNDING INSTRUCTIONS

### 1. Measure pipe

Only cut pipe that measures within AWWA accepted standard ranges. The rounding kit can only adjust the shape of the barrel – NOT THE SIZE.



### 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.

### 3. Bevel spigot ( - if pipe intended for push-joint assembly )

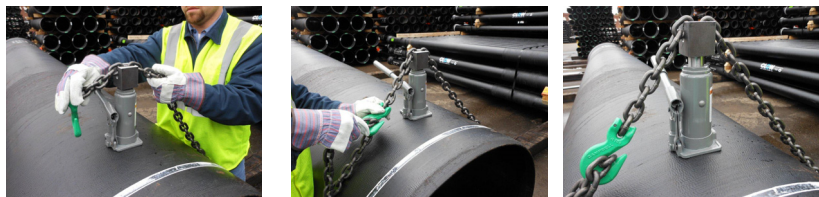
Carefully use a rotary angle-grinder to apply chamfered relief to the spigot end. Square or sharp edges can damage or displace a gasket during push-joint assembly.

### 4. Place long axis vertical

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

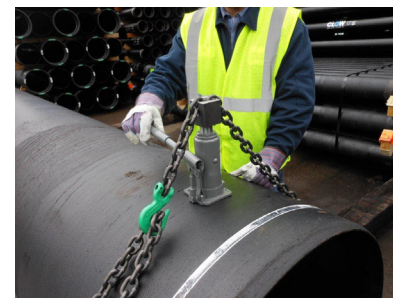
### 5. Set jack on pipe / wrap chain

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.



### 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.**

### 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.

### 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.

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**Atlantic States**



**CLOW**  
Water Systems Company



**IMPORTANT NOTE :** McWane Ductile Iron Pipe Group 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.