



WEAVER CONSTRUCTION MANAGEMENT, INC.

3679 S. Huron St., Suite 404

Englewood, CO 80110

Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

September 12, 2011

WGC Submittal No: 02615-003

PROJECT: Harold Thompson Regional WRF
Birdsall Rd.
Fountain, CO 80817
Job No. 2908

ENGINEER: GMS, Inc.
611 No. Weber St., #300
Colorado Springs, CO 80903
719-475-2935 Roger Sams

OWNER: Lower Fountain Metropolitan
Sewage Disposal District
901 S. Santa Fe Ave.
Fountain, CO 80817
719-382-5303 James Heckman

CONTRACTOR: Always Plumbing & Heating
P.O. Box 25215
Colorado Springs, Colorado 80936
719-532-1344 Ed Buss
info@alwaysph.com

SUBJECT: Plumbing Submittal for Head Works Building - Omni Coupling System - Standard AWWA

SPEC SECTION: 02615: Ductile Iron Pipe

PREVIOUS SUBMISSION DATES: n/a

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver General Construction and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

Contractor's Stamp:

Engineer's Stamp:

Date: 9/12/11

Reviewed by: H.C. Myers

(X) Reviewed Without Comments

() Reviewed With Comments

**ENGINEER'S
COMMENTS:** _____

Omni Coupling System
Standard AWWA

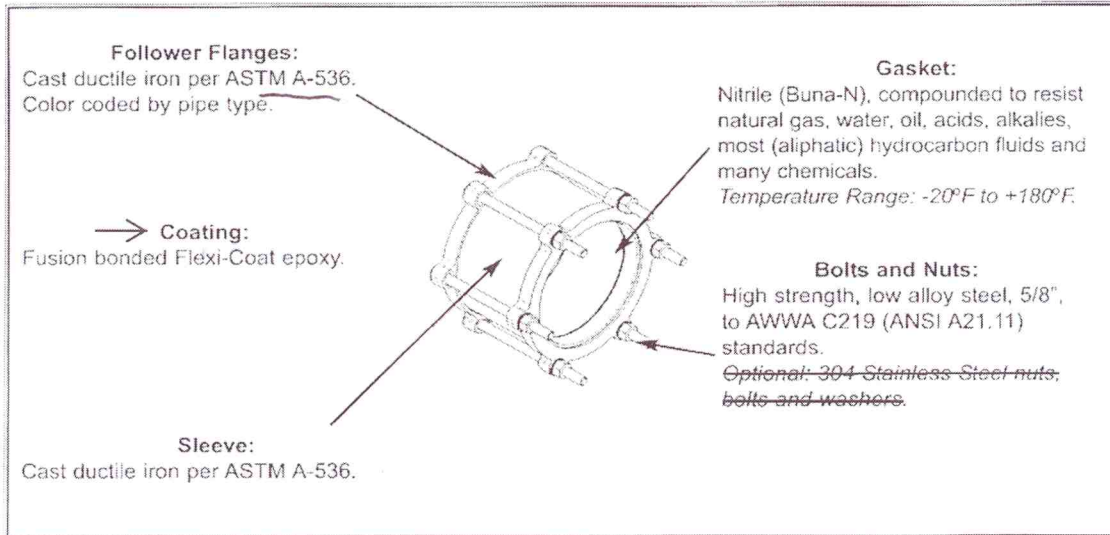


441

Omni Coupling System Cast Couplings

2"-16" Nominal Pipe Sizes

Product Specifications



Features:

- NSF 61 Listed.
- Heavy cast ductile iron parts for long life.
- Meets applicable AWWA C219 Standards. 0 2 6 1 5 1.2 A 1 5
- Flanges and gaskets can be mixed and matched on the same size nominal sleeve.
- Most couplings are stab fit, making installation a breeze. No disassembly is required.
- Up to 2.4" of range with a single coupling, reducing the need for large coupling inventories.
- Flexi-Coat, fusion bonded epoxy coating, coupling is standard for superior corrosion resistance.
- One sleeve per nominal pipe size takes the guess work out of deciding which sleeve size to choose.
- Flanges are color coded by pipe type: Red for iron pipe size O.D.; Blue for ductile O.D.; and Gray for asbestos cement O.D.
- Gaskets and flanges are permanently marked with a part number and ranged to facilitate proper selection.
- Sleeves are available in a variety of lengths, and custom length steel sleeves are available for special applications.

Coupling Number	Size	Working Pressure
441	2"-16" Nominal	250 PSI
442	4"-16" Nominal	250 PSI

Product Specifications

SPECIFICATION:

2615-1.2A15 The coupling shall have follower flanges and a sleeve that are made of cast ductile iron per ASTM A-536.

The follower flanges shall be color coded to identify the general type of pipe the flange is to fit: Red for IPS sizes, Blue for Ductile Iron sizes and Gray for Asbestos Cement sizes.

The gasket shall be Nitrile (Buna N) NSF 61 listed, compounded to resist water, oil acids, alkalies, most (aliphatic) hydrocarbon

fluids and many other chemicals. The temperature range of the gasket shall be -20°F to +180°F.

The gaskets shall have the color of follower flange it is compatible with molded into it.

The nuts and bolts are to be 5/8" high strength low alloy steel to AWWA C 219 (ANSI A21.11) standards.

The standard coupling coating shall be Felix-Coat fusion bonded epoxy.

02615 1.2A4

The coupling shall be a Smith-Blair, Inc., 441, 442 or approved equal.

Approved By

Name:

Title:

Date:

THESE PRODUCT SPECIFICATIONS WERE CORRECT AT TIME OF PUBLICATION.

MATERIAL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

SEE THE QUANTUM CATALOG SHEET FOR MORE DETAILS. VISIT SMITH-BLAIR'S WEBSITE AT WWW.SMITH-BLAIR.COM TO DOWNLOAD THE MOST CURRENT INFORMATION.

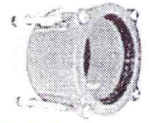


Ph: 870-773-5127 • Fax: 870-773-5212 • www.smith-blair.com
Toll-Free Numbers: Ph: 800-643-9705 • Fax: 800-648-6792
30 Globe Ave, Texarkana, AR 71854 • PO Box 5337, Texarkana, TX 75505



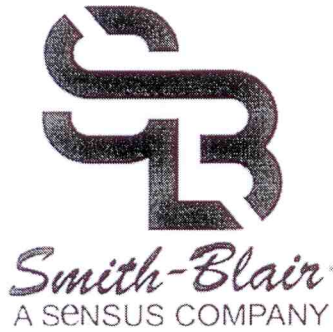
441 Cast Straight & Cast Transition Couplings

2" through 16"



Nominal Pipe Size Inches	Catalog Number End Code (See Page 14)	O.D.** End 1 Inches	O.D.** End 2 Inches	Overall Bolt & Laying Length Inches	5/8" Bolt Quantity Required	Sleeve Length Inches †	Approximate Shipping Weight Lbs.
4†	441-00000415-900	4.00-4.15	4.00-4.15	8 1/2	4	5	15
	441-00000450-900	4.22-4.50	4.22-4.50	8 1/2	4	5	15
	441-00000486-900	4.46-4.86	4.46-4.86	8 1/2	4	5	15
	441-00000510-900	4.80-5.10	4.80-5.10	8 1/2	4	5	15
	441-00000545-900	5.11-5.45	5.11-5.45	8 1/2	4	5	15
	441-04500415-900	4.22-4.50	4.00-4.15	8 1/2	4	5	15
	441-04860415-900	4.46-4.86	4.00-4.15	8 1/2	4	5	15
	441-05100415-900	4.80-5.10	4.00-4.15	8 1/2	4	5	15
	441-05100450-900	4.80-5.10	4.22-4.50	8 1/2	4	5	15
	441-05100486-900	4.80-5.10	4.46-4.86	8 1/2	4	5	15
	441-05450415-900	5.11-5.45	4.00-4.15	8 1/2	4	5	15
	441-05450450-900	5.11-5.45	4.22-4.50	8 1/2	4	5	15
	441-05450486-900	5.11-5.45	4.46-4.86	8 1/2	4	5	15
	441-05450510-900	5.11-5.45	4.80-5.10	8 1/2	4	5	15
6†	441-00000615-900	6.00-6.15	6.00-6.15	8 1/2	4	5	25
	441-00000663-900	6.28-6.63	6.28-6.63	8 1/2	4	5	25
	441-00000696-900	6.56-6.96	6.56-6.96	8 1/2	4	5	25
	441-00000722-900	6.90-7.22	6.90-7.22	8 1/2	4	5	25
	441-00000765-900	7.25-7.65	7.25-7.65	8 1/2	4	5	25
	441-06630615-900	6.28-6.63	6.00-6.15	8 1/2	4	5	25
	441-06960615-900	6.56-6.96	6.00-6.15	8 1/2	4	5	25
	441-07220615-900	6.90-7.22	6.00-6.15	8 1/2	4	5	25
	441-07220663-900	6.90-7.22	6.28-6.63	8 1/2	4	5	25
	441-07220696-900	6.90-7.22	6.56-6.96	8 1/2	4	5	25
	441-07650615-900	7.25-7.65	6.00-6.15	8 1/2	4	5	25
	441-07650663-900	7.25-7.65	6.28-6.63	8 1/2	4	5	25
	441-07650696-900	7.25-7.65	6.56-6.96	8 1/2	4	5	25
	441-07650722-900	7.25-7.65	6.90-7.22	8 1/2	4	5	25
8†	441-00000800-900	8.00-8.16	8.00-8.16	8 1/2	6	5	31
	441-00000863-900	8.40-8.63	8.40-8.63	8 1/2	6	5	31
	441-00000911-900	8.54-9.11	8.54-9.11	8 1/2	6	5	31
	441-00000930-900	9.05-9.30	9.05-9.30	9 1/2	6	5	31
	441-00000945-900	9.05-9.45	9.05-9.45	9 1/2	6	5	31
	441-00000985-900	9.46-9.85	9.46-9.85	9 1/2	6	5	31
	441-08630800-900	8.40-8.63	8.00-8.16	8 1/2	6	5	31
	441-09110800-900	8.54-9.11	8.00-8.16	8 1/2	6	5	31
	441-09450800-900	9.05-9.45	8.00-8.16	9 1/2	6	5	31
	441-09450863-900	9.05-9.45	8.40-8.63	9 1/2	6	5	31
	441-09450911-900	9.05-9.45	8.54-9.11	9 1/2	6	5	31
	441-09850800-900	9.46-9.85	8.00-8.16	9 1/2	6	5	31
	441-09850863-900	9.46-9.85	8.40-8.63	8 1/2	6	5	31
	441-09850911-900	9.46-9.85	8.54-9.11	8 1/2	6	5	31
	441-09850945-900	9.46-9.85	9.05-9.45	8 1/2	6	5	31
	10†	441-00001000-900	10.00	10.00	9 1/2	6	6
441-00001075-900		10.50-10.75	10.50-10.75	9 1/2	6	6	47
441-00001160-900		11.10-11.60	11.10-11.60	11	6	6	47
441-00001188-900		11.65-11.88	11.65-11.88	9 1/2	6	6	47
441-00001220-900		11.90-12.20	11.90-12.20	9 1/2	6	6	47
441-10751000-900		10.50-10.75	10.00	9 1/2	6	6	47
441-11601000-900		11.10-11.60	10.00	11	6	6	47
441-11601075-900		11.10-11.60	10.50-10.75	9 1/2	6	6	47
441-11881000-900		11.65-11.88	10.00	9 1/2	6	6	47
441-11881075-900		11.65-11.88	10.50-10.75	9 1/2	6	6	47
441-11881160-900		11.65-11.88	11.10-11.60	11	6	6	47
441-12201000-900		11.90-12.20	10.00	9 1/2	6	6	47
441-12201075-900		11.90-12.20	10.50-10.75	9 1/2	6	6	47
441-12201160-900		11.90-12.20	11.10-11.60	11	6	6	47
441-12201188-900		11.90-12.20	11.65-11.88	9 1/2	6	6	47

Type 441 Couplings will connect any two pipes within the O.D. range without changing any parts.
 Suitable anchorage must be provided when excessive pipe movement could occur.
 **Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.
 †Also available with longer sleeves (see 442's on page 6).
 See page 14 for end code description.



Installation Instructions 400 Series Couplings

Pipe stiffeners are required when using these products on polyethylene (P.E. pipe).

Step 1

Clean working area of pipe ends.

Step 2

Place coupling flanges on pipe ends.

Step 3

Clean gaskets and install with lubricant suitable for potable water systems. Beveled edge of gasket should face pipe ends.

Step 4

Center coupling sleeve over pipe ends while maintaining recommended gap below. Slide gaskets against sleeve followed by flanges.

Step 5

Install the bolts and hand-tighten the nuts. If carriage bolts are furnished, alternate direction of the bolts.

Step 6

Gradually tighten nuts to proper torque values listed below, alternating between opposite sides of the coupling and keeping all parts centered about pipe. Tighten both nuts if studs are used.

Step 7

Recheck torque after line pressurization.



Pipe forces due to internal pressure, thermal contraction, earth shifting, etc., can cause the pipe to pull out of the product and/or axial product movement unless the pipe and/or product is properly restrained from movement.

Suitable anchorage devices, such as anchor studs, harness rods, joint restrainers, thrust blocks, etc., must be installed prior to filling pipes or applying pressure to prevent pipe pull out. Restraint may also be required to prevent axial product movement.

This product must be installed in accordance with Smith-Blair, Inc. recommended procedures.

Recommended Gap Between Pipe Ends	
5" Sleeve	1/4" to 1/2" Gap
7" Sleeve	1/2" to 3/4" Gap
10" Sleeve	1/2" to 1 1/4" Gap

Recommended Bolt Torque	
7/16" Bolts	20 to 23 ft. lbs.
1/2" Bolts	30 to 35 ft. lbs.
5/8" Bolts	60 to 70 ft. lbs.
3/4" Bolts	85 to 95 ft. lbs.

Pipe Size Inches	Maximum Angular Deflection Between Pipes		
	5" Sleeve Length	7" Sleeve Length	10" Sleeve Length
0.84 to 2.38	7°	7°	7°
2.50 to 13.50	4°	4 1/2°	4 1/2°
13.60 to 24.00	2 1/2°	4°	4 1/2°
24.10 to 36.00	1 1/2°	3 1/2°	4°
36.10 to 42.00	-	3°	3 1/2°
42.10 to 60.00	2 1/2°	3°	-
60.10 to 100.00	-	-	2 1/4°



441 Cast Straight & Cast Transition Couplings 2" through 16"



Smith-Blair 441 OMNI™ Couplings are a sensible way to reduce your stocking requirements while increasing your capability to join a wide variety of types and sizes of pipe.

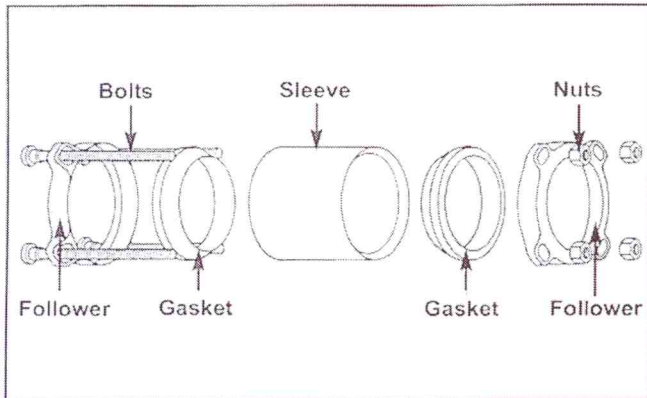
441 Bolted Straight and Transition Couplings fit pipe O.D. sizes within specified range extremes. All practical range variations can be accommodated with a selection of interchangeable color coded follower flanges and gaskets.

Ten 441 Cast Coupling Sleeves will accommodate virtually every pipe coupling application within the 10 most commonly used nominal pipe sizes 2" through 16". These ductile iron sleeves combined with a small inventory of color coded follower flanges and gaskets will permit coupling various types of pipe with O.D. differences up to 2.4" in some cases.

Material Specifications

- SLEEVE:** Ductile Iron ASTM A-536. Ends have smooth inside taper for uniform gasket seating.
- GASKETS:** Nitrile (Buna N) Certified to NSF@/ANSI 61-G. Compounded to produce superior storage and performance characteristics while resisting water, acids, alkalis, most (aliphatic) hydrocarbons and many other chemicals. Nominal temperature range: -20°F to 180°F. *Consult manufacturer for specific applications or other service temperatures.*
- FOLLOWER FLANGES:** Ductile Iron ASTM A-536. Designed for high strength/weight ratio.
- BOLTS & NUTS:** High strength low alloy steel bolts with heavy, semi-finished hexagon nuts to AWWA C219 (ANSI-A21.11) standards. Stainless Steel hardware available on request.
- FINISH:** Flexi-Coat®, fusion bonded epoxy per AWWA C213. Special coatings available on request. Follower flanges are color-coded.

Material Specifications are subject to change.



Features:

- More economical than mechanical joints.
- Corrosion resistant...equal to ductile iron pipe.
- Reduces inventory. A small inventory of color coded follower flanges and gaskets allow coupling of pipes with an O.D. difference up to 2" and over.
- Space savers. Bolts are close to sleeve providing easy wrapping of polyethylene or other protective materials.
- Versatile. Fit virtually all classes of cast iron, asbestos cement, and other types of pipe within specified range of each nominal size.

Nominal Pipe Size Inches	Catalog Number End Code (See Page 14)	O.D.** End 1 Inches	O.D.** End 2 Inches	Overall Bolt & Laying Length Inches	5/8" Bolt Quantity Required	Sleeve Length Inches †	Approximate Shipping Weight Lbs.
2	441-00000263-900	2.34-2.63	2.34-2.63	8 1/2	2	4	8 1/2
2 1/2	441-00000288-900	2.65-2.88	2.65-2.88	8 1/2	2	4	9
3	441-00000313-900	2.85-3.13	2.85-3.13	8 1/2	4	4	13 1/2
	441-00000350-900	3.44-3.62	3.44-3.62	8 1/2	4	4	13 1/2
	441-00000396-900	3.80-3.96	3.80-3.96	8 1/2	4	4	13 1/2
	441-00000414-900	3.97-4.14	3.97-4.14	8 1/2	4	4	13 1/2
	441-03500313-900	3.44-3.62	2.85-3.13	8 1/2	4	4	13 1/2
	441-03960313-900	3.80-3.96	2.85-3.13	8 1/2	4	4	13 1/2
	441-03960350-900	3.80-3.96	3.44-3.62	8 1/2	4	4	13 1/2
	441-04140313-900	3.97-4.14	2.85-3.13	8 1/2	4	4	13 1/2
	441-04140350-900	3.44-3.62	3.44-3.62	8 1/2	4	4	13 1/2
	441-04140396-900	3.97-4.14	3.80-3.96	8 1/2	4	4	13 1/2

Type 441 Couplings will connect any two pipes within the O.D. range without changing any parts.

Suitable anchorage must be provided when excessive pipe movement could occur.

**Published ranges indicate nominal pipe outside diameters. Couplings are designed for pipes within current AWWA Standard tolerances.

See page 14 for end code description.