



JCM Industries, Inc.

**Fittings & Fabrications
for Repair - Connection - Branching
All Types and Sizes of Pipe**

JCM Industries, Inc.
P.O. Box 1220 - Nash, TX 75569-1220
Office: 903-832-2581, Fax: 903-838-6260
www.jcmindustries.com

Call Toll Free: 800-527-8482
Fax Toll Free: 800-874-9524
Email: sales@jcmindustries.com

JCM 422 Fabricated Tapping Sleeve PVC, Steel and HDPE Pipe

The JCM 422 was the first tapping sleeve in the water/wastewater markets that was specifically engineered for installation on PVC Pipe. Since 1982, JCM has provided the Model 422 Tapping Sleeve for IPS PVC, Steel Pipe and C900 Pipe sizes. When HDPE earned approval in the potable water market, the JCM 422 was ready and waiting. JCM continues to recommend the JCM 422 for the best fit for these types/sizes of pipe.

Built-in benefits make JCM 422 Tapping Sleeves the ideal selection for tapping and branching IPS sized PVC, Steel, High Density Polyethylene Pipe and C900 PVC. These sleeves are designed to reinforce the pipe and assure simple, safe installation - even under the most adverse field conditions. The extra wide reinforcement and exact fit of these sleeves provides:

Built-In Corrosion Resistance

Equal to that of the pipe media. The JCM 422 is furnished standard Fusion Epoxy Coating (per AWWA C213) and with Powercron electro-coated hardware. Stainless steel hardware is an available option.

Extra Wide for Reinforcement, Support and Stability

The JCM 422 is designed extra wide for reinforcement to the main, to spread the load over a wider area and provide stability during the tapping process.

Exact Sizing

Fabricated to the exact contour of the pipe sizes, the JCM 422 aids in bringing and holding flexible pipe "in round" (without distortion) to aid the tapping process and ensuring clean passage of the cutter through the pipe wall for a successful tap and provides the critical support to the pipe.

Heavy Gasket Best for PVC Pipe

JCM 422 Taping Sleeve utilize a broad, heavy gasket with a hydro-mechanical lip to assure a positive seal on PVC & HDPE pipe with their normal expansion-contraction characteristics.

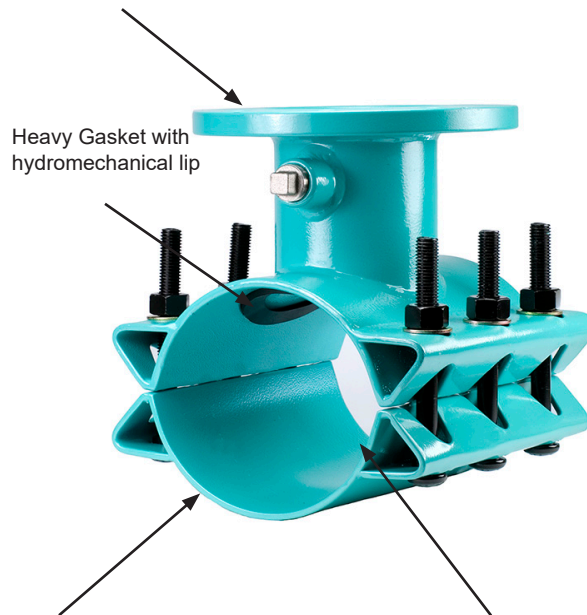
Stronger - Yet Lighter than Cast Sleeves

Extras strength provides an extra margin of safety against damage to the sleeve in handling, installation or due to concentrated stress. Reduced weight speeds installation and reduces the load placed on the pipe.

Ease of Assembly Assures Proper Installation

Simplicity of design permits JCM Tapping Sleeves to be installed with a minimum of crew, equipment, time and experience.

Built in Corrosion Resistance furnished Standard Epoxy Coated and Electro Coated Bolts



Wide for Support and Stability provides reinforcement to the pipe.

Exact Sizing Formed for exact O.D. fit, reduces stress on the pipe.

JCM 422 TAPPING SLEEVES FOR PVC, STEEL AND HDPE PIPE

TYPE OF PIPE	Nom Pipe Size (IN)"	Pipe OD Range (IN)"	Sleeve Number	X	Outlet Sizes Available	Appr Wt Each Lbs
2" STEEL & CAST IRON ONLY	2	2.38 2.50	422-0238 422-0250	X	2	12
					2	12
PVC PIPE IPS Size SDR 26, 21 Sch 40 Class 200, Class 160 HDPE IPS Steel Pipe	3	3.50	422-0350	X	3	18
					3	33
	4	4.50	422-0450	X	4	35
					3	32
	5	5.56	422-0556	X	4	35
					3	38
	6	6.63	422-0663	X	4	40
					6	60
	8	8.63	422-0863	X	3	43
					4	45
					6	56
					8	71
	10	10.75	422-1075	X	3	90
					4	92
					6	96
					8	125
	12	12.75	422-1275	X	10	134
					3	98
					4	100
					6	104
12	12.75	422-1275	X	8	140	
				10	176	
				12	216	
				12	216	

C900 PVC PIPE HDPE DIPS Not recommended for Cast Iron or Ductile Iron Pipe	3	3.96	422-0396	X	3	18
					3	33
	4	4.80	422-0480	X	4	35
					3	38
	6	6.90	422-0690	X	4	40
					6	60
	8	9.05	422-0905	X	3	43
					4	45
					6	56
					8	71
	10	11.10	422-1110	X	3	90
					4	92
					6	96
					8	125
	12	13.20	422-1320	X	10	134
					3	98
					4	100
					6	104
	12	13.20	422-1320	X	8	140
					10	176
12					216	
12					216	

JCM 422 tapping sleeves require 1/2" undersized cutter.

JCM 422 Tapping Sleeves are furnished standard epoxy coated, electro coated bolts & with test plugs.

Material Specifications

Body:

ASTM A36 Carbon Steel or equal.

Bolts:

5/8" Corrosion resistant, high strength low alloy oval neck track head bolt per ASTM A242/ANSI/AWWA C111/A21.11 and heavy hex nut per A563 Electro-coated, Powercron 590-534. Optional: Stainless Steel 18-8 304 or 316 available.

Flange:

AWWA C207 Class D, ANSI 150 lb. Drilling, recessed for tapping valve MSS-SP60.

Gasket:

Nitrile Butadiene Rubber (NBR, Buna-N) per ASTM D2000. Molded virgin rubber with a pressure activated hydro mechanical design. Gasket is bonded into a cavity for internal and external retention. Gasket temp. range - 40°F to 180°F (-40°C to 82°C). Gasket suitable for water, salt solutions, mild acids, bases, and sewage.

Finish:

Standard finish fusion bonded epoxy coating, minimum 12 mils thickness per ANSI/AWWA C213.

Service Rating:

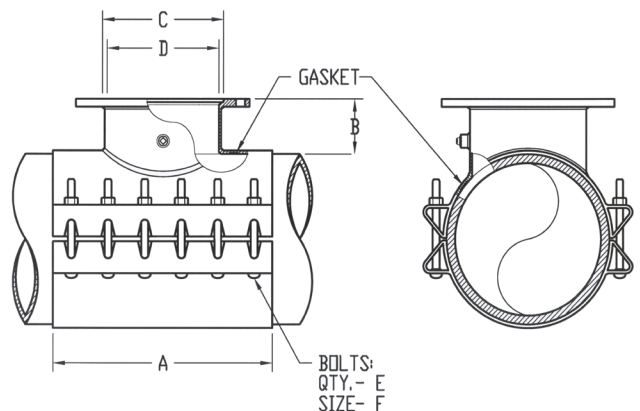
4" to 12" Outlets: 175 PSI. Higher service rating available for specific applications and sizes.

JCM 400 Series Tapping Sleeves are ANSI/NSF Standard 61, Annex G & ANSI/NSF 372 Certified.

JCM 400 Series Tapping Sleeves meet MSS-SP124 and ANSI/AWWA Standard C223 Fabricated Steel and Stainless Steel Tapping Sleeves.

JCM 422 is not recommended for cast iron or ductile iron pipe, for CIP/DIP see JCM 412 Fabricated Tapping Sleeve.

JCM 422 Tapping Sleeve Dimensions						
Flange Size	A	B	C	D	E	F
3	9*	5	4-1/32	3-1/2	6	5/8
4	9*	5	5-1/32	4	6	5/8
6	12.00	5	7-1/32	6-1/8	8	5/8
8	15.00	5-1/8	9-1/32	8-1/8	10	5/8
10	21.00	5-1/2	11-1/16	10-1/4	14	5/8
12	24.00	5-3/4	13-1/16	12-1/4	16	5/8
NOTE: 422 Tapping Sleeves require a standard 1/2" undersize cutter						
*10" & 12" Nominal pipe sizes - dimension A is 12".						



The Uni-Bell PVC Pipe Association recommends the following attributes of a tapping sleeve to be installed on PVC/PCVO Pipe.

Tapping Sleeve should:

- Provide full support around the circumference of the pipe
- Provide sufficient length to: Furnish satisfactory sealing and prevent potential movements of the pipe
- Be independently supported to minimize loading on the pipe being tapped
- Be compatible with the tapping valves and/or attaching mechanisms of the drilling machine that will be used

Tapping sleeves should not:

- Distort the pipe when properly tightened
- Have lugs or other protrusions that will dig into the pipe when the sleeve is tightened





Pipe Outside Diameter Guide

IMPORTANT: This Pipe O.D. Guide is furnished for your convenience and is based on the latest pipe standards and information supplied by pipe manufacturers. Due to occasional changes and variances in outside diameters, the pipe O.D. should always be verified before ordering fittings.

SMALL DIAMETER PIPE SIZES

NOMINAL PIPE SIZE (INCHES)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2
COPPER TUBING	.63	.88	1.13	1.38	1.63	2.13	2.63
STEEL & PLASTIC PIPE	.84	1.05	1.32	1.66	1.90	2.38	2.88

STANDARD PRESSURE PIPE SIZES

NOMINAL PIPE SIZE (INCHES)	3	4	5	6	8	10	12	14	15	16	18	20	24	30
COPPER TUBING	3.13	4.13	5.13	6.13										
STEEL & PLASTIC PIPE (SDR 26,21 & SCHEDULE)	3.50	4.50	5.56	6.63	8.63	10.75	12.75	14.00		16.00	18.00	20.00	24.00	30.00
PLASTIC IRRIGATION PIPE (PIP)		4.13		6.14	8.16	10.20	12.24		15.30		18.70	22.05	24.80	
PLASTIC SEWER PIPE (SDR 35)		4.22		6.28	8.40	10.50	12.50		15.30		18.70		24.80	
PLASTIC (PVC) AWWA C-900/C-905/C-909		4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	
POLYETHYLENE PIPE (IPS SIZE)	3.50	4.50		6.63	8.63	10.75	12.75	14.00		16.00	18.00	20.00	24.00	30.00
POLYETHYLENE PIPE (DIP SIZE)		4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00

DUCTILE IRON PIPE	3.96	4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00	
CAST IRON	CLASS 100 - 250 AWWA	3.96	4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00
	CLASS A AWWA PIT CAST	3.80	4.80		6.90	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	31.74
	CLASS B AWWA PIT CAST	3.96	5.00		7.10	9.05	11.10	13.20	15.30		17.40	19.50	21.60	25.80	32.00
	CLASS C - D AWWA PIT CAST	3.96	5.00		7.10	9.30	11.40	13.50	15.65		17.80	19.92	22.06	26.32	

ABESTOS CEMENT PIPE	Class 100	MACHINED END	3.74	4.64		6.91	9.11	11.24*	13.44*	15.07		17.15	19.90	22.12	26.48	33.12	
		FLINTITE ROUGH BARREL	3.94	4.90		7.13	9.33	11.30	13.42	15.45		17.60					
		FLUID-TITE ROUGH BARREL	3.93	5.05		7.16	9.32	11.46	13.70	15.36		17.50	20.44	22.50	27.17		
		PERMAFLEX ROUGH BARREL		4.84		7.15	9.35	11.47	13.74	15.55		17.55	20.50	22.70	27.15		
		RING-TITE ROUGH BARREL	3.95	4.92		7.19	9.39	11.47	13.74	15.51		17.65	20.44	22.68	27.12	33.80	
		MIN. STD. ROUGH BARREL		4.79		7.05	9.22	11.25	13.37	15.36		17.50					
		MAX. STD. ROUGH BARREL		5.26		7.40	9.57	11.77	14.04	15.80		17.94					
	Class 150	MACHINED END	3.84	4.81		6.91	9.11	11.66	13.92	16.22		18.46	20.94	23.28	27.96	35.00	
		FLINTITE ROUGH BARREL	4.40	5.06		7.13	9.33	11.88	14.14	16.48		18.72					
		FLUID-TITE ROUGH BARREL	4.03	5.14		7.12	9.32	11.85	14.11	16.41		18.65	21.20	23.54	28.22		
		PERMAFLEX ROUGH BARREL		5.00		7.20	9.40	11.92	14.20	16.50		18.75	21.30	23.64	28.32		
		RING-TITE ROUGH BARREL	4.13	5.07		7.17	9.37	11.92	14.18	16.48		18.72	21.30	23.64	28.32	35.42	
		MIN. STD. ROUGH BARREL		4.97		7.07	9.27	11.82	14.08	16.38		18.62					
		MAX. STD. ROUGH BARREL		5.32		7.37	9.62	12.12	14.38	16.73		18.97					
	Class 200	MACHINED END	3.84	4.81		6.91	9.11	11.66	13.92	16.22		18.46	22.18	24.66	29.62	37.06	
		FLINTITE ROUGH BARREL	4.17	5.32		7.26	9.44	11.88	14.14	16.53		18.84					
		FLUID-TITE ROUGH BARREL	4.18	5.32		7.36	9.46	11.88	14.11	16.44		18.74					
		PERMAFLEX ROUGH BARREL		5.32		7.25	9.50	11.95	14.20	16.55		18.90	22.54	25.02	29.98		
		RING-TITE ROUGH BARREL	4.17	5.33		7.32	9.50	11.92	14.18	16.59		18.90	22.54	25.02	29.98	37.48	
		MIN. STD. ROUGH BARREL		5.22		7.26	9.39	11.77	14.03	16.44		18.74					
		MAX. STD. ROUGH BARREL		5.57		7.60	9.79	12.12	14.38	16.88		19.19					
NOMINAL PIPE SIZE (INCHES)		3	4	5	6	8	10	12	14	15	16	18	20	24	30		

* Flintite ME is 10.89 for 10" and 12.99 for 12" sizes.



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