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TEM: STANDARDS/REQUIREMEN	rs:	MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
ipe: DI, Push-on Joint, Asphaltic-co			02610	5924
		Associate Pine Seattle Initia	02010	3324
Pipe:	ANSI/AWWA C151	American Pipe: Fastite Joint		
Wall thickness:	Class 52, min, unless otherwise specified	U.S. Pipe: Tyton Joint		
Lining:	ANSI/AWWA C104, cement	McWane Group (Tyler, Union and Clow): Fastite or Tyton Joint		
Exterior Coating:	ANSI/AWWA C151 (asphaltic)			
Joints:	ANSI/AWWA C111, rubber gasket			
Joints.	ANSI/AWWA CITT, Tubbel gasket			
ipe: DI, Push-on Joint, Zinc-coated,	4" - 54"		02610	
Pipe:	ANSI/AWWA C151	American Pipe: Fastite Joint		
Wall thickness:	Class 52, min, unless otherwise specified	U.S. Pipe: Tyton Joint		
	•			
Lining:	ANSI/AWWA C104, cement	McWane Group (Tyler, Union and Clow): Fastite or Tyton Joint		
Exterior Coating:	Arc-sprayed zinc at a mass of 200 g/m <sup>2</sup> of pipe area, ISO-8179-1 base coat,			
	Shop-applied bituminous finish top coat			
Joints:	ANSI/AWWA C111, rubber gasket			
Markings:	Factory applied exterior marking indicating zinc-coated			
ivia kings.	Taccory applied exterior marking materials and could			
ipe: DI, Restrained Joint, Zinc-coate			02610	5924
Pipe:	Applicable requirements of ANSI/AWWA C151	American Pipe: Flex-Ring		
Wall thickness:	Class 52, min, unless otherwise specified	U.S. Pipe: HDSS® High Pressure Restrained Pipe with Deflection or TR-Flex		
Lining:	ANSI/AWWA C104, cement	McWane Group (Tyler, Union and Clow): TR-Flex		
S .	·	incwarie Group (Tyler, Orion and Clow). The rex		
Exterior Coating:	Arc-sprayed zinc at a mass of 200 g/m <sup>2</sup> of pipe area, ISO-8179-1 base coat,			
	Shop-applied bituminous finish top coat			
Joints:	Applicable requirements of ANSI/AWWA C111, rubber gasket			
Restraint Mechanism:	Boltless, ductile iron wedges or segments			
Retainer Bead/Ring:	Factory-applied			
Retainer beady king.	ταιτοί γ αρφίτει			
ipe: DI, Restrained Joint, Zinc-coate	ed, 42" - 64"		02610	
Pipe:	Applicable requirements of ANSI/AWWA C151	American Pipe: Flex-Ring		
Wall thickness:	Class 52, min, unless otherwise specified	U.S. Pipe: HP-Lok, 60" - 64", TR-Flex or HDSS® High Pressure Restrained Pipe with		
Lining:	ANSI/AWWA C104, cement	Deflection, up to 54"		
•	·	Deflection, up to 34		
Exterior Coating:	Arc-sprayed zinc at a mass of 200 g/m <sup>2</sup> of pipe area, ISO-8179-1 base coat,			
	Shop-applied bituminous finish top coat			
Joints:	Applicable requirements of ANSI/AWWA C111, rubber gasket			
Restraint Mechanism:	Boltless, ductile iron wedges or segments			
Retainer Bead/Ring:	Factory-applied			
Retainer beady king.	ractory-applied			
inc-Rich Primer for Zinc Coating Rep	pair		02610	
Color:	Gray	Sherwin Williams Company: Corothane® Galvapac 1k Zinc Primer		<u> </u>
Zinc Content:	85% - 88% by weight in dried film	Tnemec Company: Tneme-Zinc Series 90-98	1	
Volume Solids:	63% - 69%	Rust-Oleum® Stop Rust® Cold Galvanizing Compound Spray		
Totaline Solidsi		The state of the s		
ush-on Joint Restraints for 4" - 12"	ductile iron pipe		02610	
Working Pressure:	250 psi	U.S. Pipe: Field-Lok 350 Gasket		I
Restraint Mechanism:	Stainless steel locking segments, vulcanized into gasket, capable of being disassembled	American Pipe: Fast Grip Gasket		
	ANSI/AWWA C111	, mercan reaction describe		
Gackat:	ANSI/AWWA CIII			
Gasket:			02610	5918
	6"x12", 6"x13", 6"x18", 6"x24", 6"x36", 6"x48", 8"x12", 8"x13", 8"x18", 8"x24", 8"x48" and 12"x13"		02010	
	6"x12", 6"x13", 6"x18", 6"x24", 6"x36", 6"x48", 8"x12", 8"x13", 8"x18", 8"x24", 8"x48" and 12"x13"  ANSI/AWWA C110 or C153	McWane Group (Tyler, Union and Clow): Swivel by Solid Adapter,	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting:			02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement		02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining: Exterior Coating:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining: Exterior Coating:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining: Exterior Coating: Joints:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint Solid gland cast integrally with pipe by swivel gland	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining: Exterior Coating: Joints: Glands:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint Solid gland cast integrally with pipe by swivel gland ANSI/AWWA C110 or C153 (ANSI/AWWA C111), ductile iron	Swivel by Swivel Adapter	02010	
ipe: DI, Anchor, Cast Ring, 4"x13", 6 Fitting: Wall thickness: Lining: Exterior Coating: Joints:	ANSI/AWWA C110 or C153 4" - 0.52", 6" - 0.37", 8" - 0.39" and 12" - 0.75", minimum, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint Solid gland cast integrally with pipe by swivel gland	Swivel by Swivel Adapter	02010	

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ITEM: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
	er than 13" LL, 6" greater than 36" LL, 8" greater than 18" LL and 12" greater than 13" LL		02610	5918
Pipe: Wall thickness: Lining: Exterior Coating:	ANSI/AWWA C151 Class 54, min, unless otherwise specified ANSI/AWWA C104, cement ANSI/AWWA C110 or C153, asphaltic	C&B Piping Inc.: Anchor Coupling, Swivel by Swivel Clear Water Manufacturing (Part of MPI/McWane): Anchor Coupling, Swivel by Swivel US Pipe: Anchor by anchor with welded ring		
Joints:  Glands: Ring:	ANSI/AWWA C110 or C153, asphaltic  ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint  Swivel gland by swivel gland  ANSI/AWWA C110 or C153 (ANSI/AWWA C111), ductile iron  3/8" x 1/2" or 1/2" x 1/2" solid ring of A36 steel on joint side of gland			
Bolts:	Fusion welded with AWS 5.15 ENIFeMN-Cl (NI ROD 44), ENIFe-Cl (NI ROD 55) or ENI-Cl (NI ROD 99) High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Fittings: DI Mechanical Joint Asphaltic	c-coated, 4" - 48" (Bends, Reducers, Tees, Tapped Tees, Solid Sleeves, End Caps and Plugs)		02610	5901
Dimensions:	ANSI/AWWA C110 or C153	US Pipe	02010	3901
Lining: Exterior Coating: Joints: Body and Glands: Bolts:	ANSI/AWWA C110 or C153 (ANSI/AWWA C104), cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint ANSI/AWWA C110 or C153 (ANSI/AWWA C111), ductile iron High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated	American Pipe McWane Group (Tyler, Union and Clow) Star Pipe Products		
Fittings: DI, Restrained Joint, Asphaltic-	-coated, 4" - 48" (Bends)		02610	
Dimensions: Lining: Exterior Coating: Joints: Body and Glands: Restraint Mechanism: Retainer Bead/Ring:	Applicable requirements of ANSI/AWWA C110 or C153  ANSI/AWWA C110 or C153 (ANSI/AWWA C104), cement  ANSI/AWWA C110 or C153, asphaltic  Applicable requirement of ANSI/AWWA C110 or C153, rubber gasket  ANSI/AWWA C110 or C153 (ANSI/AWWA C111), ductile iron  Boltless, ductile iron wedges or segments  Factory-applied to restrained joint pipe	American Pipe: Flex-Ring U.S. Pipe and Griffin Pipe: TR-Flex, up to 36" or HP-Lok, 30" - 48" McWane Group (Tyler, Union and Clow): TR-Flex, up to 36"		
Fittings: DI, Anchor Tee and Anchor Elbe	nw		02655	5901
Dimensions: Lining: Exterior Coating: Joints:  Body and Glands: Bolts:	ANSI/AWWA C110 or C153 ANSI/AWWA C110 or C153 (ANSI/AWWA C104), cement ANSI/AWWA C110 or C153, asphaltic ANSI/AWWA C110 or C153 (ANSI/AWWA C111), rubber gasket, mechanical joint MJxMJxSwivel Tee, MJ x Swivel Elbow ANSI/AWWA C110 or C153 (ANSI/AWWA C111), ductile iron High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated	McWane Group (Tyler, Union and Clow): MJ x MJ x Swivel Tee, MJ x Swivel Tee, Swivel x Swivel Hydrant Ell, 90° Swivel x Swivel Bends Star Pipe Products		3332
MJ Restraint Gland, 4"-12" for tempora	ry restraint only for DI and CI pipe - permanent restraint must be provided by thrust blocks or other means		02610	5913
Dimensions: Working Pressure: Lining: Exterior Coating: Gland: Bolts: Restraint Mechanism:  Gaskets:	ANSI/AWWA C111 350 psi Epoxy or electrostatically-applied, heat-cured polyester Epoxy or electrostatically-applied, heat-cured polyester Ductile iron, ASTM 536 High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated T-bolts Multiple ductile iron gripping wedges incorporated into the gland; wedges must be heat-treated to a minimum hardness of 370 BHN with twist-off activation nuts, capable of being disassembled ANSI/AWWA C111	EBBA Iron, Inc: Mega-Lug, Series 1100 Ford: Uni-flange™, Series 1400 McWane Group (Tyler, Union and Clow): MJ TUFGrip® TLD, Series 1000 Star Pipe Products: Stargrip®, Series 3000		
MJ Adapters, MJ Bell to MJ Bell Connec	tor (with restraint), 3" - 36"		02610	
Dimensions: Working Pressure: Lining: Exterior Coating: Ends: Bolts and Nuts: Gaskets:	ANSI/AWWA C110 or C153 3"-24": 350psi rating, 30" - 36": 250psi rating ANSI/AWWA C116, Epoxy ANSI/AWWA C116, Epoxy Male x male with bolt-through center ring on body High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated ANSI/AWWA C111, SBR	Infact Corporation: Foster Adaptor®		

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EM: STANDARDS/REQUIREMENT	······································	MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
anged Coupling Adapters	<b>5</b> ;	WANGFACT ORER/WARE/NAIVIE/WODEL:	02655	5935
	Davids transfer (ACTALASCS) as Caralylangular (CALO)	Food FCA	02055	5935
Material (Body & End Ring):	Ductile iron (ASTM A536) or Steel (ANSI/AWWA C219)	Ford: FCA		
Coating:	Fusion-bonded epoxy	Smith-Blair: 912 or 913		
Flange:	ANSI/AWWA C207, Class B, ASME B16.1 Class 125 or ASME B16.5 Class 150	JCM: 301 (4" - 12" only)		
Flange O-ring	Nitrile (Buna-N / NBR)	Romac: FC400 (14" and larger)		
Restraint Design:	No anchor studs or pins			
Bolts:	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Gasket:	SBR or Nitrile (Buna-N / NBR)			
olyethylene Encasement			02610	
Film:	Virgin material, ANSI/AWWA C105	Trumbull Industries, Inc.: Polyethylene Encasement Tubing for DIP		
Tube:	Extruded linear low density polyethylene (LLDPE) film	Repor, Inc.		
Thickness:	8 mils	AA Thread Seal Tape, Inc.		
Color:	Weather-resistant black containing not less than 2% carbon black	A Tillead Scal Tape, Inc.		
Markings:	ANSI/AWWA C105			
I olyethylene Encasement - V-Bio® Er	nhanced		02610	
Film:	Virgin material, ANSI/AWWA C105	American Pipe: V-Bio® Enhanced Polywrap	02010	
Tube:	3 layers of co-extruded linear low density polyethylene (LLDPE) film	US Pipe: V-Bio® Enhanced Polywrap		
Thickness:	8 mils	McWane: V-Bio®Enhanced polyethylene encasement and corrosion control		
Color:	White	AA Thread Seal Tape, Inc.: VB3® Enhanced Polywrap Pipe Sleeves		
Markings:	ANSI/AWWA C105			
V-Bio® Enhancement:	Inside surface infused with an anti-microbial additive and a volatile galvanic corrosion inhibitor			
olyethylene Encasement Tape			02610	`
Туре:	Adhesive tape	Polyken: Polyken #900	02610	
Width:	2"	3M™: Scotchwrap™ # 50		
Backing:	Plastic	Trumbull Industries, Inc.		
		AA Thread Seal Tape, Inc. (non-USA produced)		
opper Service Tubing: 3/4", 1", 1-1/	7" and 7"		02630	5902
Material:	ASTM B88, Type K (seamless, virgin copper)	Cambridge-Lee Industries LLC	02030	3302
Dimensions:	ASTM B88 or ANSI/AWWA C800, Appendix A.2, Table A.1	Lansdale® Valve Manufacturing Corp.		
		· · · · · · · · · · · · · · · · · · ·		
Chemical Composition:	Copper alloy UNS No. C12200	Mueller Streamline Co. (A company of Mueller Industries)		
I olyethylene Service Tubing: 1", 1-1/	'2" and 2"		02630	5903
Material:	Virgin PE meeting AWWA C901, PE4710, SDR-9, Oxidative Resistance Categorization CC2 or CC3, and	Endot Industries: Endopure	02030	3303
Widterial.	color and UV stabilizer code C or code E in accordance with ASTM D3350 and AWWA C901	JM Eagle		
D'annais ann				
Dimensions:	ANSI/AWWA C901, Table 5 outside diameter (CTS PE tubing OD - controlled diameter)	Charter Plastics		
Working Pressure:	250 psi	WL Plastics		
Color:	Blue or Black with Blue Stripe			
Markings:	ANSI/AWWA C901			
rass (bronze) Tubing: 1" - 2" for ma	nual air releases and blow offs		02655	5931
Material:	Brass pipe per ASTM B43, 125 pounds, IPS threads		02000	5931
	ASTM B62			3332
Fittings:	ASTIVI BOZ			
racing Wire for plastic services, PVC	or HDPE water main		02630	
Material:	12 AWG, copper-clad steel wire	Kris-Tech Wire: Copper-clad steel tracer wire, EHS (extra high strength)		
Core Material:	AISI 1055 steel	for 600V - must request high-density, high molecular weight polyethylene		
Conductivity:	21% minimum	coating		
Break Load:	1,150 pounds minimum	Pro-Line Safety Products: PROTRACE HDD-CCS PE45		
Exterior Coating: Color:	45 mil high-density HMWPE Blue	Copperhead Industries: Soloshot Part #1245 EHS		

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M: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH
	d, for plastic services, air releases and blow-offs (& disinfection/BO/sampling taps if not used for a service) - 3/4" corporations	• • •	02630	591
Body Material:	No-lead brass, copper alloy CDA/UNS C89833, C89836 or C89520, in accordance with ANSI/AWWA C800	COMPRESSION OUTLET:		
<b>'</b>	and chemical and mechanical requirements of ASTM B584	AY McDonald: 74701BQ		
Other Material/Dimensions:	ANSI/AWWA C800	Ford: FB1000-3-Q-NL, FB1000-4-Q-NL		
Valve:	Ball with full-port opening, 1/4 turn (90°) to full close or open			
Working Pressure:	300 psi	FIP or MIP OUTLET:		
Inlet:	AWWA CC threads	AY McDonald: 73128B, 73148B		
Outlet:	"Quick-style" grip compression with one-piece combined gasket/metal gripper ring, FIP,	Ford: FB400-3-NL, FB400-4-NL, FB1600-3-NL, FB1600-4-NL		
outiet.	or MIP as required by use	FOIG. FB400-3-NE, FB400-4-NE, FB1000-3-NE, FB1000-4-NE		
oration Stops, 1-1/2", 1-1/2" x 2" and 2	" non-insulated, for plastic and copper services, air releases and blow-offs (& disinfection/BO/sampling taps if not used for a se	ervice)	02630	59:
Body Material:	No-lead brass, copper alloy CDA/UNS C89833, C89836 or C89520, in accordance with ANSI/AWWA C800	COMPRESSION OUTLET:		
	and chemical and mechanical requirements of ASTM B584	AY McDonald: 74701BQ		
Other Material/Dimensions:	ANSI/AWWA C800	Ford: FB1000-6-Q-NL, FB-1000-7-Q-NL		
Valve:	Ball with full-port opening, 1/4 turn (90°) to full close or open	101411122000 0 4 114, 12 2000 7 4 112		
Working Pressure:	300 psi	FIP or MIP OUTLET:		
Inlet:	AWWA CC threads	AY McDonald: 73128B, 73148B, 73121B		
Outlet:	"Quick-style" grip compression with one-piece combined gasket/metal gripper ring, FIP, or MIP	Ford: FB400-6-NL, FB400-7-NL, FB400-67-NL, FB1600-6-NL, FB1600-67-NL & FB1600-7-NL		
outiet.	as required by use	FOIG. F6400-0-NL, F6400-7-NL, F6400-67-NL, F61000-6-NL, F61000-07-NL & F61000-7-NL		
pration Stops, 3/4" and 1" insulated for Body Material:	copper services on DI, CI or steel pipe (disinfection/BO/Sampling taps if used for a service)  No-lead brass, copper alloy CDA/UNS C89833, C89836 or C89520, in accordance with ANSI/AWWA C800	COMPRESSION OUTLET (3/4" and 1"):	02630	
Body Material.	with chemical and mechanical requirements of ASTM B584	AY McDonald: 74701BDUQ		
Other Meterial/Dimensions	·	AT MCDOHalu. 747018D0Q		
Other Material/Dimensions:	ANSI/AWWA C800			
Valve:	Ball with full-port opening, 1/4 turn (90°) to full close or open			
Working Pressure:	300 psi			
Inlet:	AWWA CC threads			
Outlet:	"Quick-style" grip compression with one-piece combined gasket/metal gripper ring, FIP, or MIP			
	as required by use			
	draining curb stops for blow-offs and manual air releases		02630	59
Body Material:	No-lead brass, copper alloy CDA/UNS C89833, C89836 or C89520, in accordance with ANSI/AWWA C800	COMPRESSION INLET /OUTLET:		
	with chemical and mechanical requirements of ASTM B584	AY McDonald: 76100Q		Ī
Other Material/Dimensions:	ANSI/AWWA C800	Ford: B44-333-Q-NL, B44-444-Q-NL, B44-666-Q-NL, B44-777-Q-NL		
Valve:	Ball with full-port opening, 1/4 turn (90°) to full close or open			
Working Pressure:	300 psi	COMPRESSION INLET/OUTLET (Self draining for blow-offs & air releases):		1
Inlet:	"Quick-style" grip compression with one-piece combined gasket/metal gripper ring, FIP, or MIP	AY McDonald: 76000Q		
	as required by use	Ford: BC44-444SW-Q-NL, B44-666SW-Q-NL, B44-777SW-Q-NL		
Outlet:	"Quick-style" grip compression with one-piece combined gasket/metal gripper ring,	COMPRESSION INLET by FIP or MIP OUTLET and		
	pack compression (for use with galvanized pipe only), FIP or MIP, as required by use	FIP or MIP INLET by COMPRESSION OUTLET:		
		AY McDonald: 76102Q		
		Ford: B41-333-Q-NL, B41-444-Q-NL, B84-333-Q-NL, B84-444-Q-NL,		
		B41-666-Q-NL, B41-777-Q-NL, B84-666-Q-NL, B84-777-Q-NL		
		FIP or MIP INLET/OUTLET:		
		AY McDonald: 76101, 76107, 76107P		1
		Ford: B11-333-NL, B11-444-NL, B11-666-NL, B11-777-NL		
		B81-333-NL, B81-444-NL, B81-666-NL, B81-777-NL		l
		B88-333-NL, B88-444-NL, B88-666-NL, B88-777-NL		
		COMPRESSION INLET by PACK OUTLET:		
		COMPRESSION INLET by PACK OUTLET:  AY McDonald: 76100Q-55		

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ITEM: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
Curb Boxes and Curb Rods, 1-1/4"		MANOTACI ONEN, MANE, MANE, MODEL	02630	5909
Curb box rod:	Arch pattern extension type with a 5-1/2 foot bury, 66" max extended length and compressed minimum length of 54"  Stainless steel, minimum 1/2" outside diameter by 42" length, "S" type, bottom clamp / yoke of	Curb Box: Ford: EA2-55-50 with PL lid and stationary rod AY McDonald: 5604, with 5614L lid and 5660SS rod	02000	
Curb box lid:	stainless steel, welded on rod and drilled for cotter pin. Brass or stainless steel cotter pin. Cast iron tapped with 1-1/4" with brass pentagon nut plug. "WATER" cast in lid.	Mueller: H-10306-66 with 89369 Lid		I
Curb box bottom:	Arch must fit 3/4" and 1" ball valve curb stop with 1-1/4" upper section	Curb Rod : AY McDonald Ford Mueller		
Curb Box - enlarged base			02630	5910
Base:	Adaptable with lower section of 1-1/4" arch pattern curb boxes and sized to fit over 1-1/2" and 2" ball curb stops	Bibby-Ste. Croix: V313 (non-USA produced) Ford: CB-7 AY McDonald: 5700E Mueller: H-10310 Bingham & Taylor: 4980 No. 14-E		
Curb Rod, 1-1/4" for replacement or re	pair			5909
Curb box repair rod:	Stainless steel, minimum 1/2" outside diameter by 24" length, "S" type, bottom clamp / yoke of stainless steel, welded on rod and drilled for cotter pin. Brass or stainless steel cotter pin.	Curb Rod : AY McDonald Ford Mueller		
Curb Box Lid for replacement or repair				5923
Curb box lid:	Cast iron tapped with 1-1/4" with brass pentagon nut plug. "WATER" cast in lid.	AY McDonald  1" Upper Section: 5607L  1-1/4" Upper Section: 5614L  2" Upper Section: 5624L  Ford  1" Upper Section: PS-LID  1-1/4" Upper Section: PL-LID  Mueller  1" Upper Section: 89376  1-1/4" Upper Section: 89369  2" Upper Section: 89981		
Curb Box - Buffalo style top section for				5911
Curb box top section: Curb box cover:	2-1/2" x 24" lengths Attached to top section with standard AWWA Pentagon bolt	Bibby-Ste. Croix: S171 (non-USA produced) Bingham & Taylor: 4901-94E Tyler: 6500		
Curb Box - Buffalo style lid for replacen				5911
Curb box lid:	"Water" cast in lid	Bibby-Ste. Croix: S-282 (non-USA produced) Bibby-Ste. Croix: S-285 (old style) (non-USA produced) Bingham & Taylor: 4901 NRS Bingham & Taylor: 4901 OSR (old style) Mueller: H-10373 Mueller: H-10374 (old style) Tyler: 6500 (new style) Tyler: 6500 (old style) AY McDonald: 5700RL (new) AY McDonald: 5700RL (old)		

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INANII IEACTI IDED /MAVE /NIAME /MODEL.	WH#
MANUFACTURER/MAKE/NAME/MODEL: ENG SPEC	
02630	5931
ordance with ANSI/AWWA C800 AY McDonald: 74758Q	5932
Ford: C44-33-Q-NL, C44-34-Q-NL, C44-46-Q-NL	
C44-66-Q-NL, C44-77-Q-NL	
ripper ring,	
ripper ring,	
e - pack style compression 02630	5931
ordance with ANSI/AWWA C800 AY McDonald: 74758Q-55	5932
Ford: C45-33-Q-NL, C45-43-Q-NL, C45-44-Q-NL, C45-66-Q-NL, C45-77-Q-NL	
rinner ring	
19per 1118)	
02620	5931
	_
	5932
Ford: C55-33-NL, C55-44-NL, C55-66-NL, or C55-//-NL	
n pipe	
ordance with ANSI/AWWA C800 AY McDonald: 74753-55	
Ford: C85-33-NL, C85-44-NL, C85-66-NL, or C85-77-NL	
on, or with brass plug for permanent manual air release & blow-off	5931
	5932
	3932
ned gasket/metal gripper ring, Lee Brass: Lee Free®	
Air releases and Blow-offs:	
AY McDonald: 74754Q with MIP plug	
Ford: C14-44-Q-NL with CSP-4-I-NL, or C14-77-Q-NL with CSP-7-I-NL	
02630	5926
GE Dresser Style 90	1
	5931
02630	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-43-NL, C18-46-NL, C18-47-NL, C18-67-NL,	5931
Drdance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-43-NL, C18-46-NL, C18-47-NL, C18-67-NL,	5931
Drdance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL	5931
O2630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL Lee Brass: Lee Free®	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL Lee Brass: Lee Free®  02630  02630  02630	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL Lee Brass: Lee Free®  02680  ordance with ANSI/AWWA C800  Ford: CSP-3-A-NL, CSP-4-A-NL, CSP-6-A-NL, CSP-7-A-NL	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL Lee Brass: Lee Free®  02630  02630  02630	5931
02630  ordance with ANSI/AWWA C800  Ford: C18-34-NL, C18-36-NL, C18-37-NL, C18-43-NL, C18-47-NL, C18-67-NL, or C18-76-NL Lee Brass: Lee Free®  02680  ordance with ANSI/AWWA C800  Ford: CSP-3-A-NL, CSP-4-A-NL, CSP-6-A-NL, CSP-7-A-NL	5931
riiorriiorriiorriiorriiorriiorriiorrii	ipper ring, ipper

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TEM: STANDARDS/REQUIREMENTS:		MANUEACTURER /MAYE /NAME /MODEL	ENG SPEC	WH#
	Saddles required for 1.1/2" and 2" tans to DI and CI nine and for all tans to AC nine	MANUFACTURER/MAKE/NAME/MODEL:		
Service Saddles for DI, CI and AC pipe	Saddles required for 1-1/2" and 2" taps to DI and CI pipe and for all taps to AC pipe	Ford, 2020	02630	5916
Body material:	Copper alloy CDA/UNS C83600 (85-5-5-5) in accordance with ANSI/AWWA C800 and chemical and mechanical requirements of	Ford: 202B		
	ASTM B584	Mueller: BR2B Series		
Other Material/Dimensions:	ANSI/AWWA C800	AY McDonald: 3825 for 2" - 12"		
Straps:	Double straps of flattened silicon bronze	AY McDonald: 3825A or B for 14" - 24"		
Nuts:	85-5-5-5 brass alloy as per ASTM B62 and B584 and ANSI/AWWA C800, with integral washers			
Outlet:	AWWA CC threads (female)			
Gasket:	ASTM-D2000, Nitrile (Buna-N / NBR) rubber or EPDM O-ring			
Service Saddles for 6" -12" PVC pipe	Saddles required for all taps to PVC pipe		02630	5939
Body material:	Copper alloy CDA/UNS C83600 (85-5-5-5) in accordance with ANSI/AWWA C800 and chemical and mechanical requirements of	Ford: S90 Design B (bolted)	3_000	
body material.	ASTM B584	Cambridge Brass Inc: Series 800 (non-USA produced)		
Other Material/Dimensions:	ANSI/AWWA C800	Mueller: S-13000 or H-13000 (bolted or hinged)		
· · · · · · · · · · · · · · · · · · ·	·			
Strap:	Single, cast bronze (CDA/UNS C83600) or cast brass (CDA/UNS C84400)	AY McDonald: 3805 (bolted) or 3895 (hinged)		
Studs, Nuts & Washers:	Silicon bronze, bronze (CDA/UNS C65100) or brass (CDA/UNS C84400)			
Outlet:	AWWA CC threads (1" and smaller), FIPT 1.5"			
Gasket:	ASTM-D2000, Nitrile (Buna-N / NBR) rubber or EPDM O-ring			
Service Saddles for 14" -24" PVC pipe	Saddles required for all taps to PVC pipe		02630	
Body material:	Copper alloy CDA/UNS C83600 (85-5-5-5) in accordance with ANSI/AWWA C800 and chemical and mechanical requirements of	Ford: 202BSD		
	ASTM B584	Cambridge Brass Inc: Series 812 (non-USA produced)		
Other Material/Dimensions:	ANSI/AWWA C800	Mueller: BR 2 S		
Strap:	Double, Type 304 Stainless Steel	AY McDonald: 3855 (AWWA CC) or 3856 (FIPT)		
Studs, Nuts & Washers:	Type 304 Stainless Steel			
Outlet:	AWWA CC threads (1" and smaller), FIPT 1.5"			
Gasket:	ASTM-D2000, Nitrile (Buna-N / NBR) rubber or EPDM O-ring			
Service Saddles for Concrete pipe			02630	5917
Body material:	Ductile Iron per ASTM A536	Smith Blair: 362	02000	0017
Strap:	Steel per ASTM A36	JCM: 425		
	·			
Bolts:	High-strength, low alloy steel per ANSI/AWWA C111	Forterra Pipe		
Outlet:	AWWA CC thread			
Gasket:	Nitrile (Buna-N / NBR)			
Service Saddles for Steel pipe				
Body material:	ASTM A105	Weldolet		
Other Material/Dimensions:	ASME B16.9	Threadolet		
/alves, Resilient-seated Gate	Valves 16" and larger must be horizontal with bevel gearing unless otherwise specified		02660	5937
Valve:	ANSI/AWWA C509 for 4" - 12"; ANSI/AWWA C515 for 4" - 30"	Clow: 4"-12" MJ x MJ Model 2639	02000	3337
		4"-30" MJ x MJ Model 2638		
Working Pressure:	250 psi			
Direction to open:	Counterclockwise (left), except in the Town of Henrietta & 12" and smaller in the Town of Webster	4"-12" MJ x tapping flange Model 2639		
Operator/stem:	Buried service, non-rising stem, 2" square operating nut, double O-ring stem seal	4"-30" MJ x tapping flange Model 2638		
Joints:	ANSI/AWWA C111: MJ x MJ; Tapping valves MJ x tapping flange	Mueller: 4"-12" MJ x MJ Model A-2362-20		
Body/bonnet bolts:	304 stainless steel	4"-30" MJ x MJ Model A-2361-20		
	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated	4"-12" MJ x tapping flange Model T-2362-16		
MJ Bolts:	riigii-sti ciigtii, low-alloy steel, bide ildolopolyillei-coated oi bolvteti alldoloetiiviciie-coated			
MJ Bolts: Tapping flange bolts:		4"-30" MJ x tapping flange Model T-2361-16		
Tapping flange bolts:	304 stainless steel	4"-30" MJ x tapping flange Model T-2361-16		
		US Pipe: 4" - 12" MJ x MJ Model A-USP2-20		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16 Kennedy: 4" - 12" MJ x MJ Model 8571SS 4"-20" MJ x MJ Model 7571SS		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16 Kennedy: 4" - 12" MJ x MJ Model 8571SS 4"-20" MJ x MJ Model 7571SS 4"-12" MJ x tapping flange Model 8950SS		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16 Kennedy: 4" - 12" MJ x MJ Model 8571SS 4"-20" MJ x MJ Model 7571SS 4"-12" MJ x tapping flange Model 8950SS 4"-20" MJ x tapping flange Model 7950SS		
Tapping flange bolts:	304 stainless steel	US Pipe: 4" - 12" MJ x MJ Model A-USP2-20 4"-30" MJ x MJ Model A-USP1-20 4"-12" MJ x tapping flange Model T-USP2-16 4"-30" MJ x tapping flange Model T-USP1-16 Kennedy: 4" - 12" MJ x MJ Model 8571SS 4"-20" MJ x MJ Model 7571SS 4"-12" MJ x tapping flange Model 8950SS		

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EM: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH
alves, Butterfly	Butterfly valves are only acceptable when explicitly specified		02660	590
Valve:	ANSI/AWWA C504, Class 150A, 150B, 250A or 250B as specified	Henry Pratt Co: HP250™		590
Working Pressure:	150 psi or 250 psi as specified	Val-Matic: VM-2000		
Direction to open:	Counterclockwise (left)	Mueller: Lineseal XP, Lineseal XPII		
Operator:	Buried service, non-rising stem, 2" square operating nut			
Shaft:	ASTM A276 Type 304 or ASTM A564 Type 630 stainless steel			
Joints:	ANSI/AWWA C111 for MJ x MJ			
	ANSI/AWWA C207, ANSI B16.1 Class 125 or Class 250 for flanged x flanged, as specified			
MJ Bolts:	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Flange bolts:	304 Stainless Steel			
Interior/Exterior Coating:	Fusion-bonded epoxy			
ves, Double - Disc Gate with bypass (for	20" and larger when explicitly specified)		02660	590
Valve:	ANSI/AWWA C500	Mueller: A-2380		
Working Pressure:	250 psi	Clow		
Direction to open:	Counterclockwise (left)	Kennedy		
Orientation:	Horizontal with solid-copper alloy or 300-series stainless steel rollers, scrapers and tracks			
Operator/stem:	Buried service, non-rising stem, 2" square operating nut, double O-ring stem seal			
Bypass:	ANSI/AWWA C500, C509 or C515			
Joints:	ANSI/AWWA C111: MJ x MJ; Tapping valves MJ x tapping flange			
Body/bonnet bolts:	304 stainless steel			
MJ Bolts:	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Tapping flange bolts:	304 Stainless Steel			
Interior/Exterior Coating:	Fusion-bonded epoxy			
tomatic Air Release Valve, small orifice			02655	
Valve:	ANSI/AWWA C512	Val-Matic		
Working Pressure:	150 psi, unless noted	GA Industries: DUOJET®		
Body/Cover material:	GI / CI (ASTM A126, class B) or DI (ASTM A536, Grade 65-45-12)			
Float, Trim & Lever:	Stainless steel			
Valve seats:	Elastomeric materials			
Body inlet/Cover outlet:	Threaded			
Valve/inlet & Orifice Size:	As specified by MCWA			
Test Pressure:	Shell - 1.5 times working pressure, Float - 1,000 psi minimum, Seat - zero leakage at 1.5 times working pressure			
Interior/Exterior Coating:	Ероху			

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M: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
e Box for Gate, Tapping and Butterfly	Valves		02660	5912
Boxes:	5-1/4" diameter, screw type, lock into base sections	Bibby-Ste-Croix Complete (5' Bury) (non-USA produced):		
Box Coating:	Petroleum asphaltic material	Valve Box Complete: V616#A, V617#B, V618#C, V619#CC		
Тор:	"WATER" cast into them	Bibby-Ste-Croix Parts (non-USA produced):		
Base:	No base used on butterfly valves	Base: #6 7341		
		Mid Section: 7345 #59 or V817 #61		
	All sections shall be interchangeable with old Buffalo Foundry boxes, style: #5001	Top Section: V733, V734 or V735		
	All Sections shall be interchangeable with our burial Foundity Boxes, style. #3001	Risers: V829, V831, V832 or V833		
		Covers: V878		
		Bingham & Taylor Complete:		
		Valve Box Complete: Series Fig 4906 (AA-E)		
		Bingham & Taylor Parts:		
		Base: #6 round base		
		Mid Section: Figure 4905-X (18, 20, 21 or 22)		
		Top Section: Series Figure 4906		
		Risers: Series Figure 6016-B		
		Covers: Figure 4905-L1.5		
		Bingham & Taylor Replacement Parts:		
		Top Section: #54, #55, #56 Screw Type		
		Middle: #62 Screw Type, #64 - #61 Screw Ex		
		EJ, USA Complete:		
		Valve Box Complete: 85605061, 85603343, 85603950, 85604555		
		EJ, USA Parts:		
		Base: #6 base, 85605006		
		Top Section: 16T, 85507016		
		Cover: 06800001 (Water)		
		Tyler Union Complete:		
		Valve Box Complete: Cast Iron 3 Piece, 6860 Screw Type (AA-G)		
		(Note: Base ordered separately)		
		Tyler Union Parts:		
		Base: #6 base, 145660		
		Mid Section: #58 screw-type, 145141 or #59 screw-type, 145158		
		Top Section: 6860 AA-G		
		Risers: 5-1/4 Slip-In: 533641, 533689, 533696, 533702		
		Cover: 145325, WATER		
re Operating Nut Extension Stem			02660	
		As provided by MCWA		
ping Sleeves, DI or CI, for 4" - 24" DI o	or Clining		02650	5915
Tapping Sleeve:	ANSI/AWWA C110, DI or CI	US Pipe / Mueller: H-615, H-619	02030	5915
Working Pressure:	200 psi minimum	American: 2800-C Series		
•	·			
Tapping Flange:	ASME B16.1, Class 125/Class B	McWane Group (Tyler, Union and Clow): 25U-Compact		
Joints:	ANSI/AWWA C111, MJ x tapping flange			
Bolts:	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Gaskets:	SBR, EPDM, or Nitrile (Buna-N / NBR)			
Exterior Coating:	ANSI/AWWA C153, Asphaltic		1	
ping Sleeves, Stainless Steel, for 4" - 2	24" DI. CI or AC pipe		02650	5915
Tapping Sleeve:	ANSI/AWWA C223, 18-8 Type 304 or 316 stainless steel	Powerseal: 3490AS	12000	0010
Working Pressure:	200 psi minimum	Ford: FTSS		
_	·			
Tapping Flange:	CF8 cast stainless steel, or, 304 or 316 stainless steel; ANSI B16.1 Class 125/Class B	Cascade: CST-EX (Not approved on mains to be pressure tested over 150 psi)		
Bolts:	Type 304 stainless steel	US Pipe / Mueller: H-304SS		
Gaskets:	SBR or Nitrile (Buna-N / NBR)	Total Piping Solutions: Triple-Tap®		
		JCM: 432SS (Not approved on AC mains and mains to be pressure tested over 150 psi)		

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TEM: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
apping Sleeves, Steel, for 6" - 48" Steel p	ipe, weld-on		02650	5941
Tapping Sleeve:	ANSI/AWWA C200, Steel per ASTM A36 or ASTM A283 Grade C	Romac: FTS445		
Working Pressure:	150 psi	Smith Blair: 626		
Tapping Flange:	ANSI/AWWA C207, Class D or ANSI B16.5 Class 125/Class B	JCM: 417		
Exterior Coating:	Shop coat primer or epoxy coated	JCIVI. 417		
exterior coating.	Shop coat primer or epoxy coated			
ydrants			02655	5905
Dimensions /design:	ANSI/AWWA C502, Dry barrel, 5-1/2 foot bury standard, 6-1/2 foot bury blow-off,	Mueller: Super Centurion 250™		5950
	4 foot, 5 foot and 6 foot bury standard depth as specified	Clow Eddy: F-2640		
Opens:	Counterclockwise (left)	Kennedy Guardian: #K-81-D		
Valve Opening:	5-1/4 inch	US Pipe: M-94		
Operating Nuts:	Pentagon shaped, 1-1/2 inch point to flat with weather cap or shield			
Packing:	"O" ring			
Seat Rings:	Bronze to bronze			
Inlet:				
	6" MJ with gasket and connecting gland			
Nozzles:	(1) 4-1/2" inside diameter, male, 4 threads per inch			
	(2) 2-1/2" inside diameter, male, 7-1/2 threads per inch			
	Mechanically attached with National Standard Threads			
Nozzle caps:	Threaded female without chains			
Orientation:	2 smaller nozzles 180°apart with large nozzle located equidistant between			
Bolts:	High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Paint:	OSHA safety yellow, polyurethane modified alkyd (conforming to Federal Lead Standards)			
Paint coats:	1 primer coat, 2 finish coats			
	- p			
lydrant Paint for touch up and repair				5950
Paint:	Alkyd Enamel (conforming to Federal Lead Standards)	Rust-oleum® - C740 System DTM Alkyd Enamel 400 VOC		
Paint Color:	Safety yellow			
Paint gallon:	7.6 - 8.9 lbs per gallon			
Paint coverage:	265 to 440 square feet per gallon			
Paint Flash Point:	104° F			
Paint solids	by weight 56.1 - 62.8%, by volume 48.3 - 48.5%			
ouplings, Straight for DI and CI pipe			02655	5904
Materials / design:	ANSI / AWWA C219	Smith Blair: #441, 4" - 12", Limited range only	02033	3304
Working pressure:	150 psi	Smith Blair: #411, 14" - 60"		
Sleeves:	DI per ASTM A536, Steel per ASTM A36 or Carbon steel per ASTM A283C	JCM: #210, 2" - 12"		
Sleeve length:	Center sleeves for 16" - 30" shall have a 10" min. length and 36" - 48" shall have a 16" min. length	JCM: #210, 2 12 JCM: #201, 14" and greater		
	DI per ASTM A536, Steel per ASTM A36 or Carbon steel C1020 per ASTM A576			
Follower Flanges:		Ford: #FC1, 2" - 12"		
Bolts / nuts:	ANSI / AWWA C111, High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
Gaskets:	ANSI / AWWA C111, SBR or Nitrile (Buna-N / NBR)			
Coating:	Fusion-bonded epoxy			
Couplings, Transition for DI and CI pipe			02655	5929
Materials / design:	ANSI / AWWA C219	Smith Blair: #441, Omni, 4"- 12"		
Working pressure:	150 psi	Smith Blair: #415, 16"- 30"		
Sleeves:	DI per ASTM A536 or Steel per ASTM A36, ASTM A53 or ASTM A513	Smith Blair: #413, 14" and above		
Sleeve length:	Center sleeves for 16" - 30" shall have a 10" min. length and 36" - 48" shall have a 16" min. length	JCM: #212, 4" - 12"		
		· · · · · · · · · · · · · · · · · · ·		
Follower Flanges:	DI per ASTM A536 or Steel per ASTM A36 or AISI 1020	JCM: #203, 14" and above	1	
Bolts / nuts:	ANSI / AWWA C111, High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated	Ford: #FC2A, 4" through 12"		
Gaskets: Coating:	ANSI / AWWA C111, SBR or Nitrile (Buna-N / NBR)	Ford: #FC5, 14" and above		
	Fusion-bonded epoxy	PowerSeal: #3562R, 14" and above		•

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ITEM: STANDARDS/REQUIREMENT	S:	MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
Couplings, End or Line Cap for DI and	Cl pipe		02680	5915
Materials / design:	ANSI / AWWA C219	Smith Blair: #481, blind end with plug		5927
Working pressure:	150 psi	Smith Blair: #482 with plug		5999
Sleeves:	ASTM A536 DI or ASTM A36 or ASTM A53 Steel	JCM: #214 with plug		
Sleeve length:	Sleeves for 16" - 30" shall have a 10" min. length and 36" - 48" shall have a 16" min. length	Ford: FEC, 4" - 12"		
Follower Flanges:	DI per ASTM A536 or Steel per ASTM A36 or AISI 1020	Ford: FEC with blind end or with plug		
Bolts / nuts:	ANSI / AWWA C111, High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated	Ford: FC4 Steel end cap coupling with plug, 14" - 24"		
Gaskets:	ANSI / AWWA C111, SBR or Nitrile (Buna-N / NBR)	Romac: #EC-501 with blind end		
Coating:	Fusion-bonded epoxy	Romac: #EC-501		
		PowerSeal: #3551		
		PowerSeal: #3551 with blind plug		
		Hymax®: Hymax Grip® End Cap, 4" - 12" (non-USA produced)		
		Trymax Trymax Grip End Cap, 4 12 (non OSA produced)		
Couplings, Two-bolt, Multi-Range for	DI and CI nine, 4" - 12"		02655	5904
Materials / design:	ANSI / AWWA C219	Hymax®: Hymax® 2 Coupling (non-USA produced)	02000	
Working pressure:	260 psi	Smith Blair: #421 Top Bolt® Wide Range Coupling		
Sleeves:	·	Similar Blain. 17421 Top Boil. Wide Name Coupling		
	DI per ASTM A536 or Carbon steel per ASTM A36, ASTM A285A or ASTM A283C			
Follower Flanges:	DI per ASTM A536 or Carbon steel per ASTM A36, ASTM A285A or ASTM A283C			
Bolts / nuts:	Type 304 Stainless Steel			
Gaskets:	EPDM or Nitrile (Buna-N / NBR)			
Coating:	Fusion-bonded epoxy			
_				
Steel Casing Pipe for boring			02670	
Wall thickness:	3/8"	Welded steel pipe		
Coating:	Carboline Bitumastic 300M or Tnemec Series 46-465 H.H. Themecol			
Casing Pipe Spacers			02670	
Material:	14 gauge carbon steel, stainless steel or HDPE	Cascade: CCS		
Coating / Liner:	Thermoplastic powder coating (for carbon steel), PVC or EPDM Liner (for stainless steel)	PSI: A86-2		
	No liners are required for HDPE casing spacers	Advance Products and Systems, LLC: SIM		
Runners:	UHMW polymer, glass reinforced plastic or HDPE equal length, equally spaced around circumference			
Bartanii - Mar Tarananii - aranii -	Constructive of the constr		02655	5053
Protective Wax Tape coating system Material:	ANSI/AWWA C217	Chase Construction Products: Tapecoat Enviroprime, Tapecoat Envirotape	02655	5953
Material:	ANSI/AWWA CZ17			
		Denso: Denso paste, Densyl mastic or Denso profiling mastic, Densyl tape		
		The Trenton Corporation: Wax tape primer, Fill-Pro PM-GP, #1 wax tape		
Matar Tile 10" LIDDE at DVC			02620	F000
Meter Tile, 18" HDPE or PVC  Material:	PVC SDR-35 or Smooth interior, corrugated N-12 HDPE	JM Eagle	02630	5998
iviateriai.	FVC 3DIV-33 of 3mooth interior, confugated iv-12 fibric	IPEX		
		Vinyltech		
		North American Pipe Corporation		
		ADS		
Meter Tile Box Cover			02630	5934
Cover Dimensions:	18" for new installation, 15" to replace old 15" covers	Ford: W32-t Wabash double lid (new install), C32-T Type C single lid	02030	3334
Cover:	Drilled hole in lid for electronic meter reading,	(new install), C31-T Type C single lid (replacement), C3L-T Type C cover		
COVET.	· · · · · · · · · · · · · · · · · · ·			
	Pentagon bolt; locking	(repair)		
		Mueller: H-10817-09 single lid (new install), H-10814-09 double lid		
		(new install)		
		AY McDonald: 74M32WT (new install), 74M31WT (replacement)		
Angle Meter Valve, ball style meter s	ton.		02630	
Inlet/Outlet:	Meter swivel nut by copper compression	Mueller: H-14269N (Angle meter dual check valve),	02030	
		B-24258N (300™ Ball angle meter valve)		
		Ford: BA43-342W-Q, BA43-444W-Q		
		AY McDonald: 74602BG (1 x 3/4 x 5/8), 74602BG (1)		
,				<u> </u>

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TEM: STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
epair Clamps - Full Circle for ductile iron,	cast iron and steel pipe			5921
Band Material: Lug Material: Spanner/Bridge Plate: Bolts: Gasket:  Repair Clamps with CC Outlet (For defective Band Material: Lug Material: Lug Material: Spanner/Bridge Plate:	Type 304 (18-8) Stainless Steel SBR, Nitrile (Buna-N / NBR)	TPS: Quick Cam  JCM: #131, #132 Extended Range PowerSeal: 3121AS, 3122AS Ford: FS1, FS2 (Two Sections) Smith Blair: 261, 262 (Two Sections) Cascade: CR-1, CR-2 (Two Sections) Romac: SS1, SS2  JCM: #133, #134 Extended Range Ford: FS1, FS2 (Two Sections) Smith Blair: 265	02630	5921
Bolts: Gasket:	Type 304 (18-8) Stainless Steel SBR, Nitrile (Buna-N / NBR)	Cascade: CR-1, CR-2 (Two Sections) PowerSeal: 3132AS Romac: SS1, SS2		5000
epair Clamps - Bell Joint	Dustile land and ACTAA ACCC on Cheel and ACTAA ACC	Caribb Blain, 274		5930
Bell-Spigot Ring Material: Bolts: Gasket: Coating:	Ductile Iron per ASTM A536 or Steel per ASTM A36 High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated SBR, Nitrile (Buna-N / NBR) Epoxy	Smith Blair: 274  JCM: 143 (4" - 12" & 14" - 36")  PowerSeal: 3232  Romac: 516		
epair Clamps for 1" - 2" galvanized pipe				5933
Band Material: Lug Material: Bolts: Gasket:	Type 304 (18-8) Stainless Steel Ductile Iron per ASTM A536 or Type 304 Stainless steel High-strength, low-alloy steel or stainless steel Nitrile (Buna-N / NBR)	Smith Blair: 245 Ford: FSC Style PowerSeal: 3151, 3151AS-W Romac: SC clamp		
athodic Protection Anode, High Potential			02690	
Chemistry: Ingot Testing: Ingot Weight: Ingot Dimensions: Ingots: Wire: Wire: Prepackaged:  Combined Ingot & Backfill Mixture Composition:	ASTM B843 ASTM G97 48 pounds (fittings) / 17 pounds (main repairs) 5" diameter by 31" long Cast or extruded with galvanized steel strap or spiral spring core weighing not more than .10 pounds / LF 12 AWG, stranded copper with black HMWPE insulation 10' or 25' (As Specified) Permeable cloth bag containing backfill mixture: 75% Ground Hydrated Gypsum, 20% Powdered Bentonite, 5% Anhydrous (Sodium Sulfate) Weight: 100 pounds (fittings) / 45 pounds (main repairs) Aluminum - 0.010% maximum Manganese - 0.50 +/- up to 1.30% Silicon - 0.05% maximum Copper - 0.02% maximum Nickel - 0.001% maximum Iron - 0.03% maximum Other - 0.05% each or 0.30% maximum total Magnesium - Remainder	MESA Products, Inc. (non-USA produced, domestically packaged and assembled) CORRPRO Companies Inc. (non-USA produced, domestically packaged and assembled) Stuart Steel Protection Corporation (non-USA produced, domestically packaged and assembled)		
athodic Protection Test Stations, Buried			02690	
Material: Diameter:	SDR-35 PVC or Schedule 40 Steel Pipe 16"			

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ied Class 35B Gray Iron or ASTM A536 Grade 80-55-06 Ductile Iron	Neenah Foundry Company: R-5900-B	<b>ENG SPEC</b> 02690	
Class 35B Gray Iron or ASTM A536 Grade 80-55-06 Ductile Iron	Noonah Foundry Company: P 5000 P		4
	INCELIAL FOUNDLY COMPANY. N-2300-D	<u> </u>	
H-20 Loading	, , , , , , , , , , , , , , , , , , , ,		
1-1/2" Deep, 13-1/4" Diameter (outside flange)			
"MCWA Cathodic" in 3/4" letters on two lines			
Wew Cathour III 3/4 Tetters on two lines		'	
ed		02690	
Class 35B Gray Iron or ASTM A536 Grade 80-55-06 Ductile Iron	Neenah Foundry Company: R-5900-B		
H-20 Loading			
4" Deep, 17-1/2" Diameter (outside flange)		'	
Durind		03500	
	Burndy: KAAC 14-4	02690	
	buildy. NATE IT T		
		'	
Screw-type copper alloy, lug		'	
pard, Post-Mounted		02690	
Polycarbonate	Cott		
·	Promark		
	Tillikel & Russi	'	
5 Diameter, 6 Long, white Polyethylene Conduit post with Anchor, blue Cover		'	
uried and Post-Mounted		02690	
0.01 Ohm			
6 Ampere capacity		'	
+ / - 1%			
Manganin Wire, Tinned Ends		'	
42 AVIC shoreded conserve		02690	4
Red HMWPE - for connecting to "un-protected" others piping		'	
		02690	
8 AWG, stranded copper		02030	
Black HMWPE		'	
			<u> </u>
		02690	
Red HMWPE - for connecting to "un-protected" others piping			
ASTM D1248		'	
		02690	
Conner - conner Sulfate	Stanerm	02030	
	DUIII		
Blue HMWPE			
3	H-20 Loading  4" Deep, 17-1/2" Diameter (outside flange)  Dard, Buried  5" x 8" phenolic board Coated surface with laser inscribed labels in contrasting colors 1/4" diameter brass hex-head machine screws, nuts and washers Screw-type copper alloy, lug  Dard, Post-Mounted  Polycarbonate 7 or 5 Threaded Posts with 2 Binding nuts per post Bonding Strap installed between Anode Terminals Stainless Steel 3" Diameter, 6' Long, White Polyethylene Conduit post with Anchor, Blue Cover  Buried and Post-Mounted  0.01 Ohm 6 Ampere capacity + /- 1% Manganin Wire, Tinned Ends  12 AWG, stranded copper UL 83 White HMWPE - for connecting to "protected" MCWA structures Red HMWPE - for connecting to "un-protected" others piping  8 AWG, stranded copper Black HMWPE Black HMWPE Post-Mounted  6 AWG, stranded copper White HMWPE - for connecting to "protected" MCWA structures Red HMWPE - for connecting to "un-protected" others piping  ASTM D1248  Copper - copper Sulfate 30-year 99.9% purity copper element surrounded by stabilized gel backfill 5.5 pounds 14 AWG, stranded copper, silver-soldered to copper rod 50LF or As Specified	Class 338 Gray from or ASTM ASS Grade 80.55-06 Ductile from H-20 Loading 4" Decp, 17-1/2" Diameter (outside flange)  Sard, Burned  Sy x 8" phenolic board Coated surface with later inscribed labels in contrasting colors 1,14" diameter brass hex-head machine screws, nuts and washers 5crew-type copper alloy, lug  sard, Post-Mounted  Polycarbonane 7 or 5 Threaded Posts with 2 Binding nuts per post 500 miles assert 1 Times 8 Rasor	Class 356 Giny from or ASTM A236 Grade 80-25-06 Ductile Iron H-20 Loading 4" Deep, 17-12" Diameter (outside flamps)  auto, fluxicat  auto, fluxicat  Coated syndrog with blass inscribed labels in contrasting colors 1,14" diameter brass her head machine screws, ruus and washers Screw-type copper alloy, lug  auto, fluxicat  Auto-post Mounted  Polyaratonians auto-post alloy, lug  auto, fluxicat  Auto-post Mounted  Polyaratonians auto-post alloy, lug  auto, fluxicat  Auto-post Mounted  Au

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ITEM:	STANDARDS/REQUIREMENTS:		MANUFACTURER/MAKE/NAME/MODEL:	ENG SPEC	WH#
	dic Protection Counter Electrode			02690	
	Material:	3" Reinforcing Steel			
	Wire:	12 AWG, stranded copper			
	Wire Length:	50LF or As Specified			
	Insulation:	Purple HMWPE			
tho	dic Protection Thermite Weld			02690	
			Cadweld Erico Products, Inc.: 4" & Larger Steel Pipe, #6 conductor		
			Mold: CAHAA-1H		
			Sleeve: None		
			Charge: CA-15		
			Cadweld Erico Products, Inc.: 4" & Larger Steel Pipe, #12 conductor		
			Mold: CAHAA-1G		
			Sleeve: CAB-133-1H		
			Charge: CA-15		
			Cadweld Erico Products, Inc.: 4" to 24" Cast Iron or Ductile Iron Pipe, #12 conductor		
			Mold: CAHBA-1G-P.S.		
			Sleeve: CAB-133-1H		
			Charge: CA-25XF-19		
			Cadweld Erico Products, Inc.: 4" to 24" Cast Iron or Ductile Iron Pipe, #6 conductor		
			Mold: CAHBA-1H-P.S.		
			Sleeve: None		
			Charge: CA-25XF-19		
tho	dic Protection Thermite Weld Shield			02690	
	Material:	1 piece of molded plastic	Phillips Petroleum Company: Thermite Weld Cap		
		Recessed to cover cable and thermite weld			
tho	dic Protection Thermite Weld Coating		W 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	02690	
	Material:	Bitumastic No. 50	Koppers Company, Inc.: MIL-C-184880		
tho	dic Protection Splice			02690	
	Connection:	Anode Lead Wire to Anode Header cable	Burndy, Thomas & Betts: "C" Tap Connectors		
			3M Company: Wye Resin Splicing Kit: Scotchcast 82-B1kit		
			3M Company: Rubber splicing tape, PE tape, coating compound		
			, , , , , , , , , , , , , , , , , , ,		
tho	dic Protection Warning Tape			02690	
	Width:	3"	Pro-Line Safety Products Company: Non-detectable underground warning tape		
	Thickness:	4 mil			
	Color:	Blue			
	Wording:	In Black letters "Caution: Buried Water Line Below"			
tho	dic Protection Bonding Straps			02690	
	Material:	AWG #2 Insulated Copper Cable		02030	
sula	ting Couplings			02655	
	Materials / design:	ANSI / AWWA C219	Romac: IC501 with insulating boot on both ends		
	Working pressure:	150 psi minimum	Smith Blair: 416 with insulating boot at both ends		
	Sleeves:	DI per ASTM A536 or Carbon Steel meeting ASTM A53, A513 or A283C			
	Follower Flanges:	DI per ASTM A536 or Steel per ASTM A576			
	Bolts / nuts:	ANSI / AWWA C111, High-strength, low-alloy steel; blue fluoropolymer-coated or polytetrafluoroethylene-coated			
	Gaskets:	ANSI / AWWA C111, SBR or Nitrile (Buna-N / NBR)			
	Coating:	Fusion-bonded epoxy			