

## Material Specification – 23

### BRASS AND BRONZE GOODS

**1. GENERAL**

Brass and bronze goods in contact with potable water shall be manufactured in accordance with AWWA C800 using lead-free copper alloy UNS No. C89520 or copper alloy UNS No. C89833 in accordance with ASTM B 584.

Components not in contact with potable water shall be manufactured in accordance with AWWA C800 using copper alloy UNS No. C83600, commercially known as 85-5-5, in accordance with ASTM B 62 with the following additional requirements or exceptions.

Each Manufacturer shall submit samples to Denver Water for testing. If the Manufacturer is approved, the sample shall be kept by Denver Water and used as the standard by which future purchases will be compared.

**2. TAPPING SADDLES**

Double bronze strapped tapping saddles for use with DI and AC pipe shall be as follows. Outlet threads shall be AWWA Standard taper threads.

<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
A.Y. McDonald	3825	4 to 20
The Ford Meter Box Company	202BS-xxx-Tap	4 to 20
	202BSD-xxx-Tap	4 to 20
Mueller Company	BR2B	4 to 20

Bronze saddles for PVC pipe shall provide full support around the circumference of the pipe, have a bearing area of sufficient width along the axis of the pipe so that the pipe will not be distorted when the saddle is tightened, and be as follows:

<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
A.Y. McDonald	3805	4 to 12
	3895	4 to 8
The Ford Meter Box Company	S70-xxx	4 to 12
	S90-xxx	4 to 12
Mueller Company	H-13000 Series (C900)	4 to 12
	H-13400 Series (C900)	4 to 12
	S-13000 Series (C900)	4 to 8

--	--	--

Bronze and stainless steel saddles for PVC pipe 14-inch and larger shall provide full support around the circumference of the pipe, have a bearing area of sufficient width along the axis of the pipe so that the pipe will not be distorted when the saddle is tightened, and be as follows:

Manufacturers	Models	Size (Inch)
A.Y. McDonald	3845	4 to 20
The Ford Meter Box Company	202BS-xxx-Tap	4 to 20

### 3. METER YOKES (COPPER SETTERS)

Meter yokes shall be as follows:

Manufacturers	Models	Copper Meter Setter Size (Inch)
A.Y. McDonald	737-3xxWXCC xx	3/4
	737-4xxWXCC xx	1
	720-B612WWxx 666	1 1/2, Bypass
	721-612WNxx 660	1 1/2, No Bypass – IRR Meters
	720-B712WWxx 777	2, Bypass
	721-712WNxx 770	2, No Bypass – IRR Meters
The Ford Meter Box Company	V83-xxW-22-xx-NL	3/4
	V84-xxW-22-xx-NL	1
	VBB76-12B-xx-xx-NL	1 1/2, Bypass
	VBB76-12-xx-xx-NL	1 1/2, No Bypass – IRR Meters
	VBB77-12B-xx-xx-NL	2, Bypass
	VBB77-12-xx-xx-NL	2, No Bypass – IRR Meters
Mueller Company	B-2489N	3/4
	B-2489N	1
	B-2423N	1 1/2 and 2, Bypass
	B-2422-00N	1 1/2 and 2, No Bypass – IRR Meters

### 4. CORPORATION STOPS

Corporation stops shall be AWWA Standard taper thread by copper flare as follows:

Manufacturers	Models	Size (Inch)
A.Y. McDonald	74701B	3/4 to 2

<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
Cambridge Brass	302NL Series	3/4 to 1
The Ford Meter Box Company	FB600-x-NL	3/4 to 2
Mueller Company	B25000N	3/4 to 2

## 5. CURB STOPS

Curb stops shall be copper flare by copper flare as follows:

<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
A.Y. McDonald	76100	3/4 to 2
Cambridge Brass	202NL-CxCx Series	3/4 to 2
The Ford Meter Box Company	B22-xxx-NL	3/4 to 2
Mueller Company	B25204N	3/4 to 2

## 6. COUPLINGS

<b>Manufacturers</b>	<b>Types</b>	<b>Models</b>	<b>Size (Inch)</b>	
A.Y. McDonald	CTS Coupling	74758-22	3/4 to 2	
The Ford Meter Box Company	Iron to Copper Pack Joint	C84-66-NL	1 1/2 x 1 1/2	
		C84-77-NL	2 x 2	
	Copper Flare to Copper Flare	C22-33-NL	3/4 x 3/4	
		C22-44-NL	1 x 1	
		C22-66-NL	1 1/2 x 1 1/2	
		C22-77-NL	2 x 2	
		Copper to Copper Pack Joint	C44-66-NL	1 1/2 x 1 1/2
	C44-77-NL		2 x 2	
	Iron to Iron Pack Joint	C85-66-NL	1 1/2 x 1 1/2	
		C85-77-NL	2 x 2	
	Flared Adapter Coupling	C28-66-NL	1 1/2 x 1 1/2	
		C28-77-NL	2 x 2	
	Flared Coupling Adapter Loc-Pak	CF35-66-NL	1 1/2 x 1 1/2	
		CF35-77-NL	2 x 2	
	Mueller Company	Copper Flare to Copper Flare	H-15400N	3/4 to 2

## 7. COMPRESSION FITTINGS

Manufacturers	Types	Models	Size (Inch)
A.Y. McDonald	Mac-Pak Compression Fittings	74753-22	3/4 to 2
	T Compression Fittings	74753T	3/4 to 2
Mueller Company	Compression Connection	H-15403N	3/4 to 2

## 8. PRESS FITTINGS

Press fittings shall have Buna-N sealing elements and be as follows:

Manufacturer	Type	Model	Size (Inch)
Viega	ProPress Coupling with Stop	2915	1/2 to 2

## 9. STOP AND WASTE VALVES

Manufacturers	Models	Size (Inch)
The Ford Meter Box Company	Z22-333SW-NL	3/4
	Z22-444SW-NL	2
Mueller Company	H-15214N	3/4 to 2

## 10. GATE VALVES

Gate valves, 2-inch and smaller, shall be all bronze, screwed bonnet and ends, single solid wedge gate, with non-rising stems rated at 125 psi SWP and 200 psi CWP, as follows:

Manufacturers	Models	Size (Inch)
Apollo	102T LF	1/4 to 3
Crane	LF 438	1/4 to 3
Milwaukee	Gate UP105	1/4 to 2
Nibco	113-LF	1/4 to 2
Stockham	LFB-103	1/4 to 3

## 11. SWING CHECK VALVES

Check valves, 2-inch and smaller, shall be all bronze body and cap, threaded ends and cap, Y-pattern, swing type disc, rated 125 psi SWP and 200 psi WOG, as follows:

Manufacturers	Models	Size (Inch)
Apollo	161T-LF, 161 S-LF	1/4 to 2
Crane	LF 37	1/2 to 2

<b>Manufacturers</b>	<b>Models</b>	<b>Size (Inch)</b>
Nibco	S-43-Y-LF, T-413-Y-LF	1/2 to 2
Stockham	LFB-319Y	1/4 to 2

**12. QUALITY CONTROL**

The Manufacturer shall submit a written statement that the inspection and all specified tests have been completed and that results comply with the requirements of these Standards. Components in contact with potable water shall be certified to comply with NSF/ANSI 61 and NSF/ANSI 372, and a copy of the certification shall be provided to Denver Water, if requested.

*Material Specification – 23  
Brass and Bronze Goods*