# SECTION 2.1
# PIPE, TUBE, AND FITTINGS

Streamline®
Tube • Fittings • Valves

# COPPER TUBE FOR PLUMBING AND MECHANICAL APPLICATIONS

**Job Name** _____ **Contractor** _____

**Job Location** _____ **Wholesaler** _____

**Engineer** _____ **Streamline® Rep** _____

**Product Description:**

Streamline® Copper Tube for use in plumbing and mechanical applications. Available sizes (Type K, L, M, & DWV) ranging from ¼" to 8" in diameter. All tube shall be manufactured in the United States.

**Material:**

Streamline® Copper Tube is manufactured from UNS C12200 grade of copper.

**Key Specifications:**

Streamline® Copper Tube (Type K, L, M) shall conform to the NSF/ANSI 61 Annex G requirements and is manufactured to meet ASTM B88. Copper drainage tube (DWV) is made to meet ASTM B306. Copper refrigeration coils, ACR/Nitrogenized straight lengths and line sets are made to meet the chemical, mechanical, cleanness and eddy current testing requirements of the applicable specifications of ASTM B280.

**Installation:**

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Developement Association at copper.org.

**References:**

| | |
|---|---|
| C12200 | 99.9% Pure Copper (can be used for potable water) |
| NSF/ANSI 61 Annex G | Safe Drinking Water Act (third party certification) |
| ASTM B88 | Seamless Copper Water and Gas Tube (Type K, L, M) |
| ASTM B280 | Seamless Copper Tube for Air Conditioning and Refrigerants |
| ASTM B306 | Seamless Drainage Tube Code (DWV) |

***Copper [tube or fitting] UNS C122000 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.***

MADE IN USA

A BRAND OF MUELLER INDUSTRIES



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# COPPER TUBE DATA

Streamline® Copper Tube sets the standard for quality, consistency and service in the plumbing industries. With a full line of copper tube products to support most all plumbing supply and DWV applications, Streamline® Copper Tube is available in all common types including Type K, Type L, Type M and DWV. Each piece of tube is incised marked and color coded for easy, long lasting identity. Manufactured in accordance with applicable standards, our ongoing commitment to quality continues to make Streamline® Copper Tube the preferred and specified brand of industry professionals.

**TYPE K** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1/4 | 0.145 | 500 | 913 | 860 | 842 | 537 |
| 3/8 | 0.269 | 500 | 960 | 904 | 885 | 565 |
| 1/2 | 0.344 | 500 | 758 | 713 | 698 | 446 |
| 5/8 | 0.418 | 200 | 626 | 589 | 577 | 368 |
| 3/4 | 0.641 | 200 | 724 | 682 | 668 | 426 |
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| 4 | 6.51 | – | 306 | 288 | 282 | 180 |
| 5 | 9.67 | – | 293 | 276 | 270 | 172 |
| 6 | 13.90 | – | 295 | 277 | 271 | 173 |
| 8 | 25.90 | – | 314 | 295 | 289 | 184 |

**TYPE L**

| | | | | | | |
|---|---|---|---|---|---|---|
| 1/4 | 0.126 | 500 | 775 | 729 | 714 | 456 |
| 3/8 | 0.198 | 500 | 662 | 623 | 610 | 389 |
| 1/2 | 0.285 | 500 | 613 | 577 | 565 | 361 |
| 5/8 | 0.362 | 200 | 537 | 505 | 495 | 316 |
| 3/4 | 0.455 | 200 | 495 | 466 | 456 | 291 |
| 1 | 0.655 | 100 | 420 | 395 | 387 | 247 |
| 1 1/4 | 0.884 | 100 | 373 | 351 | 344 | 219 |
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| 2 | 1.75 | – | 309 | 291 | 285 | 182 |
| 2 1/2 | 2.48 | – | 285 | 269 | 263 | 168 |
| 3 | 3.33 | – | 270 | 254 | 248 | 159 |
| 3 1/2 | 4.29 | – | 258 | 243 | 238 | 152 |
| 4 | 5.38 | – | 249 | 235 | 230 | 147 |
| 5 | 7.61 | – | 229 | 215 | 211 | 135 |
| 6 | 10.2 | – | 213 | 201 | 196 | 125 |
| 8 | 19.3 | – | 230 | 216 | 212 | 135 |

*Tables give computed allowable stress for annealed copper tube at indicated temperature.*

# COPPER TUBE DATA

**TYPE M** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 3/8 | 0.145 | 500 | 485 | 456 | 447 | 285 |
| 1/2 | 0.204 | 500 | 420 | 395 | 387 | 247 |
| 3/4 | 0.328 | 200 | 346 | 326 | 319 | 204 |
| 1 | 0.465 | 100 | 286 | 270 | 264 | 169 |
| 1 1/4 | 0.682 | 100 | 287 | 271 | 265 | 169 |
| 1 1/2 | 0.94 | 100 | 282 | 265 | 259 | 166 |
| 2 | 1.46 | - | 254 | 239 | 234 | 149 |
| 2 1/2 | 2.03 | - | 233 | 219 | 215 | 137 |
| 3 | 2.68 | - | 215 | 203 | 199 | 127 |
| 3 1/2 | 3.58 | - | 214 | 202 | 197 | 126 |
| 4 | 4.66 | - | 213 | 201 | 197 | 126 |
| 5 | 6.66 | - | 198 | 186 | 182 | 116 |
| 6 | 8.92 | - | 186 | 175 | 171 | 109 |
| 8 | 16.5 | - | 195 | 183 | 180 | 115 |

**TYPE DWV**

| NOM. DIA | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1 1/4 | 0.65 | 100 | 280 | 269 | 258 | 165 |
| 1 1/2 | 0.809 | 100 | 249 | 240 | 230 | 147 |
| 2 | 1.07 | - | 185 | 178 | 170 | 109 |
| 3 | 1.69 | - | 135 | 130 | 125 | 80 |
| 4 | 2.87 | - | 127 | 122 | 117 | 75 |
| 5 | 4.43 | - | 129 | 124 | 119 | 76 |
| 6 | 6.1 | - | 126 | 121 | 116 | 74 |
| 8 | 10.6 | - | 124 | 119 | 114 | 73 |

*Table give computed allowable stress for annealed copper tube at indicated temperature.*

## TECHNICAL DATA

Values of allowable internal working pressure for copper tube in service are based on the formula from ANSI B31, Standard Code for Pressure Piping:

$$P = \frac{2\ S\ tm}{D\ max - 0.8\ tm}$$

P = Allowable Pressure
S = Allowable stress
T = Wall thickness
D Max = Outside Diameter

@150°F S = 5100 PSIG annealed
@ 200°F S= 4800PSIG annealed
@ 300°F S= 4700 PSIG annealed
@ 400°F S= 3000 PSIG annealed

All ratings listed for types K, L, M, DWV and refrigeration service tube in the preceding charts are calculated for tube in the annealed condition. These values should be used when soldering, brazing or welding is employed for joining components in a system. While the ratings for hard drawn tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joints, since joining by any heating process might anneal (soften) the tube.

In designing a system, careful consideration should also be given to joint ratings as well as those of the components.

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# COPPER TUBE AND SOLDER TYPE FITTINGS

**1.** Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

**2.** Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

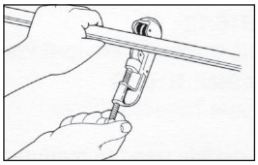
**3.** Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

**4.** Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

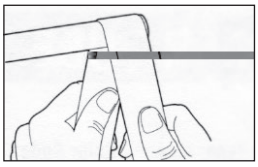
**5.** Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

**6.** Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

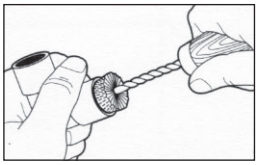
**CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.**



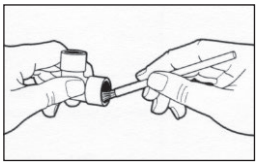
**1.** Cut tube to length & remove burr with file or scraper.



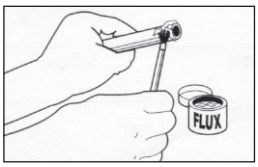
**2.** Clean outside of tube with sandpaper or sand cloth.



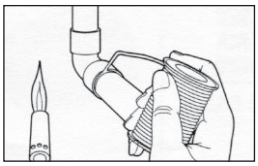
**3.** Clean inside of fitting with wire brush, sand cloth or sandpaper.



**4.** Apply flux thoroughly to inside of fitting.




**5.** Apply flux thoroughly to outside of tube - assemble tube and fitting.



**6.** Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.

# SECTION 2.1
# PIPE, TUBE, AND FITTINGS

Oatey®
4700 W. 160th St.
Cleveland, OH 44135
PH:800-321-9532
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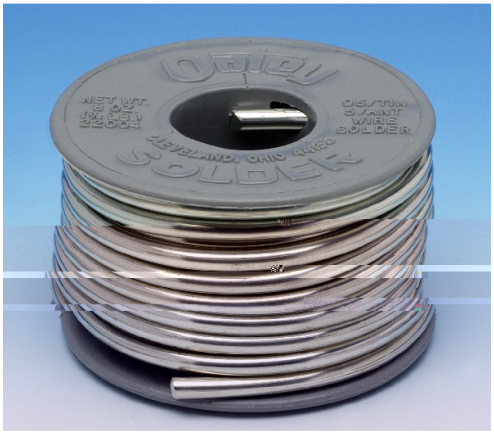
www.oatey.com

TECHNICAL SPECIFICATION

# 95/5 LEAD FREE PLUMBING SOLDER

**TECHNICAL SPECIFICATION:** Oatey 95/5 Lead Free Plumbing Solder is a solid wire solder for use in plumbing applications where frequent and extreme temperature changes and vibrations occur. 95/5 Solder is commonly used for potable water applications, refrigeration lines and cooling equipment. 95/5 Solder complies with CA & VT lead content regulations.




## PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| Alloy composition | Tin & Antimony |
| Appearance | Silver Solid Wire |
| Melting Range | 450° F to 464° F |

## DIRECTIONS FOR USE

Cut the pipe to the exact length required using a tube cutter. Be sure the pipe is cut square. Remove all burrs on the inside and outside of the pipe surface with a reamer tool. Remove all oil, grease and oxide corrosion from the surface of the piping to be joined using Oatey Abrasive Sandcloth, Utility Brushes or Nylon Grit Pads. The joining surfaces must be clean before soldering. Apply a small amount of approved flux to the pipe and fitting surface. Proper fluxing is important because the flux promotes the flow of the filler metal. Insert the pipe end into the fitting. Heat the joint area, using caution not to overheat the joint. Feed the solder wire into the joint. When the solder wire has drawn around the entire joint, remove the heat. When soldering process is complete, allow the joint to cool undisturbed. When joint is cool, remove any flux residual with a damp cloth.

## PRECAUTIONS

Read all cautions and directions carefully before using this product. Apply flux with brush- do not apply with fingers. Wash hands thoroughly after use and before eating. Wear safety glasses with side shields and rubber gloves. EYE AND SKIN IRRITANT. HARMFUL IF SWALLOWED. VAPOR MAY BE HARMFUL. Use only in well ventilated area. Eye or skin contact may cause intense irritation and injury. In case of contact with eyes or skin, flush with water and seek medical attention immediately. If inhaled, get fresh air and seek medical attention if ill feelings persist. KEEP OUT OF REACH OF CHILDREN.

Refer to material safety data sheet for more information.
For emergency first aid help, call 1-877-740-5015.

## COMMON APPLICATIONS

Oatey 95/5 is commonly used for potable water applications, refrigeration lines and cooling equipment.

Consult Oatey Technical Department for applications not specifically referenced above.

## INGREDIENTS (CAS Number)

Tin (7440-31-5)
Antimony (7440-36-0)

## COMPLIANCE & LISTINGS

IAPMO Listed.

Maximum weighted average 0.25% lead
Complies with CA & VT lead legislation

| PRODUCT NUMBER | DESCRIPTION | GAUGE | PACK | CARTON WEIGHT |
|---|---|---|---|---|
| 29031 | 1 oz. 95/5 Solid Wire Solder – Bulk | .081 | 20 | 12 lbs. |
| 53026 | 1 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 1 lb. |
| 53181 | 1 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 1 lb. |
| 53027 | 4 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 4 lbs. |
| 53189 | 4 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 4 lbs. |
| 22004 | 8 oz. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 5 lbs. |
| 22017 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 25 | 25 lbs. |
| 22018 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 11 lbs. |

# SECTION 2.1
# PIPE, TUBE, AND FITTINGS

## *For Residential and Commercial Applications*

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

**LEAD FREE***

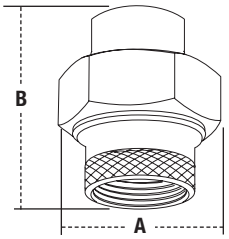
# Series LF3001A

## Dielectric Unions

### Sizes ½" – 2"

Series LF3001A dielectric unions feature a female iron pipe thread to solder connection. These unions are designed to be installed between pipe made from dissimilar metals to prevent accelerated corrosion and deterioration in the piping system due to galvanic and stray current. The LF3001A features Lead Free* construction to comply with Lead Free* installation requirements.

LF3001A




### Features

- Female iron pipe thread to solder connection
- Designed and manufactured to the highest quality standards
- Factory certified to withstand a minimum of 600 volts on a dry line with no flashover
- Rated to 180°F (82°C) at 250psi (17.2 bar) with standard gasket A and 300ºF (149ºC) at 50psi (3.4 bar) with optional gasket B

### Specifications

A dielectric union shall be installed where indicated on the plans. The union shall feature a female iron pipe thread to solder connection. The dielectric union shall be constructed using Lead Free* materials. Lead Free* dielectric unions shall comply with state codes and standards, where applicable, requiring reduced lead content. The dielectric union shall be a Watts Series LF3001A.

### Standards

Tested and Certified by NSF International

### Pressure — Temperature

**Maximum Pressure:** 250psi (17.2 bar) with standard gasket A; 50psi (3.4 bar) with optional gasket B

**Maximum Temperature:** 180°F (82°C) with standard gasket A; 300ºF (149ºC) with optional gasket B

***NOTICE***

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

### Materials — Dimensions — Weights

| SIZE | MATERIALS | | | | | DIMENSIONS | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TAIL PIECE | ADAPTER † | NUT † | INSULATOR | GASKET** | A | | B | | | |
| *in.* | | | | | | *in.* | *mm* | *in.* | *mm* | *oz.* | *gm.* |
| ½ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1½ | 32 | 1⅞ | 48 | 6 | 170 |
| ¾ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1⅝ | 41 | 2⅛ | 54 | 6.7 | 190 |
| 1 | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2⅞ | 48 | 2½ | 64 | 9.3 | 264 |
| 1¼ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2¼ | 57 | 3 | 76 | 14.1 | 400 |
| 1½ | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 2¾ | 70 | 3 | 76 | 21.8 | 618 |
| 2 | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 3½ | 89 | 3 | 76 | 42.6 | 1208 |

† Steel and malleable iron components are zinc plated

** Optional Gasket B (GB)- EPDM Gasket for use in steam or hot water applications up to 300°F (149°C) at 50 psi (3.4 bar)..

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**



**USA:** T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
**Canada:** T: (888) 208-8927 • F: (888) 479-2887 • Watts.ca
**Latin America:** T: (52) 55-4122-0138 • Watts.com

# SECTION 2.1
# PIPE, TUBE, AND FITTINGS

*PASCO* Specialty & Mfg., Inc.

P.O. Box 1667
South Gate, CA 90280
Phone (310) 537-7782
Fax (800) 737-2726

7529 Perryman Court
Curtis Bay, M 21226
Phone (410) 360-5010
Fax (877) 377-6466

www.pascospecialty.com

**TECHNICAL SPECIFICATION SUBMITTAL**

Chrome plated steel or stainless steel escutcheon or flange for steel, copper, plastic pipe used in plumbing.

Job Name _____ Date _____

Model Specified _____ Quantity _____

Customer/Wholesaler _____

Contractor _____

Architect/Engineer _____

**Engineering Specification: A chrome plated steel or stainless steel escutcheon or flange to cover the connection between a sink drain wall bend and the trap adapter at the sanitary tee or other connections where pipe wall penetrations occur.**

# Flanges - Escutcheons for Steel, Copper, Plastic Pipe

- **Sure grip style for snug fit**
- **Domestic or foreign manufacture**
- **26 Gauge**

### Chrome Plated Steel

| PART NUMBER | IPS | CWT | OUTSIDE DIAMETER |
|---|---|---|---|
| 1224 | 1-1/2" Tubular | | 3" |
| 1225 | 3/8" | -- | 2-1/2" |
| 1226 | 1/2" | -- | 2-1/2" |
| 1227 | 3/4" | -- | 2-1/2" |
| 1228 | 1-1/2" | -- | 3" |
| 1229 | 2" | -- | 3-1/4" |
| 1230 | -- | 1/2" | 2-1/2" |
| 1231 | -- | 3/4" | 2-1/2" |
| 1232 | 1-1/4" | 1-1/2" | 3" |
| 1233 | 1" | -- | 2-3/4" |
| 1240 | -- | 2" | 3-1/2" |
| 1241 | -- | 1" | 2-3/4" |
| 1244 | 1-1/4" Tubular | | 3" |

### Stainless Steel - Grade 304

| | | | |
|---|---|---|---|
| 1226-SS | 1/2" | -- | 2-1/2" |
| 1227-SS | 3/4" | -- | 2-1/2" |
| 1228-SS | 1-1/2" | -- | 3-1/2" |
| 1229-SS | 2" | -- | 3-1/2" |
| 1230-SS | -- | 1/2" | 2-1/2" |
| 1231-SS | -- | 3/4" | 2-1/2" |
| 37244 | 1-1/4" Tubular | | 3" |
| 37224 | 1-1/2" Tubular | | 3" |

# SECTION 2.2
# JOINING MATERIALS

Streamline®
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# COPPER TUBE FOR PLUMBING AND MECHANICAL APPLICATIONS

**Job Name** _____ **Contractor** _____

**Job Location** _____ **Wholesaler** _____

**Engineer** _____ **Streamline® Rep** _____

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**References:**

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| ASTM B280 | Seamless Copper Tube for Air Conditioning and Refrigerants |
| ASTM B306 | Seamless Drainage Tube Code (DWV) |

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MADE IN USA

A BRAND OF MUELLER INDUSTRIES



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| 3 | 4.00 | – | 328 | 308 | 302 | 193 |
| 3 1/2 | 5.12 | – | 311 | 293 | 286 | 183 |
| 4 | 6.51 | – | 306 | 288 | 282 | 180 |
| 5 | 9.67 | – | 293 | 276 | 270 | 172 |
| 6 | 13.90 | – | 295 | 277 | 271 | 173 |
| 8 | 25.90 | – | 314 | 295 | 289 | 184 |

**TYPE L**

| | | | | | | |
|---|---|---|---|---|---|---|
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*Tables give computed allowable stress for annealed copper tube at indicated temperature.*

# COPPER TUBE DATA

**TYPE M** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 3/8 | 0.145 | 500 | 485 | 456 | 447 | 285 |
| 1/2 | 0.204 | 500 | 420 | 395 | 387 | 247 |
| 3/4 | 0.328 | 200 | 346 | 326 | 319 | 204 |
| 1 | 0.465 | 100 | 286 | 270 | 264 | 169 |
| 1 1/4 | 0.682 | 100 | 287 | 271 | 265 | 169 |
| 1 1/2 | 0.94 | 100 | 282 | 265 | 259 | 166 |
| 2 | 1.46 | - | 254 | 239 | 234 | 149 |
| 2 1/2 | 2.03 | - | 233 | 219 | 215 | 137 |
| 3 | 2.68 | - | 215 | 203 | 199 | 127 |
| 3 1/2 | 3.58 | - | 214 | 202 | 197 | 126 |
| 4 | 4.66 | - | 213 | 201 | 197 | 126 |
| 5 | 6.66 | - | 198 | 186 | 182 | 116 |
| 6 | 8.92 | - | 186 | 175 | 171 | 109 |
| 8 | 16.5 | - | 195 | 183 | 180 | 115 |

**TYPE DWV**

| NOM. DIA | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1 1/4 | 0.65 | 100 | 280 | 269 | 258 | 165 |
| 1 1/2 | 0.809 | 100 | 249 | 240 | 230 | 147 |
| 2 | 1.07 | - | 185 | 178 | 170 | 109 |
| 3 | 1.69 | - | 135 | 130 | 125 | 80 |
| 4 | 2.87 | - | 127 | 122 | 117 | 75 |
| 5 | 4.43 | - | 129 | 124 | 119 | 76 |
| 6 | 6.1 | - | 126 | 121 | 116 | 74 |
| 8 | 10.6 | - | 124 | 119 | 114 | 73 |

*Table give computed allowable stress for annealed copper tube at indicated temperature.*

## TECHNICAL DATA

Values of allowable internal working pressure for copper tube in service are based on the formula from ANSI B31, Standard Code for Pressure Piping:

$$P = \frac{2\ S\ tm}{D\ max - 0.8\ tm}$$

P = Allowable Pressure
S = Allowable stress
T = Wall thickness
D Max = Outside Diameter

@150°F S = 5100 PSIG annealed
@ 200°F S= 4800PSIG annealed
@ 300°F S= 4700 PSIG annealed
@ 400°F S= 3000 PSIG annealed

All ratings listed for types K, L, M, DWV and refrigeration service tube in the preceding charts are calculated for tube in the annealed condition. These values should be used when soldering, brazing or welding is employed for joining components in a system. While the ratings for hard drawn tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joints, since joining by any heating process might anneal (soften) the tube.

In designing a system, careful consideration should also be given to joint ratings as well as those of the components.

# COPPER TUBE AND SOLDER TYPE FITTINGS

**1.** Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

**2.** Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

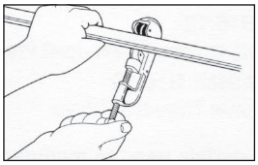
**3.** Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

**4.** Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

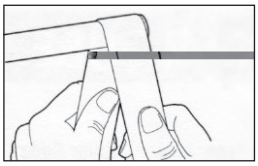
**5.** Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

**6.** Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

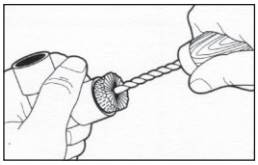
**CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.**



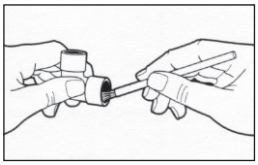
**1.** Cut tube to length & remove burr with file or scraper.



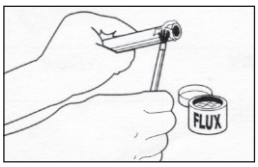
**2.** Clean outside of tube with sandpaper or sand cloth.



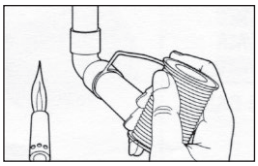
**3.** Clean inside of fitting with wire brush, sand cloth or sandpaper.



**4.** Apply flux thoroughly to inside of fitting.




**5.** Apply flux thoroughly to outside of tube - assemble tube and fitting.



**6.** Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.

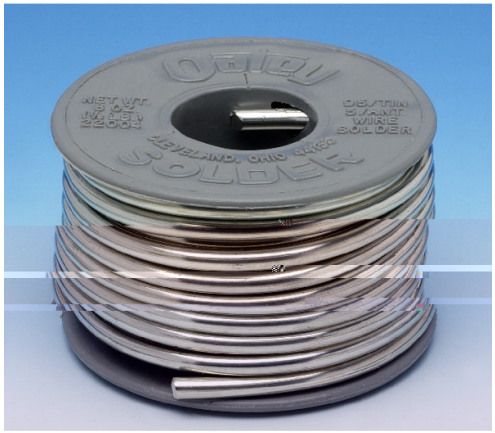
# SECTION 2.2
# JOINING MATERIALS

Oatey®
4700 W. 160th St.
Cleveland, OH 44135
PH:800-321-9532
FX:800-321-9535
www.oatey.com

TECHNICAL SPECIFICATION

# 95/5 LEAD FREE PLUMBING SOLDER

**TECHNICAL SPECIFICATION:** Oatey 95/5 Lead Free Plumbing Solder is a solid wire solder for use in plumbing applications where frequent and extreme temperature changes and vibrations occur. 95/5 Solder is commonly used for potable water applications, refrigeration lines and cooling equipment. 95/5 Solder complies with CA & VT lead content regulations.




## PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| Alloy composition | Tin & Antimony |
| Appearance | Silver Solid Wire |
| Melting Range | 450° F to 464° F |

## DIRECTIONS FOR USE

Cut the pipe to the exact length required using a tube cutter. Be sure the pipe is cut square. Remove all burrs on the inside and outside of the pipe surface with a reamer tool. Remove all oil, grease and oxide corrosion from the surface of the piping to be joined using Oatey Abrasive Sandcloth, Utility Brushes or Nylon Grit Pads. The joining surfaces must be clean before soldering. Apply a small amount of approved flux to the pipe and fitting surface. Proper fluxing is important because the flux promotes the flow of the filler metal. Insert the pipe end into the fitting. Heat the joint area, using caution not to overheat the joint. Feed the solder wire into the joint. When the solder wire has drawn around the entire joint, remove the heat. When soldering process is complete, allow the joint to cool undisturbed. When joint is cool, remove any flux residual with a damp cloth.

## PRECAUTIONS

Read all cautions and directions carefully before using this product. Apply flux with brush- do not apply with fingers. Wash hands thoroughly after use and before eating. Wear safety glasses with side shields and rubber gloves. EYE AND SKIN IRRITANT. HARMFUL IF SWALLOWED. VAPOR MAY BE HARMFUL. Use only in well ventilated area. Eye or skin contact may cause intense irritation and injury. In case of contact with eyes or skin, flush with water and seek medical attention immediately. If inhaled, get fresh air and seek medical attention if ill feelings persist. KEEP OUT OF REACH OF CHILDREN.

Refer to material safety data sheet for more information.
For emergency first aid help, call 1-877-740-5015.

## COMMON APPLICATIONS

Oatey 95/5 is commonly used for potable water applications, refrigeration lines and cooling equipment.

Consult Oatey Technical Department for applications not specifically referenced above.

## INGREDIENTS (CAS Number)

Tin (7440-31-5)
Antimony (7440-36-0)

## COMPLIANCE & LISTINGS

IAPMO Listed.

Maximum weighted average 0.25% lead
Complies with CA & VT lead legislation

| PRODUCT NUMBER | DESCRIPTION | GAUGE | PACK | CARTON WEIGHT |
|---|---|---|---|---|
| 29031 | 1 oz. 95/5 Solid Wire Solder – Bulk | .081 | 20 | 12 lbs. |
| 53026 | 1 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 1 lb. |
| 53181 | 1 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 1 lb. |
| 53027 | 4 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 4 lbs. |
| 53189 | 4 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 4 lbs. |
| 22004 | 8 oz. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 5 lbs. |
| 22017 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 25 | 25 lbs. |
| 22018 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 11 lbs. |

# SECTION 2.2
# JOINING MATERIALS

## *For Residential and Commercial Applications*

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

**LEAD FREE***

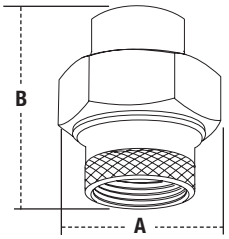
# Series LF3001A

## Dielectric Unions

### Sizes ½" – 2"

Series LF3001A dielectric unions feature a female iron pipe thread to solder connection. These unions are designed to be installed between pipe made from dissimilar metals to prevent accelerated corrosion and deterioration in the piping system due to galvanic and stray current. The LF3001A features Lead Free* construction to comply with Lead Free* installation requirements.

LF3001A




### Features

- Female iron pipe thread to solder connection
- Designed and manufactured to the highest quality standards
- Factory certified to withstand a minimum of 600 volts on a dry line with no flashover
- Rated to 180°F (82°C) at 250psi (17.2 bar) with standard gasket A and 300ºF (149ºC) at 50psi (3.4 bar) with optional gasket B

### Specifications

A dielectric union shall be installed where indicated on the plans. The union shall feature a female iron pipe thread to solder connection. The dielectric union shall be constructed using Lead Free* materials. Lead Free* dielectric unions shall comply with state codes and standards, where applicable, requiring reduced lead content. The dielectric union shall be a Watts Series LF3001A.

### Standards

Tested and Certified by NSF International

### Pressure — Temperature

**Maximum Pressure:** 250psi (17.2 bar) with standard gasket A; 50psi (3.4 bar) with optional gasket B

**Maximum Temperature:** 180°F (82°C) with standard gasket A; 300ºF (149ºC) with optional gasket B

***NOTICE***

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

### Materials — Dimensions — Weights

| SIZE | MATERIALS | | | | | DIMENSIONS | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TAIL PIECE | ADAPTER † | NUT † | INSULATOR | GASKET** | A | | B | | | |
| *in.* | | | | | | *in.* | *mm* | *in.* | *mm* | *oz.* | *gm.* |
| ½ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1½ | 32 | 1⅞ | 48 | 6 | 170 |
| ¾ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1⅝ | 41 | 2⅛ | 54 | 6.7 | 190 |
| 1 | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2⅞ | 48 | 2½ | 64 | 9.3 | 264 |
| 1¼ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2¼ | 57 | 3 | 76 | 14.1 | 400 |
| 1½ | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 2¾ | 70 | 3 | 76 | 21.8 | 618 |
| 2 | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 3½ | 89 | 3 | 76 | 42.6 | 1208 |

† Steel and malleable iron components are zinc plated

** Optional Gasket B (GB)- EPDM Gasket for use in steam or hot water applications up to 300°F (149°C) at 50 psi (3.4 bar)..

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**



**USA:** T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
**Canada:** T: (888) 208-8927 • F: (888) 479-2887 • Watts.ca
**Latin America:** T: (52) 55-4122-0138 • Watts.com

# SECTION 2.2
# JOINING MATERIALS

*PASCO* Specialty & Mfg., Inc.

P.O. Box 1667
South Gate, CA 90280
Phone (310) 537-7782
Fax (800) 737-2726

7529 Perryman Court
Curtis Bay, M 21226
Phone (410) 360-5010
Fax (877) 377-6466

www.pascospecialty.com

**TECHNICAL SPECIFICATION SUBMITTAL**

Chrome plated steel or stainless steel escutcheon or flange for steel, copper, plastic pipe used in plumbing.

Job Name _____ Date _____

Model Specified _____ Quantity _____

Customer/Wholesaler _____

Contractor _____

Architect/Engineer _____

**Engineering Specification: A chrome plated steel or stainless steel escutcheon or flange to cover the connection between a sink drain wall bend and the trap adapter at the sanitary tee or other connections where pipe wall penetrations occur.**

# Flanges - Escutcheons for Steel, Copper, Plastic Pipe

- **Sure grip style for snug fit**
- **Domestic or foreign manufacture**
- **26 Gauge**

### Chrome Plated Steel

| PART NUMBER | IPS | CWT | OUTSIDE DIAMETER |
|---|---|---|---|
| 1224 | 1-1/2" Tubular | | 3" |
| 1225 | 3/8" | -- | 2-1/2" |
| 1226 | 1/2" | -- | 2-1/2" |
| 1227 | 3/4" | -- | 2-1/2" |
| 1228 | 1-1/2" | -- | 3" |
| 1229 | 2" | -- | 3-1/4" |
| 1230 | -- | 1/2" | 2-1/2" |
| 1231 | -- | 3/4" | 2-1/2" |
| 1232 | 1-1/4" | 1-1/2" | 3" |
| 1233 | 1" | -- | 2-3/4" |
| 1240 | -- | 2" | 3-1/2" |
| 1241 | -- | 1" | 2-3/4" |
| 1244 | 1-1/4" Tubular | | 3" |

### Stainless Steel - Grade 304

| | | | |
|---|---|---|---|
| 1226-SS | 1/2" | -- | 2-1/2" |
| 1227-SS | 3/4" | -- | 2-1/2" |
| 1228-SS | 1-1/2" | -- | 3-1/2" |
| 1229-SS | 2" | -- | 3-1/2" |
| 1230-SS | -- | 1/2" | 2-1/2" |
| 1231-SS | -- | 3/4" | 2-1/2" |
| 37244 | 1-1/4" Tubular | | 3" |
| 37224 | 1-1/2" Tubular | | 3" |

# SECTION 2.3
# DIELECTRIC FITTINGS

Streamline®
Tube • Fittings • Valves

# COPPER TUBE FOR PLUMBING AND MECHANICAL APPLICATIONS

**Job Name** _____ **Contractor** _____

**Job Location** _____ **Wholesaler** _____

**Engineer** _____ **Streamline® Rep** _____

**Product Description:**

Streamline® Copper Tube for use in plumbing and mechanical applications. Available sizes (Type K, L, M, & DWV) ranging from ¼" to 8" in diameter. All tube shall be manufactured in the United States.

**Material:**

Streamline® Copper Tube is manufactured from UNS C12200 grade of copper.

**Key Specifications:**

Streamline® Copper Tube (Type K, L, M) shall conform to the NSF/ANSI 61 Annex G requirements and is manufactured to meet ASTM B88. Copper drainage tube (DWV) is made to meet ASTM B306. Copper refrigeration coils, ACR/Nitrogenized straight lengths and line sets are made to meet the chemical, mechanical, cleanness and eddy current testing requirements of the applicable specifications of ASTM B280.

**Installation:**

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Developement Association at copper.org.

**References:**

| | |
|---|---|
| C12200 | 99.9% Pure Copper (can be used for potable water) |
| NSF/ANSI 61 Annex G | Safe Drinking Water Act (third party certification) |
| ASTM B88 | Seamless Copper Water and Gas Tube (Type K, L, M) |
| ASTM B280 | Seamless Copper Tube for Air Conditioning and Refrigerants |
| ASTM B306 | Seamless Drainage Tube Code (DWV) |

***Copper [tube or fitting] UNS C122000 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.***

MADE IN USA

A BRAND OF MUELLER INDUSTRIES



Distributed by Mueller Streamline Co. • 150 Schilling Blvd., Suite 201, Collierville, TN 38017 • 800-348-8464 • www.muellerstreamline.com • April 2019

# COPPER TUBE DATA

Streamline® Copper Tube sets the standard for quality, consistency and service in the plumbing industries. With a full line of copper tube products to support most all plumbing supply and DWV applications, Streamline® Copper Tube is available in all common types including Type K, Type L, Type M and DWV. Each piece of tube is incised marked and color coded for easy, long lasting identity. Manufactured in accordance with applicable standards, our ongoing commitment to quality continues to make Streamline® Copper Tube the preferred and specified brand of industry professionals.

**TYPE K** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1/4 | 0.145 | 500 | 913 | 860 | 842 | 537 |
| 3/8 | 0.269 | 500 | 960 | 904 | 885 | 565 |
| 1/2 | 0.344 | 500 | 758 | 713 | 698 | 446 |
| 5/8 | 0.418 | 200 | 626 | 589 | 577 | 368 |
| 3/4 | 0.641 | 200 | 724 | 682 | 668 | 426 |
| 1 | 0.839 | 100 | 557 | 524 | 513 | 327 |
| 1 1/4 | 1.04 | 100 | 452 | 425 | 416 | 266 |
| 1 1/2 | 1.36 | 100 | 420 | 396 | 387 | 247 |
| 2 | 2.06 | – | 370 | 348 | 341 | 217 |
| 2 1/2 | 2.93 | – | 338 | 319 | 312 | 199 |
| 3 | 4.00 | – | 328 | 308 | 302 | 193 |
| 3 1/2 | 5.12 | – | 311 | 293 | 286 | 183 |
| 4 | 6.51 | – | 306 | 288 | 282 | 180 |
| 5 | 9.67 | – | 293 | 276 | 270 | 172 |
| 6 | 13.90 | – | 295 | 277 | 271 | 173 |
| 8 | 25.90 | – | 314 | 295 | 289 | 184 |

**TYPE L**

| | | | | | | |
|---|---|---|---|---|---|---|
| 1/4 | 0.126 | 500 | 775 | 729 | 714 | 456 |
| 3/8 | 0.198 | 500 | 662 | 623 | 610 | 389 |
| 1/2 | 0.285 | 500 | 613 | 577 | 565 | 361 |
| 5/8 | 0.362 | 200 | 537 | 505 | 495 | 316 |
| 3/4 | 0.455 | 200 | 495 | 466 | 456 | 291 |
| 1 | 0.655 | 100 | 420 | 395 | 387 | 247 |
| 1 1/4 | 0.884 | 100 | 373 | 351 | 344 | 219 |
| 1 1/2 | 1.14 | 100 | 347 | 327 | 320 | 204 |
| 2 | 1.75 | – | 309 | 291 | 285 | 182 |
| 2 1/2 | 2.48 | – | 285 | 269 | 263 | 168 |
| 3 | 3.33 | – | 270 | 254 | 248 | 159 |
| 3 1/2 | 4.29 | – | 258 | 243 | 238 | 152 |
| 4 | 5.38 | – | 249 | 235 | 230 | 147 |
| 5 | 7.61 | – | 229 | 215 | 211 | 135 |
| 6 | 10.2 | – | 213 | 201 | 196 | 125 |
| 8 | 19.3 | – | 230 | 216 | 212 | 135 |

*Tables give computed allowable stress for annealed copper tube at indicated temperature.*

# COPPER TUBE DATA

**TYPE M** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 3/8 | 0.145 | 500 | 485 | 456 | 447 | 285 |
| 1/2 | 0.204 | 500 | 420 | 395 | 387 | 247 |
| 3/4 | 0.328 | 200 | 346 | 326 | 319 | 204 |
| 1 | 0.465 | 100 | 286 | 270 | 264 | 169 |
| 1 1/4 | 0.682 | 100 | 287 | 271 | 265 | 169 |
| 1 1/2 | 0.94 | 100 | 282 | 265 | 259 | 166 |
| 2 | 1.46 | - | 254 | 239 | 234 | 149 |
| 2 1/2 | 2.03 | - | 233 | 219 | 215 | 137 |
| 3 | 2.68 | - | 215 | 203 | 199 | 127 |
| 3 1/2 | 3.58 | - | 214 | 202 | 197 | 126 |
| 4 | 4.66 | - | 213 | 201 | 197 | 126 |
| 5 | 6.66 | - | 198 | 186 | 182 | 116 |
| 6 | 8.92 | - | 186 | 175 | 171 | 109 |
| 8 | 16.5 | - | 195 | 183 | 180 | 115 |

**TYPE DWV**

| NOM. DIA | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1 1/4 | 0.65 | 100 | 280 | 269 | 258 | 165 |
| 1 1/2 | 0.809 | 100 | 249 | 240 | 230 | 147 |
| 2 | 1.07 | - | 185 | 178 | 170 | 109 |
| 3 | 1.69 | - | 135 | 130 | 125 | 80 |
| 4 | 2.87 | - | 127 | 122 | 117 | 75 |
| 5 | 4.43 | - | 129 | 124 | 119 | 76 |
| 6 | 6.1 | - | 126 | 121 | 116 | 74 |
| 8 | 10.6 | - | 124 | 119 | 114 | 73 |

*Table give computed allowable stress for annealed copper tube at indicated temperature.*

## TECHNICAL DATA

Values of allowable internal working pressure for copper tube in service are based on the formula from ANSI B31, Standard Code for Pressure Piping:

$$P = \frac{2\ S\ tm}{D\ max - 0.8\ tm}$$

P = Allowable Pressure
S = Allowable stress
T = Wall thickness
D Max = Outside Diameter

@150°F S = 5100 PSIG annealed
@ 200°F S= 4800PSIG annealed
@ 300°F S= 4700 PSIG annealed
@ 400°F S= 3000 PSIG annealed

All ratings listed for types K, L, M, DWV and refrigeration service tube in the preceding charts are calculated for tube in the annealed condition. These values should be used when soldering, brazing or welding is employed for joining components in a system. While the ratings for hard drawn tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joints, since joining by any heating process might anneal (soften) the tube.

In designing a system, careful consideration should also be given to joint ratings as well as those of the components.

Streamline®
Tube • Fittings • Valves

# COPPER TUBE AND SOLDER TYPE FITTINGS

1. Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

2. Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

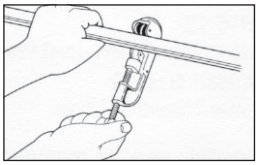
3. Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

4. Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

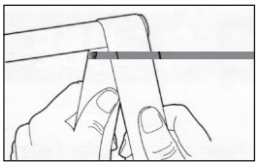
5. Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

6. Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

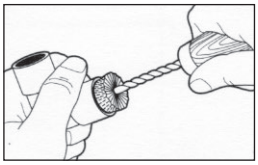
**CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.**



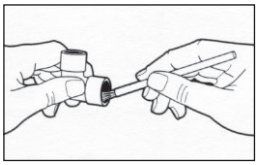
1. Cut tube to length & remove burr with file or scraper.



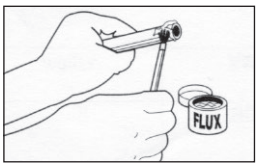
2. Clean outside of tube with sandpaper or sand cloth.



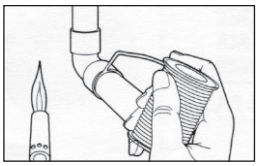
3. Clean inside of fitting with wire brush, sand cloth or sandpaper.



4. Apply flux thoroughly to inside of fitting.




5. Apply flux thoroughly to outside of tube - assemble tube and fitting.



6. Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.

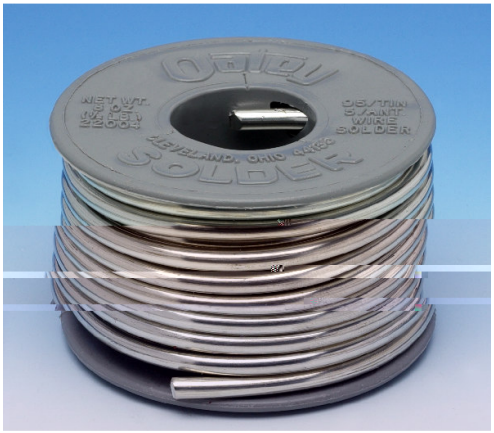
# SECTION 2.3
# DIELECTRIC FITTINGS

Oatey®
4700 W. 160th St.
Cleveland, OH 44135
PH:800-321-9532
FX:800-321-9535
www.oatey.com

TECHNICAL SPECIFICATION

# 95/5 LEAD FREE PLUMBING SOLDER

**TECHNICAL SPECIFICATION:** Oatey 95/5 Lead Free Plumbing Solder is a solid wire solder for use in plumbing applications where frequent and extreme temperature changes and vibrations occur. 95/5 Solder is commonly used for potable water applications, refrigeration lines and cooling equipment. 95/5 Solder complies with CA & VT lead content regulations.




## PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| Alloy composition | Tin & Antimony |
| Appearance | Silver Solid Wire |
| Melting Range | 450° F to 464° F |

## DIRECTIONS FOR USE

Cut the pipe to the exact length required using a tube cutter. Be sure the pipe is cut square. Remove all burrs on the inside and outside of the pipe surface with a reamer tool. Remove all oil, grease and oxide corrosion from the surface of the piping to be joined using Oatey Abrasive Sandcloth, Utility Brushes or Nylon Grit Pads. The joining surfaces must be clean before soldering. Apply a small amount of approved flux to the pipe and fitting surface. Proper fluxing is important because the flux promotes the flow of the filler metal. Insert the pipe end into the fitting. Heat the joint area, using caution not to overheat the joint. Feed the solder wire into the joint. When the solder wire has drawn around the entire joint, remove the heat. When soldering process is complete, allow the joint to cool undisturbed. When joint is cool, remove any flux residual with a damp cloth.

## PRECAUTIONS

Read all cautions and directions carefully before using this product. Apply flux with brush- do not apply with fingers. Wash hands thoroughly after use and before eating. Wear safety glasses with side shields and rubber gloves. EYE AND SKIN IRRITANT. HARMFUL IF SWALLOWED. VAPOR MAY BE HARMFUL. Use only in well ventilated area. Eye or skin contact may cause intense irritation and injury. In case of contact with eyes or skin, flush with water and seek medical attention immediately. If inhaled, get fresh air and seek medical attention if ill feelings persist. KEEP OUT OF REACH OF CHILDREN.

Refer to material safety data sheet for more information.
For emergency first aid help, call 1-877-740-5015.

## COMMON APPLICATIONS

Oatey 95/5 is commonly used for potable water applications, refrigeration lines and cooling equipment.

Consult Oatey Technical Department for applications not specifically referenced above.

## INGREDIENTS (CAS Number)

Tin (7440-31-5)
Antimony (7440-36-0)

## COMPLIANCE & LISTINGS

IAPMO Listed.

Maximum weighted average 0.25% lead
Complies with CA & VT lead legislation

| PRODUCT NUMBER | DESCRIPTION | GAUGE | PACK | CARTON WEIGHT |
|---|---|---|---|---|
| 29031 | 1 oz. 95/5 Solid Wire Solder – Bulk | .081 | 20 | 12 lbs. |
| 53026 | 1 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 1 lb. |
| 53181 | 1 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 1 lb. |
| 53027 | 4 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 4 lbs. |
| 53189 | 4 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 4 lbs. |
| 22004 | 8 oz. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 5 lbs. |
| 22017 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 25 | 25 lbs. |
| 22018 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 11 lbs. |

# SECTION 2.3
# DIELECTRIC FITTINGS

## *For Residential and Commercial Applications*

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

**LEAD FREE***

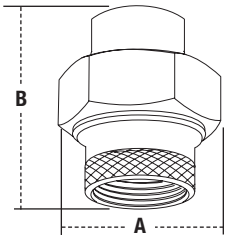
# Series LF3001A

## Dielectric Unions

### Sizes ½" – 2"

Series LF3001A dielectric unions feature a female iron pipe thread to solder connection. These unions are designed to be installed between pipe made from dissimilar metals to prevent accelerated corrosion and deterioration in the piping system due to galvanic and stray current. The LF3001A features Lead Free* construction to comply with Lead Free* installation requirements.

LF3001A




### Features

- Female iron pipe thread to solder connection
- Designed and manufactured to the highest quality standards
- Factory certified to withstand a minimum of 600 volts on a dry line with no flashover
- Rated to 180°F (82°C) at 250psi (17.2 bar) with standard gasket A and 300ºF (149ºC) at 50psi (3.4 bar) with optional gasket B

### Specifications

A dielectric union shall be installed where indicated on the plans. The union shall feature a female iron pipe thread to solder connection. The dielectric union shall be constructed using Lead Free* materials. Lead Free* dielectric unions shall comply with state codes and standards, where applicable, requiring reduced lead content. The dielectric union shall be a Watts Series LF3001A.

### Standards

Tested and Certified by NSF International

### Pressure — Temperature

**Maximum Pressure:** 250psi (17.2 bar) with standard gasket A; 50psi (3.4 bar) with optional gasket B

**Maximum Temperature:** 180°F (82°C) with standard gasket A; 300ºF (149ºC) with optional gasket B

***NOTICE***

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

### Materials — Dimensions — Weights

| SIZE | MATERIALS | | | | | DIMENSIONS | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TAIL PIECE | ADAPTER † | NUT † | INSULATOR | GASKET** | A | | B | | | |
| *in.* | | | | | | *in.* | *mm* | *in.* | *mm* | *oz.* | *gm.* |
| ½ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1½ | 32 | 1⅞ | 48 | 6 | 170 |
| ¾ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1⅝ | 41 | 2⅛ | 54 | 6.7 | 190 |
| 1 | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2⅞ | 48 | 2½ | 64 | 9.3 | 264 |
| 1¼ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2¼ | 57 | 3 | 76 | 14.1 | 400 |
| 1½ | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 2¾ | 70 | 3 | 76 | 21.8 | 618 |
| 2 | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 3½ | 89 | 3 | 76 | 42.6 | 1208 |

† Steel and malleable iron components are zinc plated

** Optional Gasket B (GB)- EPDM Gasket for use in steam or hot water applications up to 300°F (149°C) at 50 psi (3.4 bar)..

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**



**USA:** T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
**Canada:** T: (888) 208-8927 • F: (888) 479-2887 • Watts.ca
**Latin America:** T: (52) 55-4122-0138 • Watts.com

# SECTION 2.3
# DIELECTRIC FITTINGS

*PASCO* Specialty & Mfg., Inc.

P.O. Box 1667
South Gate, CA 90280
Phone (310) 537-7782
Fax (800) 737-2726

7529 Perryman Court
Curtis Bay, M 21226
Phone (410) 360-5010
Fax (877) 377-6466

www.pascospecialty.com

**TECHNICAL SPECIFICATION SUBMITTAL**

Chrome plated steel or stainless steel escutcheon or flange for steel, copper, plastic pipe used in plumbing.

Job Name _____ Date _____

Model Specified _____ Quantity _____

Customer/Wholesaler _____

Contractor _____

Architect/Engineer _____

**Engineering Specification: A chrome plated steel or stainless steel escutcheon or flange to cover the connection between a sink drain wall bend and the trap adapter at the sanitary tee or other connections where pipe wall penetrations occur.**

# Flanges - Escutcheons for Steel, Copper, Plastic Pipe

- **Sure grip style for snug fit**
- **Domestic or foreign manufacture**
- **26 Gauge**

### Chrome Plated Steel

| PART NUMBER | IPS | CWT | OUTSIDE DIAMETER |
|---|---|---|---|
| 1224 | 1-1/2" Tubular | | 3" |
| 1225 | 3/8" | -- | 2-1/2" |
| 1226 | 1/2" | -- | 2-1/2" |
| 1227 | 3/4" | -- | 2-1/2" |
| 1228 | 1-1/2" | -- | 3" |
| 1229 | 2" | -- | 3-1/4" |
| 1230 | -- | 1/2" | 2-1/2" |
| 1231 | -- | 3/4" | 2-1/2" |
| 1232 | 1-1/4" | 1-1/2" | 3" |
| 1233 | 1" | -- | 2-3/4" |
| 1240 | -- | 2" | 3-1/2" |
| 1241 | -- | 1" | 2-3/4" |
| 1244 | 1-1/4" Tubular | | 3" |

### Stainless Steel - Grade 304

| | | | |
|---|---|---|---|
| 1226-SS | 1/2" | -- | 2-1/2" |
| 1227-SS | 3/4" | -- | 2-1/2" |
| 1228-SS | 1-1/2" | -- | 3-1/2" |
| 1229-SS | 2" | -- | 3-1/2" |
| 1230-SS | -- | 1/2" | 2-1/2" |
| 1231-SS | -- | 3/4" | 2-1/2" |
| 37244 | 1-1/4" Tubular | | 3" |
| 37224 | 1-1/2" Tubular | | 3" |

# SECTION 2.4
# ESCUTCHEONS

Streamline®
Tube • Fittings • Valves

# COPPER TUBE FOR PLUMBING AND MECHANICAL APPLICATIONS

**Job Name** _____ **Contractor** _____

**Job Location** _____ **Wholesaler** _____

**Engineer** _____ **Streamline® Rep** _____

**Product Description:**

Streamline® Copper Tube for use in plumbing and mechanical applications. Available sizes (Type K, L, M, & DWV) ranging from ¼" to 8" in diameter. All tube shall be manufactured in the United States.

**Material:**

Streamline® Copper Tube is manufactured from UNS C12200 grade of copper.

**Key Specifications:**

Streamline® Copper Tube (Type K, L, M) shall conform to the NSF/ANSI 61 Annex G requirements and is manufactured to meet ASTM B88. Copper drainage tube (DWV) is made to meet ASTM B306. Copper refrigeration coils, ACR/Nitrogenized straight lengths and line sets are made to meet the chemical, mechanical, cleanness and eddy current testing requirements of the applicable specifications of ASTM B280.

**Installation:**

Installations shall comply with the latest applicable building codes for the local jurisdiction. For detailed installation instructions, consult the Copper Developement Association at copper.org.

**References:**

| | |
|---|---|
| C12200 | 99.9% Pure Copper (can be used for potable water) |
| NSF/ANSI 61 Annex G | Safe Drinking Water Act (third party certification) |
| ASTM B88 | Seamless Copper Water and Gas Tube (Type K, L, M) |
| ASTM B280 | Seamless Copper Tube for Air Conditioning and Refrigerants |
| ASTM B306 | Seamless Drainage Tube Code (DWV) |

***Copper [tube or fitting] UNS C122000 has been evaluated by NSF International to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above. Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.***

MADE IN USA

A BRAND OF MUELLER INDUSTRIES



Distributed by Mueller Streamline Co. • 150 Schilling Blvd., Suite 201, Collierville, TN 38017 • 800-348-8464 • www.muellerstreamline.com • April 2019

# COPPER TUBE DATA

Streamline® Copper Tube sets the standard for quality, consistency and service in the plumbing industries. With a full line of copper tube products to support most all plumbing supply and DWV applications, Streamline® Copper Tube is available in all common types including Type K, Type L, Type M and DWV. Each piece of tube is incised marked and color coded for easy, long lasting identity. Manufactured in accordance with applicable standards, our ongoing commitment to quality continues to make Streamline® Copper Tube the preferred and specified brand of industry professionals.

**TYPE K** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1/4 | 0.145 | 500 | 913 | 860 | 842 | 537 |
| 3/8 | 0.269 | 500 | 960 | 904 | 885 | 565 |
| 1/2 | 0.344 | 500 | 758 | 713 | 698 | 446 |
| 5/8 | 0.418 | 200 | 626 | 589 | 577 | 368 |
| 3/4 | 0.641 | 200 | 724 | 682 | 668 | 426 |
| 1 | 0.839 | 100 | 557 | 524 | 513 | 327 |
| 1 1/4 | 1.04 | 100 | 452 | 425 | 416 | 266 |
| 1 1/2 | 1.36 | 100 | 420 | 396 | 387 | 247 |
| 2 | 2.06 | – | 370 | 348 | 341 | 217 |
| 2 1/2 | 2.93 | – | 338 | 319 | 312 | 199 |
| 3 | 4.00 | – | 328 | 308 | 302 | 193 |
| 3 1/2 | 5.12 | – | 311 | 293 | 286 | 183 |
| 4 | 6.51 | – | 306 | 288 | 282 | 180 |
| 5 | 9.67 | – | 293 | 276 | 270 | 172 |
| 6 | 13.90 | – | 295 | 277 | 271 | 173 |
| 8 | 25.90 | – | 314 | 295 | 289 | 184 |

**TYPE L**

| | | | | | | |
|---|---|---|---|---|---|---|
| 1/4 | 0.126 | 500 | 775 | 729 | 714 | 456 |
| 3/8 | 0.198 | 500 | 662 | 623 | 610 | 389 |
| 1/2 | 0.285 | 500 | 613 | 577 | 565 | 361 |
| 5/8 | 0.362 | 200 | 537 | 505 | 495 | 316 |
| 3/4 | 0.455 | 200 | 495 | 466 | 456 | 291 |
| 1 | 0.655 | 100 | 420 | 395 | 387 | 247 |
| 1 1/4 | 0.884 | 100 | 373 | 351 | 344 | 219 |
| 1 1/2 | 1.14 | 100 | 347 | 327 | 320 | 204 |
| 2 | 1.75 | – | 309 | 291 | 285 | 182 |
| 2 1/2 | 2.48 | – | 285 | 269 | 263 | 168 |
| 3 | 3.33 | – | 270 | 254 | 248 | 159 |
| 3 1/2 | 4.29 | – | 258 | 243 | 238 | 152 |
| 4 | 5.38 | – | 249 | 235 | 230 | 147 |
| 5 | 7.61 | – | 229 | 215 | 211 | 135 |
| 6 | 10.2 | – | 213 | 201 | 196 | 125 |
| 8 | 19.3 | – | 230 | 216 | 212 | 135 |

*Tables give computed allowable stress for annealed copper tube at indicated temperature.*

# COPPER TUBE DATA

**TYPE M** **RATED WORKING PRESSURE (PSIG)**

| NOM. DIA. | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 3/8 | 0.145 | 500 | 485 | 456 | 447 | 285 |
| 1/2 | 0.204 | 500 | 420 | 395 | 387 | 247 |
| 3/4 | 0.328 | 200 | 346 | 326 | 319 | 204 |
| 1 | 0.465 | 100 | 286 | 270 | 264 | 169 |
| 1 1/4 | 0.682 | 100 | 287 | 271 | 265 | 169 |
| 1 1/2 | 0.94 | 100 | 282 | 265 | 259 | 166 |
| 2 | 1.46 | - | 254 | 239 | 234 | 149 |
| 2 1/2 | 2.03 | - | 233 | 219 | 215 | 137 |
| 3 | 2.68 | - | 215 | 203 | 199 | 127 |
| 3 1/2 | 3.58 | - | 214 | 202 | 197 | 126 |
| 4 | 4.66 | - | 213 | 201 | 197 | 126 |
| 5 | 6.66 | - | 198 | 186 | 182 | 116 |
| 6 | 8.92 | - | 186 | 175 | 171 | 109 |
| 8 | 16.5 | - | 195 | 183 | 180 | 115 |

**TYPE DWV**

| NOM. DIA | WT/FT | FT/BNDL | 150°F | 200°F | 300°F | 400°F |
|---|---|---|---|---|---|---|
| 1 1/4 | 0.65 | 100 | 280 | 269 | 258 | 165 |
| 1 1/2 | 0.809 | 100 | 249 | 240 | 230 | 147 |
| 2 | 1.07 | - | 185 | 178 | 170 | 109 |
| 3 | 1.69 | - | 135 | 130 | 125 | 80 |
| 4 | 2.87 | - | 127 | 122 | 117 | 75 |
| 5 | 4.43 | - | 129 | 124 | 119 | 76 |
| 6 | 6.1 | - | 126 | 121 | 116 | 74 |
| 8 | 10.6 | - | 124 | 119 | 114 | 73 |

*Table give computed allowable stress for annealed copper tube at indicated temperature.*

## TECHNICAL DATA

Values of allowable internal working pressure for copper tube in service are based on the formula from ANSI B31, Standard Code for Pressure Piping:

$$P = \frac{2\ S\ tm}{D\ max - 0.8\ tm}$$

P = Allowable Pressure
S = Allowable stress
T = Wall thickness
D Max = Outside Diameter

@150°F S = 5100 PSIG annealed
@ 200°F S= 4800PSIG annealed
@ 300°F S= 4700 PSIG annealed
@ 400°F S= 3000 PSIG annealed

All ratings listed for types K, L, M, DWV and refrigeration service tube in the preceding charts are calculated for tube in the annealed condition. These values should be used when soldering, brazing or welding is employed for joining components in a system. While the ratings for hard drawn tube are substantially higher, they should only be used for systems using properly designed flare or compression mechanical joints, since joining by any heating process might anneal (soften) the tube.

In designing a system, careful consideration should also be given to joint ratings as well as those of the components.

# COPPER TUBE AND SOLDER TYPE FITTINGS

1. Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.

2. Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.

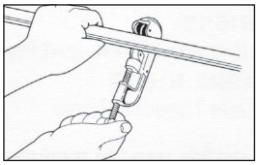
3. Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.

4. Using a brush, apply light uniform coat of soldering flux to the outside of the tube and inside of the fitting.

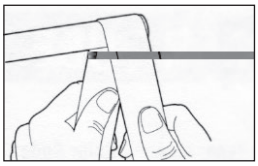
5. Slip tube into fitting to tube stop. Turn tube back and forth once or twice to distribute flux evenly.

6. Apply heat uniformly around the fitting with torch. When solder melts upon contact with heated fitting, the proper soldering temperature has been reached. Remove flame and feed solder slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the solder metal. Wipe off surplus solder with a piece of cloth.

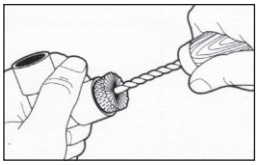
**CAUTION: No not overheat the joint or direct the flame into the face of the fitting cup. Overheating could burn the flux, which will destroy its effectiveness and the solder will not enter the joint properly.**



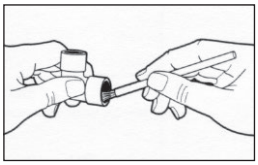
1. Cut tube to length & remove burr with file or scraper.



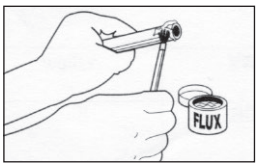
2. Clean outside of tube with sandpaper or sand cloth.



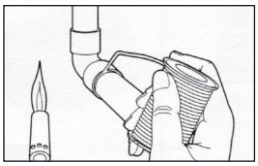
3. Clean inside of fitting with wire brush, sand cloth or sandpaper.



4. Apply flux thoroughly to inside of fitting.




5. Apply flux thoroughly to outside of tube - assemble tube and fitting.



6. Apply heat with torch. When solder melts upon contact with heated fitting, the proper temp for soldering has been reached. Remove flame & feed solder to the joint at one or two points until a ring of solder appears at the end of the fitting.

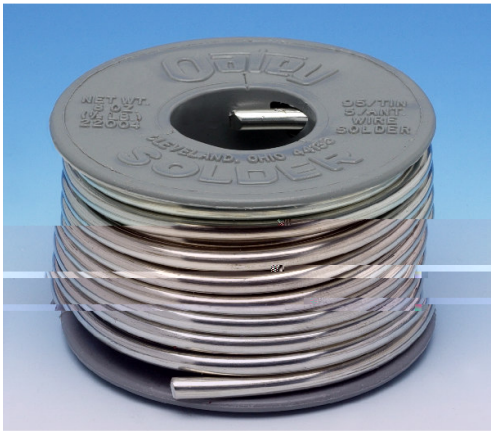
# SECTION 2.4
# ESCUTCHEONS

Oatey®
4700 W. 160th St.
Cleveland, OH 44135
PH:800-321-9532
FX:800-321-9535
www.oatey.com

TECHNICAL SPECIFICATION

# 95/5 LEAD FREE PLUMBING SOLDER

**TECHNICAL SPECIFICATION:** Oatey 95/5 Lead Free Plumbing Solder is a solid wire solder for use in plumbing applications where frequent and extreme temperature changes and vibrations occur. 95/5 Solder is commonly used for potable water applications, refrigeration lines and cooling equipment. 95/5 Solder complies with CA & VT lead content regulations.




## PHYSICAL/CHEMICAL PROPERTIES

| | |
|---|---|
| Alloy composition | Tin & Antimony |
| Appearance | Silver Solid Wire |
| Melting Range | 450° F to 464° F |

## DIRECTIONS FOR USE

Cut the pipe to the exact length required using a tube cutter. Be sure the pipe is cut square. Remove all burrs on the inside and outside of the pipe surface with a reamer tool. Remove all oil, grease and oxide corrosion from the surface of the piping to be joined using Oatey Abrasive Sandcloth, Utility Brushes or Nylon Grit Pads. The joining surfaces must be clean before soldering. Apply a small amount of approved flux to the pipe and fitting surface. Proper fluxing is important because the flux promotes the flow of the filler metal. Insert the pipe end into the fitting. Heat the joint area, using caution not to overheat the joint. Feed the solder wire into the joint. When the solder wire has drawn around the entire joint, remove the heat. When soldering process is complete, allow the joint to cool undisturbed. When joint is cool, remove any flux residual with a damp cloth.

## PRECAUTIONS

Read all cautions and directions carefully before using this product. Apply flux with brush- do not apply with fingers. Wash hands thoroughly after use and before eating. Wear safety glasses with side shields and rubber gloves. EYE AND SKIN IRRITANT. HARMFUL IF SWALLOWED. VAPOR MAY BE HARMFUL. Use only in well ventilated area. Eye or skin contact may cause intense irritation and injury. In case of contact with eyes or skin, flush with water and seek medical attention immediately. If inhaled, get fresh air and seek medical attention if ill feelings persist. KEEP OUT OF REACH OF CHILDREN.

Refer to material safety data sheet for more information.
For emergency first aid help, call 1-877-740-5015.

## COMMON APPLICATIONS

Oatey 95/5 is commonly used for potable water applications, refrigeration lines and cooling equipment.

Consult Oatey Technical Department for applications not specifically referenced above.

## INGREDIENTS (CAS Number)

Tin (7440-31-5)
Antimony (7440-36-0)

## COMPLIANCE & LISTINGS

IAPMO Listed.

Maximum weighted average 0.25% lead
Complies with CA & VT lead legislation

| PRODUCT NUMBER | DESCRIPTION | GAUGE | PACK | CARTON WEIGHT |
|---|---|---|---|---|
| 29031 | 1 oz. 95/5 Solid Wire Solder – Bulk | .081 | 20 | 12 lbs. |
| 53026 | 1 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 1 lb. |
| 53181 | 1 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 1 lb. |
| 53027 | 4 oz. 95/5 Solid Wire Solder – Display | .081 | 12 | 4 lbs. |
| 53189 | 4 oz. 95/5 Solid Wire Solder – Carded | .081 | 12 | 4 lbs. |
| 22004 | 8 oz. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 5 lbs. |
| 22017 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 25 | 25 lbs. |
| 22018 | 1 lb. 95/5 Solid Wire Solder – Bulk | .117 | 10 | 11 lbs. |

# SECTION 2.4
# ESCUTCHEONS

## *For Residential and Commercial Applications*

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

**LEAD FREE***

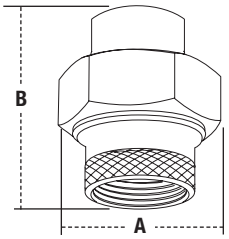
# Series LF3001A

## Dielectric Unions

### Sizes ½" – 2"

Series LF3001A dielectric unions feature a female iron pipe thread to solder connection. These unions are designed to be installed between pipe made from dissimilar metals to prevent accelerated corrosion and deterioration in the piping system due to galvanic and stray current. The LF3001A features Lead Free* construction to comply with Lead Free* installation requirements.

LF3001A




### Features

- Female iron pipe thread to solder connection
- Designed and manufactured to the highest quality standards
- Factory certified to withstand a minimum of 600 volts on a dry line with no flashover
- Rated to 180°F (82°C) at 250psi (17.2 bar) with standard gasket A and 300ºF (149ºC) at 50psi (3.4 bar) with optional gasket B

### Specifications

A dielectric union shall be installed where indicated on the plans. The union shall feature a female iron pipe thread to solder connection. The dielectric union shall be constructed using Lead Free* materials. Lead Free* dielectric unions shall comply with state codes and standards, where applicable, requiring reduced lead content. The dielectric union shall be a Watts Series LF3001A.

### Standards

Tested and Certified by NSF International

### Pressure — Temperature

**Maximum Pressure:** 250psi (17.2 bar) with standard gasket A; 50psi (3.4 bar) with optional gasket B

**Maximum Temperature:** 180°F (82°C) with standard gasket A; 300ºF (149ºC) with optional gasket B

***NOTICE***

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

### Materials — Dimensions — Weights

| SIZE | MATERIALS | | | | | DIMENSIONS | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TAIL PIECE | ADAPTER † | NUT † | INSULATOR | GASKET** | A | | B | | | |
| *in.* | | | | | | *in.* | *mm* | *in.* | *mm* | *oz.* | *gm.* |
| ½ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1½ | 32 | 1⅞ | 48 | 6 | 170 |
| ¾ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 1⅝ | 41 | 2⅛ | 54 | 6.7 | 190 |
| 1 | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2⅞ | 48 | 2½ | 64 | 9.3 | 264 |
| 1¼ | Lead Free Brass | Steel | Steel | Polysulfone | Buna-N | 2¼ | 57 | 3 | 76 | 14.1 | 400 |
| 1½ | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 2¾ | 70 | 3 | 76 | 21.8 | 618 |
| 2 | Lead Free Brass | Steel | Malleable Iron | Polysulfone | Buna-N | 3½ | 89 | 3 | 76 | 42.6 | 1208 |

† Steel and malleable iron components are zinc plated

** Optional Gasket B (GB)- EPDM Gasket for use in steam or hot water applications up to 300°F (149°C) at 50 psi (3.4 bar)..

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**



**USA:** T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
**Canada:** T: (888) 208-8927 • F: (888) 479-2887 • Watts.ca
**Latin America:** T: (52) 55-4122-0138 • Watts.com

# SECTION 2.4
# ESCUTCHEONS

*PASCO* Specialty & Mfg., Inc.

P.O. Box 1667
South Gate, CA 90280
Phone (310) 537-7782
Fax (800) 737-2726

7529 Perryman Court
Curtis Bay, M 21226
Phone (410) 360-5010
Fax (877) 377-6466

www.pascospecialty.com

**TECHNICAL SPECIFICATION SUBMITTAL**

Chrome plated steel or stainless steel escutcheon or flange for steel, copper, plastic pipe used in plumbing.

Job Name _____ Date _____

Model Specified _____ Quantity _____

Customer/Wholesaler _____

Contractor _____

Architect/Engineer _____

**Engineering Specification: A chrome plated steel or stainless steel escutcheon or flange to cover the connection between a sink drain wall bend and the trap adapter at the sanitary tee or other connections where pipe wall penetrations occur.**

# Flanges - Escutcheons for Steel, Copper, Plastic Pipe

- **Sure grip style for snug fit**
- **Domestic or foreign manufacture**
- **26 Gauge**

### Chrome Plated Steel

| PART NUMBER | IPS | CWT | OUTSIDE DIAMETER |
|---|---|---|---|
| 1224 | 1-1/2" Tubular | | 3" |
| 1225 | 3/8" | -- | 2-1/2" |
| 1226 | 1/2" | -- | 2-1/2" |
| 1227 | 3/4" | -- | 2-1/2" |
| 1228 | 1-1/2" | -- | 3" |
| 1229 | 2" | -- | 3-1/4" |
| 1230 | -- | 1/2" | 2-1/2" |
| 1231 | -- | 3/4" | 2-1/2" |
| 1232 | 1-1/4" | 1-1/2" | 3" |
| 1233 | 1" | -- | 2-3/4" |
| 1240 | -- | 2" | 3-1/2" |
| 1241 | -- | 1" | 2-3/4" |
| 1244 | 1-1/4" Tubular | | 3" |

### Stainless Steel - Grade 304

| | | | |
|---|---|---|---|
| 1226-SS | 1/2" | -- | 2-1/2" |
| 1227-SS | 3/4" | -- | 2-1/2" |
| 1228-SS | 1-1/2" | -- | 3-1/2" |
| 1229-SS | 2" | -- | 3-1/2" |
| 1230-SS | -- | 1/2" | 2-1/2" |
| 1231-SS | -- | 3/4" | 2-1/2" |
| 37244 | 1-1/4" Tubular | | 3" |
| 37224 | 1-1/2" Tubular | | 3" |