

## LEAD-FREE\* PERFORMANCE BRONZE FITTINGS

### APPLICATIONS

- Specifically Designed for Use in Applications that Deliver Water for Human Consumption
- Commercial and Residential Construction

### MATERIALS & CONSTRUCTION

- NIBCO® Lead-Free Wrot Copper Fittings Made from Commercially Pure Copper Mill Products per ASTM B 75 Alloy C12200
- NIBCO® Lead-Free Dezincification-Resistant (DZR) Fittings Made of High Quality Lead-Free Performance Bronze® Alloy per ASTM B 584 Alloy C87850 or C87600
- NIBCO® Lead-Free Forged Fittings Made from C69300, an EcoBrass® Alloy

### DESIGN CRITERIA

- Third Party Certified NSF/ANSI 61
- Manufactured Under a Quality Management System Conforming to the Current Revision of ISO-9001 International Standards

\* Weighted average lead content ≤ 0.25%

NIBCO® Wrot Copper Solder Fittings manufactured in Stuarts Draft, Virginia, are 3rd party certified to Annex G of NSF/ANSI 61†. For our complete offering of wrot copper fittings, please consult the NIBCO Copper Fittings catalog at [www.nibco.com](http://www.nibco.com) or visit us at [www.nibcoleadfree.com](http://www.nibcoleadfree.com).

LEAD-FREE



Look for this symbol on NIBCO lead-free packaging.

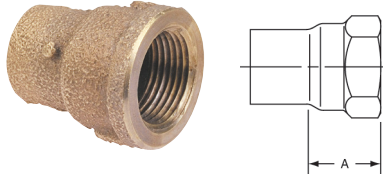
† Consult NIBCO Customer or Technical Services for more information.  
EcoBrass® is a registered trademark of Mitsubishi Shindoh Co., LTD.



Certified to  
NSF/ANSI 61-G

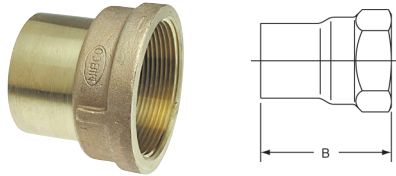
# Lead-Free\* Performance Bronze® Fittings

## ADAPTERS



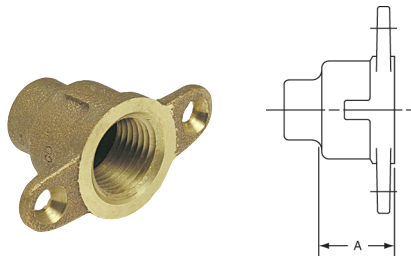
**703-LF**  
Lead-Free Adapter C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/2 x 1	0.28	15/16
3/4 x 3/8	0.17	23/32
1 x 1 1/2	0.68	1 1/16



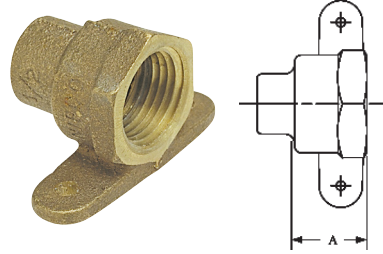
**703-2-LF**  
Lead-Free Adapter Ftg x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. B INCHES
1/2 x 1/4	0.11	17/32
3/4 x 1/2	0.13	19/16
1 x 3/4	0.38	1 31/32



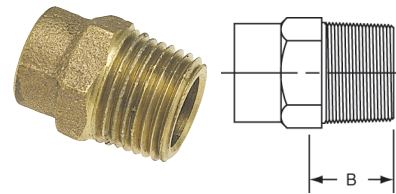
**703-5-LF**  
Lead-Free Special Drop Adapter C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/2	0.16	3/4
3/4	0.24	31/32



**703-5B-LF**  
Lead-Free Drop Adapter C x F

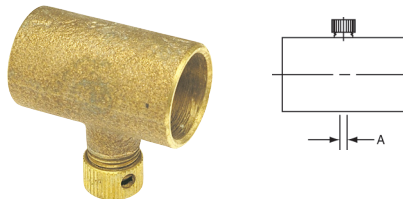
NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/2	0.15	3/4



**704-LF**  
Lead-Free Adapter C x M

NOM. SIZE	APPROX. NET WT./LBS.	DIM. B INCHES
3/4 x 1 1/4	0.38	17/32

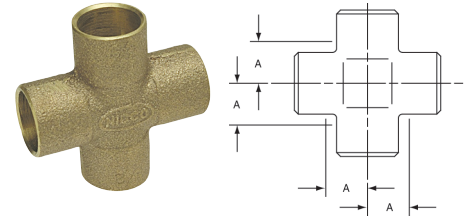
## COUPLINGS



**701-D-LF**  
Lead-Free Drain Coupling w/Cap C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/2	0.08	1/4
3/4 (E)	0.09	1/4

## CROSSES

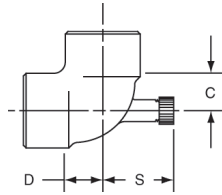


**735-LF**  
Lead-Free Cross C x C X C X C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/2	0.14	7/16
3/4	0.28	9/16
1	0.54	3/4

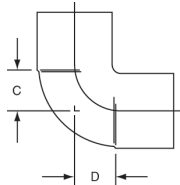
# Lead-Free\* Performance Bronze® Fittings

## ELBOWS



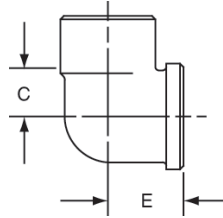
**705-D-LF**  
Lead-Free Vent  
Elbow w/Cap C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIMENSIONS INCHES		
		C	D	S
1/2 (F)	0.09	1/2	1/2	3/4
3/4 (F)	0.15	9/16	9/16	29/32
1	0.31	3/4	3/4	1



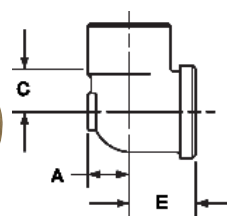
**707-LF**  
Lead-Free 90° Elbow C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. C INCHES	DIM. D INCHES
1 1/4 x 3/4	0.34	5/8	7/8
1 1/2 x 1	0.55	1 1/16	1



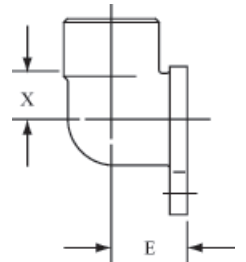
**707-3-LF**  
Lead-Free 90° Elbow C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. C INCHES	DIM. E INCHES
1/4	0.06	13/32	9/16
3/8	0.09	7/16	11/16
1/2 (F)	0.12	7/16	13/16
1/2 x 1/4	0.10	3/8	23/32
1/2 x 3/8	0.09	1/2	13/16
1/2 x 3/4	0.18	11/16	15/16
3/4 (F)	0.18	21/32	31/32
3/4 x 1/2 (F)	0.16	9/16	15/16
3/4 x 1	0.36	7/8	1 1/8
1	0.47	25/32	1 1/4
1 x 1/2	0.32	9/16	1 1/8
1 x 3/4	0.40	11/16	13/16
1 1/4	0.67	1	1 1/2
1 1/2	0.90	1 1/8	1 5/8
2	1.46	1 3/8	1 15/16



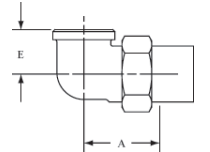
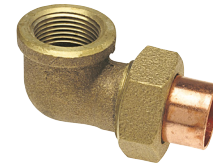
**707-3-5-LF**  
Lead-Free 90° Drop Ear Elbow C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES	DIM. E INCHES
1/2 (F)	0.15	13/32	9/16	7/8
1/2 x 3/8 (F)	0.11	3/8	1/2	3/4
3/4 (F)	0.31	17/32	21/32	15/16
3/4 x 1/2	0.24	17/32	9/16	15/16
1	0.49	5/8	25/32	1 1/4



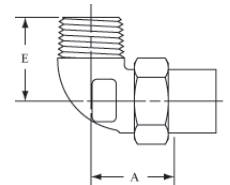
**707-3-5A-LF**  
Lead-Free 90° Hy-Set Elbow C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. X INCHES	DIM. E INCHES
1/2 (F)	0.16	1/2	7/8



**707-3-6-LF**  
Lead-Free 90° Union Elbow C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. E INCHES
1/2	0.31	1 1/8	7/8
3/4	0.48	1 7/16	1



**707-4-6-LF**  
Lead-Free 90° Union Elbow C x M

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. E INCHES
3/8	0.20	15/16	13/16
1/2	0.30	15/16	1 1/2
3/4	0.49	17/32	1 13/16
1	0.71	1 13/32	1 5/8

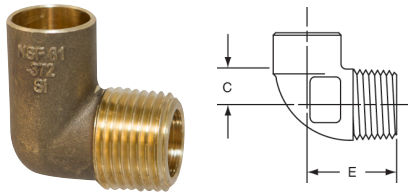
(F) Forged fitting

\* Weighted average lead content ≤ 0.25%

Visit our website for the most current information.

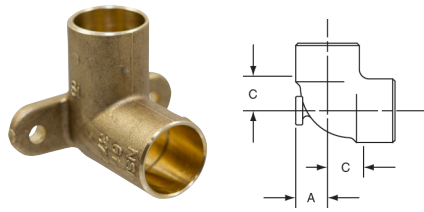
# Lead-Free\* Performance Bronze® Fittings

## ELBOWS *cont.*



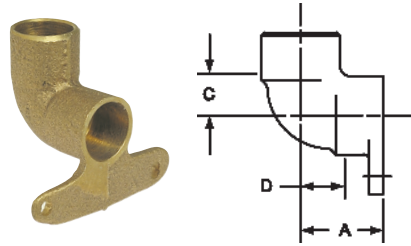
**707-4-LF**  
Lead-Free 90° Elbow C x M

NOM. SIZE	APPROX. NET WT./LBS.	DIM. C INCHES	DIM. E INCHES
3/8	0.08	1/32	7/8
1/2 (F)	0.14	7/16	15/32
1/2 x 3/4	0.19	9/16	13/8
3/4 (F)	0.19	1/2	1 1/4
3/4 x 1/2	0.18	7/16	1 5/16
1	0.43	23/32	1 5/8
1 1/4	0.55	7/8	1 11/16
1 1/2	0.81	1	1 31/32
2	1.38	1 1/4	2 5/8



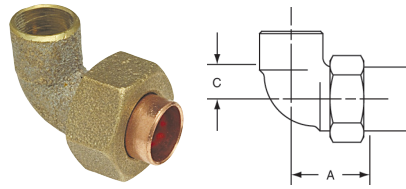
**707-5-LF**  
Lead-Free 90° Drop Elbow C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES
1/2 (F)	0.10	13/32	7/16
3/4	0.24	17/32	9/16



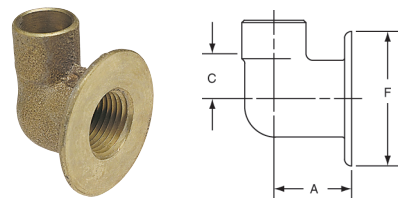
**707-5A-LF**  
Lead-Free 90° Hy-Set Elbow C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES	DIM. D INCHES
1/2	0.13	31/32	7/16	15/32
3/4	0.21	1 5/16	9/16	9/16



**707-6-LF**  
Lead-Free 90° Union Elbow C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES
3/8	0.17	59/64	5/16
1/2	0.25	1	7/16
3/4	0.39	1 17/32	9/16



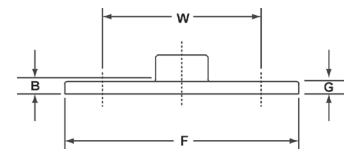
**708-LF**  
Lead-Free 90° Flanged Sink Elbow C x F

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES	DIM. F INCHES
1/2 (F)	0.21	7/8	9/16	1 3/4

## FLANGES – CLASS 150



**771-LF**  
Lead-Free Companion Flange C

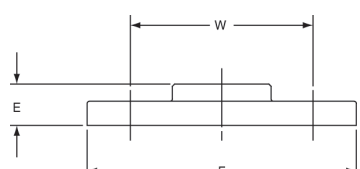


NOM. SIZE	APPROX. NET WT./LBS.	DIM. B INCHES	DIM. F INCHES	DIM. G INCHES	DIM. W INCHES
1	1.59	1/16	4 1/4	3/8	3 1/8
1 1/4	1.91	1/16	4 5/8	13/32	3 1/2
1 1/2	2.57	1/16	5	7/16	3 7/8
2	4.10	1/16	6	1/2	4 3/4
2 1/2	6.34	1/8	7	9/16	5 1/2
3	8.31	1/8	7 1/2	5/8	6
4	11.85	1/8	9	11/16	7 1/2
5	15.69	1/8	10	3/4	8 1/2
6	19.12	1/8	11	13/16	9 1/2

NOTE: Dim. B = Tube Stop to Flange Face



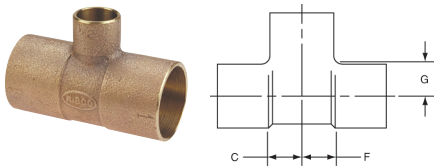
**775-LF**  
Lead-Free Threaded Companion Flange



NOM. SIZE	APPROX. NET WT./LBS.	DIM. E INCHES	DIM. F INCHES	DIM. W INCHES
2	4.13	1	6	4 3/4
2 1/2	6.43	1 1/8	7	5 1/2
3	7.13	1 3/16	7 1/2	6
4	11.47	1 5/16	9	7 1/2

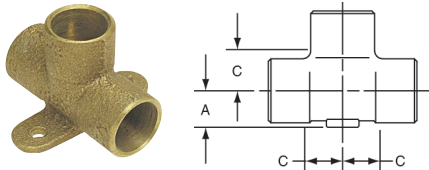
# Lead-Free\* Performance Bronze® Fittings

## TEES



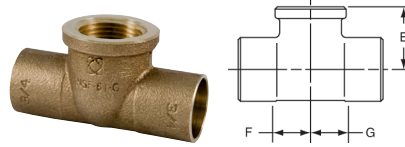
**711-LF**  
Lead-Free Tee C x C x C

NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		C	F	G
1¼ x ½ x 1	0.48	¾	¾	7/8



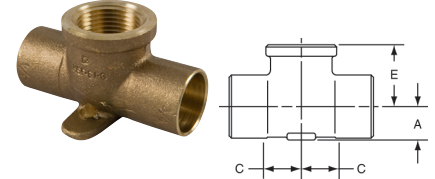
**711-5-LF**  
Lead-Free Drop Tee C x C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. C INCHES
½	0.16	3/8	7/16



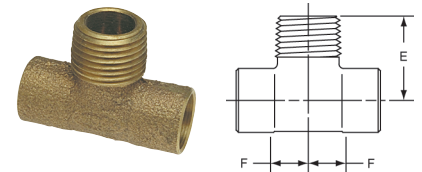
**712-LF**  
Lead-Free Tee C x C x F

NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		E	F	G
½ Ⓣ	0.14	13/16	7/16	7/16
½ x ½ x ¼	0.16	13/16	1/2	1/2
½ x ½ x 3/8	0.15	13/16	1/2	1/2
½ x ½ x ¾	0.23	15/16	11/16	11/16
¾ Ⓣ	0.33	1	21/32	21/32
¾ x ¾ x 3/8	0.23	7/8	7/16	7/16
¾ x ¾ x ½ Ⓣ	0.24	57/64	17/32	17/32
1	0.54	1¼	7/8	7/8
1 x 1 x ½ Ⓣ	0.28	11/8	9/16	9/16
1 x 1 x ¾	0.42	13/16	11/16	11/16
1¼ x 1¼ x ½	0.49	1¼	9/16	9/16
1¼ x 1¼ x ¾	0.55	15/16	11/16	11/16
1¼ x 1¼ x 1	0.66	17/16	7/8	7/8
1½ x 1½ x ½	0.62	13/8	9/16	9/16
1½ x 1½ x ¾	0.70	17/16	11/16	11/16
1½ x 1½ x 1	0.79	1½	13/16	13/16
2 x 2 x ½	0.97	15/8	9/16	9/16
2 x 2 x ¾	1.10	111/16	11/16	11/16
2 x 2 x 1	1.23	1¾	13/16	13/16



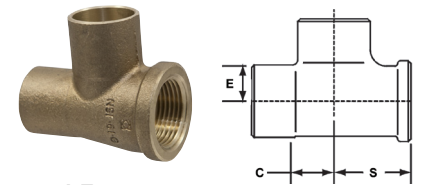
**712-5-LF**  
Lead-Free Drop Ear Tee C x C x F

NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		A	C	E
½	0.25	3/8	9/16	7/8
¾	0.38	1/2	21/32	1



**713-LF**  
Lead-Free Tee C x C x M

NOM. SIZE	APPROX. NET WT./LBS.	DIM. E INCHES	DIM. F INCHES
½	0.14	115/16	7/16



**714-LF**  
Lead-Free Tee C x F x C

NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		C	E	S
½	0.18	7/16	9/16	7/8
½ x ¾ x ½	0.27	7/16	9/16	13/16
¾	0.31	9/16	11/16	1
¾ x ½ x ¾ Ⓣ	0.18	9/16	9/16	7/8
1	0.52	23/32	13/16	11/4
1 x ½ x 1	0.42	¾	¾	1/8
1 x ¾ x 1	0.43	23/32	23/32	13/16

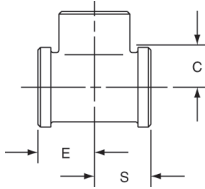
Ⓣ Forged fitting

\* Weighted average lead content ≤ 0.25%

Visit our website for the most current information.

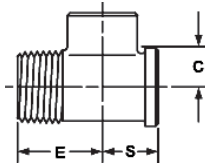
# Lead-Free\* Cast Performance Bronze® Fittings

## TEES *cont.*



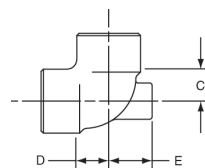
**710-3-LF**  
Lead-Free Tee F x F x C

NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		C	E	S
3/4	0.37	11/16	1	1
3/4 x 1/2 x 1/2 (F)	0.20	9/16	7/8	31/32
3/4 x 1/2 x 3/4 (F)	0.21	9/16	15/16	1
3/4 x 3/4 x 1/2	0.31	11/16	31/32	31/32



**710-3-4-LF**  
Lead-Free Tee M x F x C

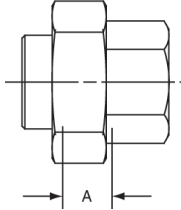
NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		C	E	S
3/4	0.32	11/16	1 11/32	1



**705-LF**  
Lead-Free Baseboard Tee C x F x C

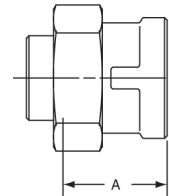
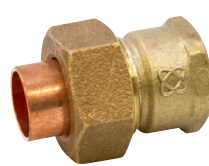
NOM. SIZE	APPROX. NET WT. LBS.	DIMENSIONS INCHES		
		C	E	D
1/2 x 1/8 x 1/2 (F)	0.08	1/2	1/2	9/16
3/4 x 1/8 x 3/4 (F)	0.14	9/16	11/16	9/16
1 x 1/8 x 1	0.62	7/8	1 1/4	3/4
1 1/4 x 1/8 x 1 1/4	0.51	7/8	1 5/16	7/8

## UNIONS



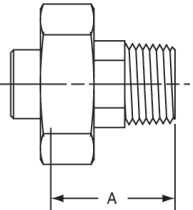
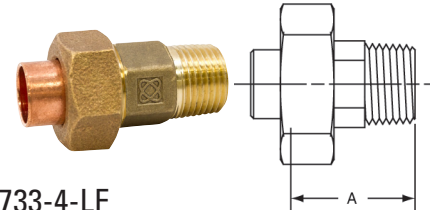
**733-LF**  
Lead-Free Union C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1 1/4	0.75	1/2
1 1/2	1.06	23/32
2	1.85	9/16
2 1/2	3.33	31/32
3	4.75	1 1/8



**733-3-LF**  
Lead-Free Union C x F

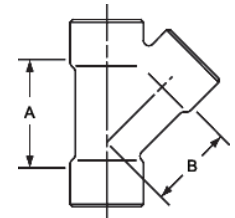
NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/4	0.12	17/32
3/8	0.18	1 1/4
1/2 (F)	0.24	17/32
3/4 (F)	0.36	1 5/16
1 (F)	0.59	1 19/32
1 1/4	0.93	1 19/32
1 1/2	1.35	1 13/16
2	1.89	1 15/16
2 1/2	3.66	2 13/32



**733-4-LF**  
Lead-Free Union C x M

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES
1/4	0.13	1 17/32
3/8	0.19	1 15/32
1/2 (F)	0.26	1 3/4
3/4 (F)	0.39	1 15/16
1 (F)	0.67	2 7/32
1 1/4	0.94	2 5/32
1 1/2	1.29	2 13/32
2	2.19	2 23/32
2 1/2	4.21	3 3/8

## Y'S



**749-LF**  
Lead-Free 45° Y C x C x C

NOM. SIZE	APPROX. NET WT./LBS.	DIM. A INCHES	DIM. B INCHES
1/2	0.15	1 3/32	7/8
3/4	0.30	1 7/32	1 7/32
1	0.55	1 13/16	1 15/32
1 1/4	0.81	2 1/4	1 7/8

Visit our website for the most current information.

(F) Forged fitting  
\* Weighted average lead content ≤ 0.25%

# Identification of Lead-Free\* Bronze/Brass Valves and Fittings Markings

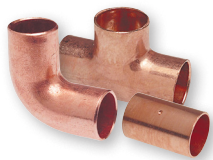


NIBCO® HydraPure® can be identified by the double oval symbol, and “Si” – indicative of silicon Performance Bronze™ – cast on the body of the valve or fitting.



Lead-free fittings and valves not manufactured from Performance Bronze® include an “LF” in the body.

## Other NIBCO Lead-Free\* Products Include:



### WROT COPPER FITTINGS



### NIBCO® PRESS SYSTEM



### NIBCO® PUSH



### THE LARGEST VALVE PACKAGE IN THE INDUSTRY

Visit us at [www.nibcoleadfree.com](http://www.nibcoleadfree.com) for our full lead-free offering.

Ⓢ Forged fitting

\* Weighted average lead content ≤ 0.25%

Visit our website for the most current information.

# WHY SILICON LEAD-FREE\* ALLOYS?



## BASIC PHYSICAL PROPERTIES

HydraPure® Silicon Performance Bronze® exhibits exceptional mechanical properties, including retention of high strength during and after soldering and brazing. NIBCO provides a series of white papers about engineering properties and performance characteristics of lead-free products on its website, [nibcoleadfree.com](http://nibcoleadfree.com).

## CORROSION RESISTANCE

NIBCO uses third-party testing agencies to test its HydraPure Silicon Performance Bronze products for stress corrosion cracking and dezincification corrosion. Testing also provides certification that products meet industry-accepted ISO drinking water standards.

## THIRD-PARTY REASSURANCE

NIBCO HydraPure products have achieved the highest level of stringent testing (Commercial Hot 180°F) within the NSF/ANSI 61 drinking water standard. In addition, HydraPure products are listed to NSF/ANSI 372; Weighted Average Lead Content of Water Contact Components that satisfies new requirements of the Safe Drinking Water Act.

## HEALTH EFFECTS

NIBCO lead-free initiatives have a direct correlation to improving health and safety. The company strives to continuously improve its products through research regarding potential health hazards.

Silicon is not a regulated substance and no published information indicates that silicon may pose drinking water health effects.

13 Al Aluminum	14 <b>Si</b> Silicon	15 P Phosphorus	16 S Sulfur
31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium
49 In Indium	50 Sn Tin	51 Sb Antimony	52 Te Tellurium
81 Tl Thallium	82 <b>Pb</b> Lead	83 <b>Bi</b> Bismuth	84 Po Polonium

## SOURCE OF SUPPLY

Silicon is the second most abundant element within the earth's crust, second only to oxygen. In contrast, the U.S. has no bismuth deposits. Bismuth is only about twice as abundant as gold and is extracted from the earth's crust primarily as a byproduct of lead mining.

\* Weighted average lead content ≤ 0.25%



**NIBCO INC.**  
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