TECHNICAL SPECIFICATIONS
NO-LEAD BRASS FITTINGS AND VALVES

GENERAL
All brass valves and fittings for service lines shall be provided under this contract.

PRODUCT

a. All fittings and valves shall be manufactured in accordance with AWWA Standard C-800, latest revision, and as further specified in these technical specifications.

a.i Exception: Any brass part of the fitting or valve in contact with potable water shall be made of a "No-Lead Brass", defined for this specification as UNS Copper Alloy No. C89520 or C89833 in accordance with the chemical and mechanical requirements of ASTM B584 and AWWA C-800. This "No-Lead Brass" alloy shall not contain more than nine one hundredths of one percent (0.09% or less) total lead content by weight.

a.ii Any Brass part of the fitting or valve not in contact with potable water shall be made of 85-5-5-5 brass as defined for this specification as UNS Copper Alloy C83600 per ASTM B62, ASTM B584 and AWWA C-800.

b. All brass fittings and valves shall be certified by an ANSI accredited test lab per NSF/ANSI Standard 61, Drinking Water Components – Health Effects, Section 8 or NSF/ANSI Standard 372, Drinking Water System Components – Lead Content. Proof of certification is required.

c. Brass fittings and valves shall comply with the United States Of America Safe Drinking Water Act, and the U.S. Environmental Protection Agency.

d. All brass fittings and valves shall have the manufacturers name or trademark permanently stamped or cast on it. Another marking identifying the "no lead" brass alloy, e.g., 'NL', shall be cast or permanently stamped on the fitting or valve.

QUALITY CONTROL AND TESTING
If requested, an affidavit certifying compliance with these standards and specifications shall be signed and submitted by the manufacturing firm's Quality Assurance or Engineering Manager.

MANUFACTURER
The brass fittings and valves shall be produced by a manufacturer in the United States of America or Canada.

Downloadable Cross Reference Product List
For a downloadable cross reference list of leaded to no-lead A.Y. McDonald products, scan the following QR code with your smart phone, or call 1-800-292-2737.

A.Y. McDonald Mfg. Co.
WATERWORKS | PUMPS | PLUMBING VALVES | GAS VALVES

800.292.2737 Fax 800.832.9296
sales@aymcdonald.com | noleadbrass.com

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WE WROTE THE BOOK ON NO-LEAD. ›››

READ ALL ABOUT IT AT NOLEADBRASS.COM

WHAT?

In January 2011, the Reduction of Lead in Drinking Water Act was signed into law, which will reduce the allowable lead content of wetted surfaces in drinking water pipes, pipe fittings, and plumbing fixtures.

This act prohibits the sale of valves, fittings, and fixtures with a weighted lead content of more than 0.25% for any use with potable water.

WHAT DOES THIS MEAN FOR ME?

Your current inventory of brass becomes obsolete on January 4, 2014. This means you will no longer be able to sell valves, fittings, or fixtures that contains lead which exceeds the 0.25% weighted average limit for wetted surfaces.

Failing to develop a plan for switching out your inventory could greatly impact your bottom line by leaving you with a large inventory of useless, non-salable leaded brass.

WHAT ARE THE PRODUCTS IMPACTED?

The product affected by this legislation includes all valves, fittings, or fixtures that come into contact with potable water, except those excluded per Federal Public Law 111-380. This includes corporation stops, curb stops, service fi ttings and couplings, meter valves, meter couplings, copper meter setters and insetters, meter yoke valves, check valves, backfl ow valves, and more. This also includes any plumbing valves and fi ttings inside a home that come into contact with potable water.

WHAT IS THE COMPOSITION OF NO-LEAD BRASS?

A.Y. McDonald's No-Lead Brass alloy contains not more than nine one hundreths of one percent (0.09% or less) total lead content by weight.

Lead composition range:
85-5-5-5 (C83600) 4.00-6.00%
AY No-Lead Brass 0.00-0.09%

*** Yield Strength, min.:**
85-5-5-5 (C83600) .....14 ksi
AY No-Lead Brass .....14 ksi

* Yield strength shall be determined as the stress producing an elongation under load of 0.5 %, that is, .01" in a gage length of 2.00".

Lead leaching from Waterworks No-Lead Brass components is virtually zero per the NSF 61 section 8 testing and normalization protocol. A.Y. McDonald has received ANSI accredited certifi cations for lead content and NSF/ANSI 61 requirements. Product certifi cation sheets are available at **www.NOLEADBRASS.com**.

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WHAT IS NO-LEAD BRASS?

A.Y. McDonald Mfg. Co. No-Lead Brass products meet the requirements of UNS Copper Alloy C89833 per ASTM B584-09A. UNS Copper Alloy C89833 Mechanical properties and Chemical composition have been certified by an independent testing agency and are listed in ASTM specifi cation B584-09A Copper Alloy Sand Casting for General Applications (compositions and mechanical properties).

A.Y. McDonald's No-Lead Brass contains a high percentage of copper and three main alloying elements

- Zinc, Tin and Bismuth.
- Zinc is a potent alloying element in copper, imparting strength and hardness.
- Tin is a potent solid-solution strengthener in copper, even more so than zinc. Unlike zinc, tin also improves corrosion resistance.
- Bismuth acts very much like lead in many respects. Unlike lead, Bismuth is not known to be toxic in humans. Bismuth is lead's neighbor on the periodic chart of elements, making it's behavior during casting and solidifi cation similar. Bismuth is nearly insoluble in copper and causes machining chips to break up into small, easily removed particles.

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WHAT IS NSF 61?

NSF/ANSI 61 is a **performance-based** standard established to measure contaminates introduced into drinking water from products. The contaminants include regulated metals including lead and copper, organics and pesticides.

What is NSF/ANSI 61 Annex F? NSF/ANSI 61 Annex F requirement reduces the allowable limit for lead extracted from test bodies from 15 ppb to 5 ppb (parts per billion). The Annex F requirement has an effective date of July 1, 2012.

What are NSF 61 Annex G and NSF 372? NSF/ANSI 61 Annex G and NSF/ANSI 372 are lead content standards that can be used to verify the lead content of any product, material and component that conveys or dispenses water for human consumption. A.Y. NL Brass products are certified to the requirements of NSF/ANSI 61 Annex F and G, and NSF/ANSI 372.

FOR MORE INFORMATION ON NSF 61: **www.nsf.org/business/water_distribution/faq.asp#general**

FOR MORE INFORMATION ON NSF 61 ANNEX G AND NSF 372: **www.nsf.org/business/mechanical_plumbing/annexg.asp**