Helping Clients Get the Lead Out!

By Matt Allison

The EPA follows California and Vermont in redefining "lead-free." What does this mean for consultants specifying ice-making or water-cooling equipment?

One of the most valuable services consultants can provide for their clients is guidance in understanding and complying with federal and state regulations, especially upcoming regulations that can affect decisions about current purchases and product specifications.

Regulations regarding "lead-free" drinking water serve as a good example. For more than 30 years, regulatory authorities have mandated lead reduction measures across drinking water supplies and suppliers, including ice-making equipment for both commercial and residential applications. According to the U.S. Environmental Protection Agency (EPA), 10 to 20 percent of human exposure to lead may come from drinking water.

The most recent regulation is an amendment to the 1974 federal Safe Drinking Water Act (SDWA) adopted by the EPA Jan. 4, 2011, and scheduled to take effect Jan. 1, 2014. It echoes similar regulations already in effect in California and Vermont, requiring that all water-contacting components in ice-making equipment contain no more than 0.025 percent lead.

Some manufacturers' products already comply with this new lead-free standard, and specifying consultants can help ensure their clients' full compliance by specifying these lead-free products.

Lead and its dangers

The density, workability and corrosion resistance of lead have made it a useful metal for thousands of years. Ancient Greeks and Romans, for example, used it in pottery and drinking vessels, in the extensive system of Roman aqueducts, and even as a sweetener for wine. But a Greek physician named Dioscorides wrote, in the first century CE, that lead makes the mind "give way," and the prevalence of gout in affluent Rome is believed to be the result of eating and drinking from leaded vessels. With the Industrial Revolution, lead became more prevalent in manufacturing, as a common ingredient in paint, in plumbing fixtures and public water systems, and later as a performance additive in gasoline.

Today we recognize that there is no safe threshold for lead exposure. That is, there is no known amount of lead that is too small to cause harm to the human body. Accordingly, removing lead from the environment has been a regulatory focus for decades. It was banned from paints made in the United States in 1978 and eliminated from gasoline in 1996.

Reducing lead in drinking water

In 1986, amendments to the SDWA required the use of lead-free piping and fixtures. Lead pipe has largely been replaced by copper, PVC and other lead-free materials. But until recently, lead-free has been defined as no more than 8 percent lead in pipes and pipe fittings and 4 percent lead in other plumbing fittings and fixtures.

With advancing technology and a growing awareness that no level of lead exposure is safe, regulators and the plumbing industry have sought to redefine "lead-free." Two states have set the pace, with California's AB1953 and Vermont's S-152, both taking effect in 2010. The EPA's new amendment to SDWA, with which ice machine manufacturers must comply as of Jan. 1, 2014, echoes these state laws.

The California Department of Toxic Substances Control, AB1953 prohibits the introduction into commerce of any pipe or plumbing fitting or fixture intended to convey or dispense water for human consumption that is not "lead-free," which it defines as no more than 0.2 percent of lead in solder and flux, the filler metal and wetting agent used in the soldering process, and no more than 0.25 percent of lead in wetted surfaces of pipes, pipe fittings, plumbing fittings and plumbing fixtures, as determined by weighted average. All pipe, pipe fixtures, solder or flux must be certified by an independent American National Standards Institute (ANSI) accredited third party, including but not limited to NSF International, as being in compliance with these lead-free standards.

Specifying lead-free equipment

Consultants specifying plumbing fixtures and ice-making equipment for their clients in California or Vermont must make certain the equipment complies with those states' lead-free statutes. In addition, it simply makes good client-service sense to provide the same protection against lead contamination for all clients, regardless of the states in which they operate.

The simplest way to ensure this protection is to specify that the equipment conforms to the applicable NSF/ANSI Standard. The California, Vermont and EPA regulations address the genuine health risks posed by lead contamination in drinking water. Compliance with those regulations and protection against those risks can be as simple as specifying products with the appropriate NSF/ANSI certification. But even beyond compliance, consultants who understand and communicate the implications of both current and impending regulations provide a necessary, valuable service for their clients—and for the public.

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