PLUMBING & DRINKING WATER

The quality of water delivered to your home can be affected by the nature of pipes inside your property

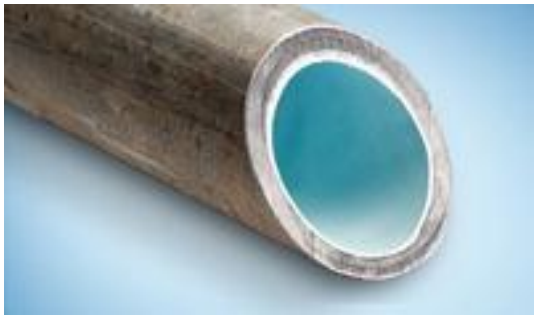
Significant adverse health effects have been associated with inadequate plumbing systems within public and private buildings arising from poor design, incorrect installation, alterations and inadequate maintenance.

Numerous factors influence the quality of water within a building's piped distribution system and may result in microbial or chemical contamination of drinking water. Outbreaks of gastrointestinal disease can occur through faecal contamination of drinking- water within buildings arising from deficiencies in roof storage tanks and cross connections with waste water pipes, for example. Poorly designed plumbing systems can cause stagnation of water and provide a suitable environment for the proliferation of legionella (bacteria that are considered potentially pathogenic for humans and causes Legionnaire's disease). For more information refer to Legionella information sheet. Plumbing materials, pipes, fittings and coatings can result in elevated heavy metal (e.g., lead) concentrations in drinking water and inappropriate materials can be conducive to bacterial growth. Potential adverse health effects may not be confined to the individual building. Exposure of other consumers to contaminants is possible through contamination of the local distribution system, beyond a particular building, through cross contamination of drinking water and backflow.

Type of pipes used

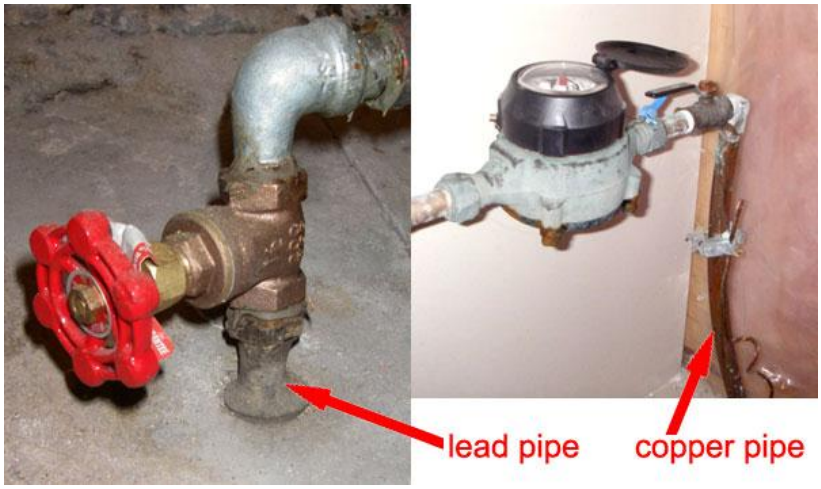
Galvanized Pipes

Galvanizing involves the application of molten zinc to pre-formed steel pipes to provide a corrosion resistant coating. However, many galvanized pipes in old buildings were manufactured using zinc that probably contained high levels of lead, which is a common impurity in the zinc. Galvanized pipes are still common in older homes and many commercial buildings. Galvanized pipes will corrode over time, as indicated by the following corrosion symptoms:



- high levels of zinc or iron in tap water
- a "metallic" taste of the water
- poor water flow due to blockage from mineral buildup
- discolored water (brown, red or yellow water)

Lead Pipes



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Some old homes and the service lines from the water mains to these homes still have lead pipes. "Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome plated brass taps, and in some cases, pipes made of lead that connect your house to the water main (service lines).The presence of lead in water from the tap is indicative of serious pipe corrosion that must be corrected for health reasons. For more information refer to lead information sheet.

Copper Pipes

Copper works its way into the water by dissolving from copper pipes in the household plumbing. The longer the water has stood idle in these pipes, the more copper it is likely to have absorbed. (Newer homes with copper pipes may be more likely to have a problem. Over time, a coating forms on the inside of these pipes which may insulate the water from the copper in the pipes.

How to avoid high copper exposure from the tap?

In newer homes, this coating has not yet had a chance to develop. Thus, anytime the water has not been used for more than six hours-overnight, for example, or during the day when people have been at work or school, these systems need to be flushed before use. This can be achieved by letting the cold water tap run until you can feel the water getting colder-usually 30 to 60 seconds (this water can be used for cleaning floors, carpets or watering your plants). This must be done before taking drinking water from any tap in the house. In addition, hot water dissolves copper more quickly than cold water; as a result, water to be used for drinking or cooking should not be drawn from the hot water tap. If you need hot water for cooking or drinking, take water from the cold tap and heat it. *It is especially important not to use water from the hot water tap for making baby formula.* . High copper concentrations in water will only occur when the water is unstable. For more information on water stabilization refer to water stabilization information sheet.

To ensure the safety of drinking water supplies within the building system, plumbing practices must prevent the introduction of hazards to health. This can be achieved by ensuring that:

- Pipes carrying either water or wastes are water tight, durable, of smooth and unobstructed interior and protected against anticipated stress
- Cross connections between drinking water supply and the waste water removal systems do not occur
- Waste is discharged without contaminating drinking water

It is important that plumbers are appropriately qualified, have the competence to undertake the necessary installation and servicing of plumbing systems to ensure compliance with SABS/SANS standards and use only the materials that are SABS approved. Rand Water purifies the water through a conventional purification process, resulting in water that is stable and meets within SANS 241 water specifications.

Visit **www.reservior.co.za** for further information on water quality in your area.

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