

Restoration of domestic water pipes in high-rise buildings

By Wolfgang Osada

One of the main objectives for the conscientious property manager is a well-thought-out preventative maintenance program. In Ontario's housing market, some long-postponed capital upgrades have begun.

With this in mind, new technologies are worth careful consideration as they offer options for investors that out-perform conventional technologies.

One such European-developed technology is the non-destructive restoration of copper pipes. It provides an alternative to replacing copper pipes, with the application of an epoxy resin inside the existing pipes. This creates new composite pipes that combine the strength of the metal structure and the longevity of plastic coating.

Epoxy lining is resistant to abrasion and sedimentation – major factors in the degradation of the water systems. Epoxy lining also helps prevent leaks, pipe bursts, and low pressure from corroded and eroded pipes.

The lengthy procedure of tearing out walls to replace old pipes can be avoided. It saves time, reduces stress and inconvenience to tenants and offers an environmentally friendly alternative. Nor are interior renovations after the plumbing work necessary.

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restoration of water systems in buildings compared with the budgets needed for plumbing work and masonry repair work of the interior shows direct savings of 30

long-term savings. The yearly maintenance budget of \$500 per unit for smaller repairs is a rule of thumb. If only \$50 per unit is allocated to the water

The budget for non-destructive restoration of water systems in buildings compared with the budgets needed for plumbing work and masonry repair work of the interior shows direct savings of 30 - 50%.

- 50%. Using the example of a 17-storey building with 185 apartments, copper pipes, along with plumbing work for the system replacement, amount to approximately \$350,000 to \$400,000. The additional cost for plastering and pipe insulation can conservatively be budgeted at \$30,000 to \$50,000.

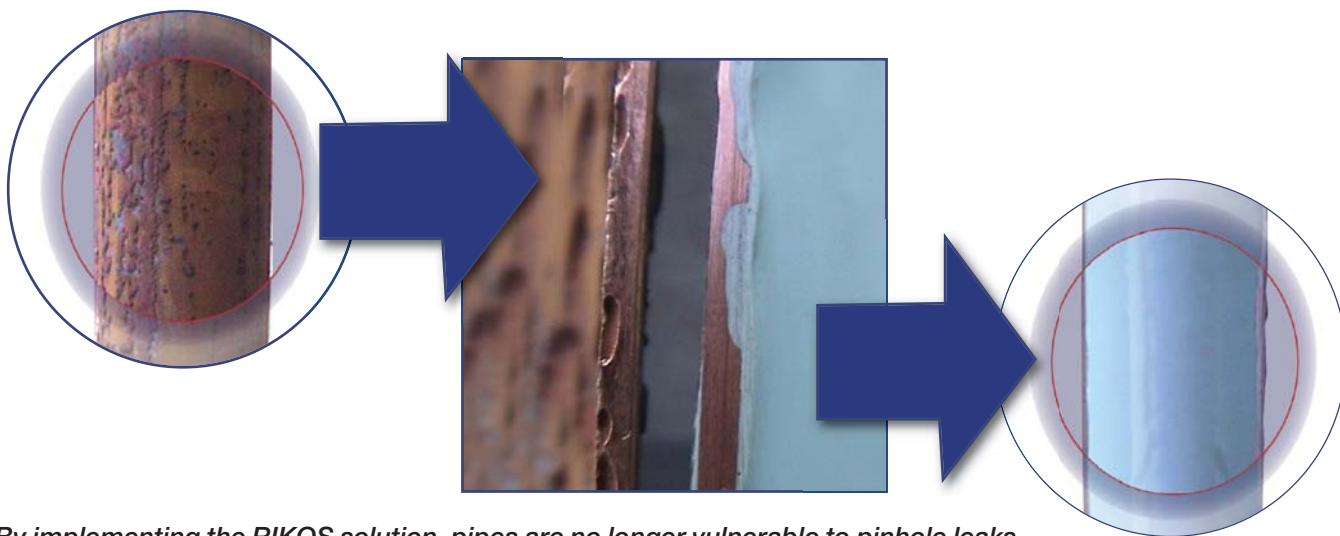
An epoxy method alternative for the same size building is approximately \$206,000 with a contingency budget of \$15,000 to \$20,000 for the new valves and pipe section replacements.

The immediate savings are only the beginning. Since this application comes with a 10 year warranty against corrosion and leaks in the system, it is possible to estimate the advantage of

supply damage, the savings on a 10-year warranty period amount to \$92,500. Based on the period of 30 to 50 years (life expectancy of composite pipe) with no leaks, the savings in a 185-unit apartment building can be found in the range of \$500,000 in maintenance costs alone.

Owners are moving away from reactive maintenance approaches that rely on partial solutions and a patch-work of different materials and are moving towards solutions that are more environmentally friendly and allow for the restoration and refurbishing of existing systems.

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By implementing the RIKOS solution, pipes are no longer vulnerable to pinhole leaks because the epoxy lining process removes the possibility for erosion.