

NMR Pipetector Test Report

◆ Domestic cold-tap water pipe at a 20-year-old apartment, PLP pipe◆

Japan System Planning Co., Ltd.

◆ Tet result

A 20-year-old apartment had issues regarding corrosion inside its domestic cold-tap water pipework. An analysis revealed levels of chlorine concentration at 0.11 mg/L and iron content at 0.27 mg/L in the water we sampled. From these results, we realized that the level of chlorine dropped as iron content rose due to internal corrosion in water pipes.

When we sampled the water after 2 weeks of the NMR Pipetector installation in the same conditions as before, the level of chlorine went up to 0.52 mg/L and the iron content dropped to 0.17 mg/L. After 6 weeks, the level of chlorine maintained at 0.42 mg/L, whereas iron content decreased even more to 0.12 mg/L.

We attached a white filter to a water tap in a bathtub before installing NMR Pipetector. After 14 days, the filter discolored to yellowish-brown with iron particles dissolved in the water, and the level of iron content in the filter was 13 mg/L. It revealed serious deterioration caused by corrosion inside the tube.

When we attached another white filter after 4 weeks of the installation in the same conditions as before, the discoloration rectified, and iron particles were hardly seen. The level of iron content also declined to 4.8mg/L.

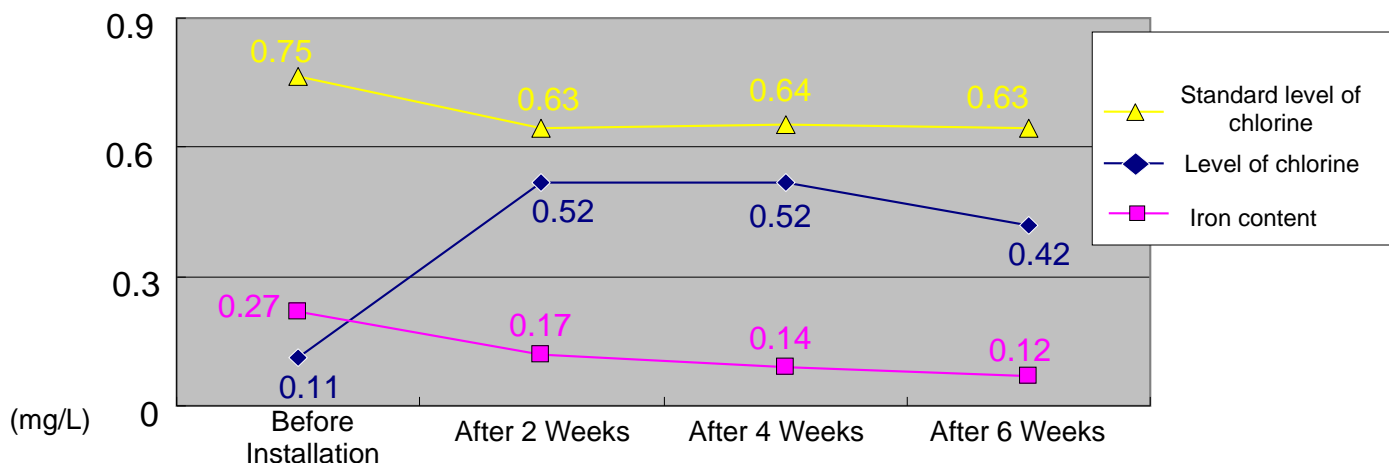
From these results, NMR Pipetector not only prevented the development of internal corrosion but also managed to prevent the decrease in chlorine concentration in the domestic cold-feed water piping. Iron also ceased to dissolve in the water. We confirmed that NMR Pipetector was significant to prevent issues regarding internal corrosion as well as levels of chlorine from decreasing.

◆ Info.

Building profile	A 20-year-old, four-story apartment building
Installation date	January 7 th , 2011
Pipework and installed model	Domestic cold-feed water pipe, PLP, 50 mm in diameter PT-50DS × 1 unit

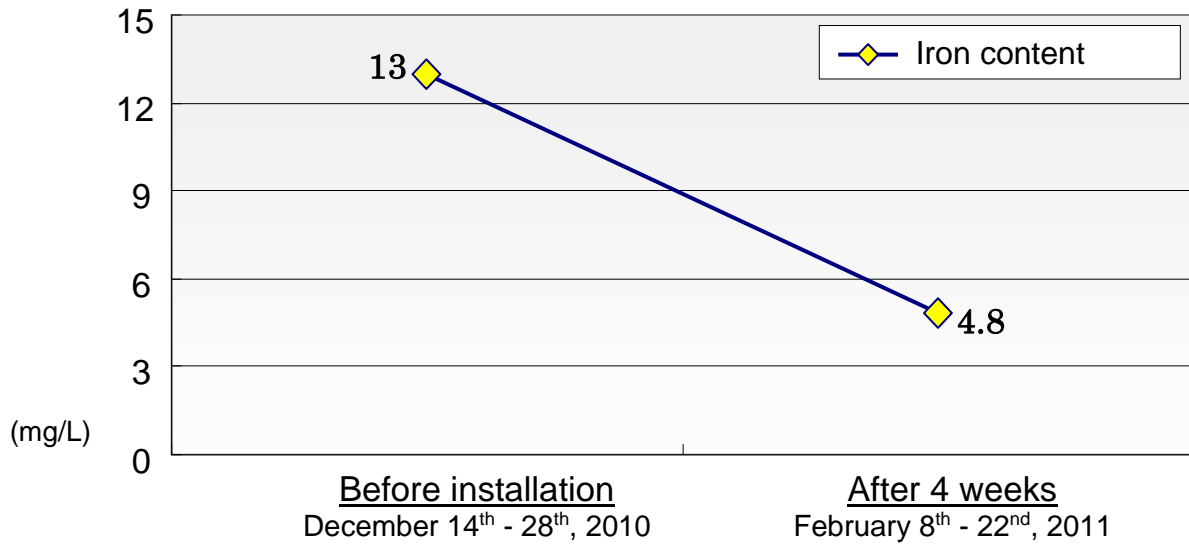
◆ Water analysis

	Before Installation	After 2 Weeks	After 4 Weeks	After 6 Weeks
Standard level of chlorine in water	0.75	0.63	0.64	0.63
Level of chlorine in water	0.11	0.52	0.52	0.42
Iron content	0.27	0.17	0.14	0.12



◆ Iron content captured in the filter

	Before installation Dec. 14 th - 28 th , 2010	After 4 weeks Feb. 8 th - 22 nd , 2011
Iron content (mg/L)	13 mg/L	4.8 mg/L



◆ Filter discoloration



Before the installation
 Attached for 14 days from Dec. 14th to 28th, 2010
 Entire filter discolored to yellowish-brown with corrosion particles captured inside.

After 4 weeks
 Attached for 14 days from Feb. 8th to 22nd, 2011
 Discoloration improved.
 Many corrosion particles previously captured in the filter are now rarely been seen.
 Iron content in water dropped.