

DOMESTIC HOT WATER TANKS

RED WOOD INN & SUITES ALBERTA – 2011



Opened December 2008, this award winning 92-suite hotel waged an uphill battle against limescale build up. Even though two 80-gallon hot water tanks were drained and cleaned every 6 weeks – at

considerable cost to management – the tanks continued to be so clogged with scale that a high-pressure air hose had to be used to unblock the drains before cleaning and vacuuming out the tanks. Additionally, three guest suites in the hotel could not be rented out due to the significant amounts of limescale coming out of bathroom taps.

Looking for a maintenance-free, environmentally safe alternative to salt based water softeners, the owner purchased a HydroFlow C-100 commercial unit, and attached it to the cold-water feed to the hot water tanks. One month after HydroFlow installation, the owner reported that the drains of the hot water tanks were not clogged with limescale. A high-pressure hose wasn't needed to unblock the drains; water flowed smoothly from the drain tap. Draining and cleaning the tanks was postponed, saving management substantial time and money.

Three months after HydroFlow installation, water from the hot water tanks flowed freely, clear of scale, and tanks didn't require draining or cleaning. Four months after installation, the three suites no longer had scale in the bathrooms and are rented out regularly to guests. Six months after installation, the tanks are opened and inspected; vertical flues are scale free, indicating that HydroFlow is preventing new limescale from forming. Existing scale at bottom of tanks is substantially reduced.

Inspection Report After HydroFlow Installation



At a six month inspection, the hot water tank flues (A) were scale free but covered by light talc (an expected result of breakdown of existing limescale). The talc easily wiped off with a cloth (B and C).

Pictures A and B show the bottom of the tank covered with a thin layer of loose scale (~one-sixteenth of an inch after 6 months without flushing out or cleaning – substantially reduced from maintenance reports of one-inch of scale every 6 weeks). After vacuuming, the bottom of the tank just above the access opening is scale free (C). One sees a thin layer of scale adhered to the bottom of the tank, which is expected to breakdown over time and wash away. During inspection, the tank was flushed twice from the top. As no additional scale flushed out, one may assume that the upper regions of the tank are scale free.

Tank Cleaning Prior to HydroFlow



Before HydroFlow:
Scale sample after
6 weeks, one cleaning,
two tanks
Jar measures 4" x 4" x 6"

Prior to installing HydroFlow, maintenance staff reported tank cleaning required **EVERY 6 WEEKS**, removing ~70% of scale in a laborious full-day process. Cleaning sessions involved repeated tank flushing to remove scale from the upper region of the tanks, and attempts to vacuum up limescale. Vertical flue stacks remained encrusted with scale after each cleaning. Maintenance staff estimated that about one-third of the amount of scale shown in the jar (above) remained in the tanks after each cleaning, causing substantial reduction in tank efficiency and increased energy consumption. Approximately one inch of scale built up every six weeks and scale continued to come out of the taps in three suites, making the suites unrentable.

Tank Cleaning After HydroFlow

NO TANK CLEANING was required in the 6 months after HydroFlow installation – saving staff a full day of maintenance every six weeks and hotel management substantial financial output. Four months after installation, limescale in hotel suite bathrooms disappeared and rooms were available for guest rentals.

Pictures show the vertical flue stacks free from scale after 6 months.

Impact of HydroFlow on Red Wood Inn and Suites

Payback period for HydroFlow

Less than one month of revenue generated from the three hotel suites (formerly unavailable to guests) was sufficient to payback the initial HydroFlow investment. This does not take into consideration the money saved on energy savings and tank cleanings. Additional savings in manpower hours and frustration-reduction to owner and staff have been immeasurable!