

# REPORT OF USING VULCAN



## 2 Apartment Buildings in Etagnières, Switzerland



### Installation of 2 x Vulcan S25

**Installation Place:** Cold water main pipe

**Pipe diameter:** 50 mm



### Results before and after the Vulcan installation

#### **Kitchen Kettle**

**Before (without Vulcan):** A layer of scale had accumulated at the bottom over time, it was impossible to remove it with a plastic spatula. We could only leave vinegar to let it act for a long time, so that the scale could be removed.

**After (with Vulcan):** Scale is easy to be removed, even with a finger or a damp cloth.

#### **External surfaces of pots and pans**

**Before:** If you do not wipe off water right away, the water would leave spots and it would be difficult to remove afterwards. You can only clean with dishwashing detergent again, and wipe off water without delay.

**After:** Even the pot has been dry for 30 minutes, it is still easy to remove spots with a damp cloth. If it is left to dry for a longer period, e.g. 1 night, the spots disappear after rubbing the surface for several times with increased pressure but still without detergent.

#### **Sink (stainless steel)**

**Before:** Quick greasy fouling, especially after removing residues from cooking oils with rinse water from cooking tools. Rough sponge and brush with degreasing detergent needed.

**After:** The degreaser is still necessary but the cleaning is easier and less work.

#### **Dishwasher (internal wall is stainless steel)**

**Before:** White layer of scale adherent (on the bottom and on the door) was difficult to remove; anti-scale product was required.

**After:** The white powder on these surfaces is easy to remove with a wet sponge (no special cleaning product).

#### **Chrome faucet**

**Before:** Scraping scales with a knife onto the spray heads was necessary because the outlet holes of the spray heads were stuck by scales.

**After:** If scale builds up on these elements, it can be easily removed without an anti-scale product.



## Filter holder of faucets and filters (kitchen and bathroom)

**Before:** Limestone was strongly stuck on the circumference of the rings and also visible in the plastic filters (inner side). To remove the scale by soaking in vinegar is necessary. The outlet holes in the spray head (kitchen) were frequently blocked by hard-to-remove scale deposits.

**After:** No deposit was found inside the filters or on the outside rings. The water comes out of the shower head without any obstacle, and no new deposit accumulates in the holes of the spray head.

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## Worktops (granite surfaces)

**Before:** Accumulation of a layer of scale left by the water around the tap; After drying the surface appeared dull and dirty. No anti-limestone (acid) product should be used on this mineral surface. Natural stone care products are only effective on a scale-free surface. Scraping of the stone surface with a metal spatula after using the steam cleaner at the maximum pressure.

**After:** The cleaned and treated surface regains the original shine and brightness; Its maintenance is no longer a problem: the limestone powder is easily removed with a damp cloth. The stone care product is used from time to time with better efficiency.

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## Washbasins (bathroom)

**Before:** "Rust" fast and sticky. The deposits could only be removed with an abrasive sponge + degreasing detergent and sometimes an anti-scale product.

**After:** The deposits are easy to remove with a damp cloth. The use of soap only serves to ensure the hygiene of the surfaces.

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## Drain pipes for washbasins

**Before:** A cylindrical brush (white synthetic threads) was pushed in rotation and under running water to the bottom of the collector, was charged with a black sludge deposit when removed from the pipe (weekly cleaning). It is still a proof of this surface bonding power that characterized "hard enough" water.

**After:** When the brush is removed, the threads return to a state of whiteness almost without black deposits.

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## Toilet (Ceramic)

**Before:** Even after using the w.c. brush, the "traces of marks" had a tendency to clog especially to the bottom of the bowl. "Hygo WC maximum power gel" cleaning products were necessary to ensure proper hygiene.

**After:** These spots are now easy to "erase." Even if it is necessary to use cleaning products for reasons of hygiene or for routine maintenance, it still saves the use.

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## Fittings

**Before:** The deposits of scale were less around these elements because they were less accentuated on the ceramic than on the granite. An anti-lime product helps to eliminate scales around the linings (easy knife scraping).

**After:** Wet wiping is already sufficient, even without anti-scale product.

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## Shower heads

**Before:** The water outlets were often blocked by scale deposits.

**After:** There are no more obstructions and the water flows smoothly.

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## Shower cabin (glass)

We have not noticed a great difference between before and after at the level of the glass walls: glass is the material on which the scale attaches the least, especially since they are vertical walls on which water flows easily. Another co-owner found that the stains on the glass walls were easier to remove than before.

## Shower enclosure frame (aluminum)

**Before:** It was necessary to scrape the deposits of scale accumulated at the junction of the shower tray with the knife, an anti-lime product (acid) can not be in contact with this metal.  
**After:** The deposits are removed with ease.

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## Evaporation of water in a saucer and a glass

**A) Glass saucer with flat bottom.** **Before:** The scale clogged strongly to the bottom and vinegar was necessary to remove it. **After:** Scale still clings to the bottom, but can be removed only by rubbing, if necessary with a plastic spatula, but without using vinegar.

**B) Water glass.** **Before:** The scale was formed on the wall of the glass, difficult to remove (vinegar necessary). **After:** The limescale spot is less broad and less compact, but it is still difficult to remove without vinegar.

These scenarios are not the same as water flowing along a vertical glass wall and leaving few traces (walls of the shower cabin).

## **Conclusions**

After Vulcan was installed for 1 week, in general, we quickly noticed a marked decrease of adhesive forces of the water on most surfaces in contact with water over a prolonged period. The comfort provided by this limestone converter is very appreciable compared to the previous situation.

Our wish was to find a solution to the problem, not by totally eliminating the scale, but by finding a way to convert its physical structure so that it can improve the cleaning effort and protect the devices without the addition of chemical substances.

This device is an excellent compromise for solving the problems in our building caused by the hard water.

Maintenance is simple because no maintenance is required after the unit is installed. There is no dependence on products to be added and which must be managed throughout the year. The composition of the water remains unchanged, which is a strong positive point for health.

Another advantage of this system, and not the least, is its excellent efficiency / price ratio; There will be no additional charges thereafter and its consumption of electricity is insignificant. It is more appreciable while the loads of the building always tend to increase.

We have no particular interest (financial or otherwise) in promoting this system and we also needed evidence of its effectiveness, which we have received from these tests.

We firmly believe that this is the most advantageous system and strongly wish to keep it.

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## **Observations after Vulcan disconnected**

15 days were needed to make the first observations:

- Aspect of the water: the water appears heavy and oily again.
- Water has become aggressive on the skin (shower).
- The scale sticks again on the kitchen tap fittings.
- The scale is deposited again on the granite and it is difficult to remove.
- The scale is deposited back to the bottom of the kettle and can not be removed with a hand or a damp cloth.
- The internal surface and the dishwasher tank are again covered with scale.
- The clogging of bathroom sinks has begun to occur again (the scale adheres to the ceramic).

After 4 years of building pipe expansion, it took only one week to make initial observations of the efficiency of the VULCAN descaler.

But the time to reappear of scale deposits or water effects on the skin after the system was shut down was twice as long.

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*Observation report made by Jean-François and Michaela Burkhalter, co-owners of Building B.*