

Corrective Cleaning Method in Buildings

General Description

Corrective cleaning is applied when significant scaling has developed inside the vacuum pipe system and preventive measures are no longer sufficient.

The method combines mechanical (Sewer Jetting) and chemical cleaning (Descale products or equivalent). This combined approach enables removal of soft scaling during the initial jetting phase, softening of hard scaling through chemical treatment, and final removal of remaining deposits during the final jetting phase. Field experience shows that this combined method is the most effective approach for restoring pipe functionality.

Method

Scaling typically exists in three forms: soft scaling, medium (cookie-type) scaling, and hard (concrete-like) scaling.

The method is based on a sequence where sewer jetting first removes soft deposits, followed by chemical treatment to soften hard deposits, and finally a second sewer jetting step removes the remaining scaling. This sequence ensures maximum efficiency and minimizes chemical consumption. For sewer jetting, the pressure and nozzle type should be adjusted according to the pipe material. For Poloplast, POLO-KAL NG vacuum pipes, a recommended range is 120–160 bar using a rotating rear-jet nozzle.

A camera inspection of the pipe before and after the cleaning helps to see the health status of the system as well as evaluates and documents the cleaning results.

Table 1 describes the intervals of the method. Please notice that Intervals are general and need to be determined precisely for each building through camera inspection.

Table 1. General Maintenance Table for Corrective Cleaning in Multi-Story Buildings. Exact frequencies needed and amount of work hours are building specific.

	Camera Inspection to establish needed frequency of corrective cleaning	Corrective cleaning – step 2 & 4 (Sewer Jetting)	Corrective cleaning – step 3 (descale plus dosing)
Inspection frequency Horizontal pipes incl. transport pockets	Every 12 months	Based on observation - Corrective cleaning typically needed every 3-5 years. Note: Preventive maintenance decreases need for corrective cleaning.	
Inspection frequency Vertical pipes	Every 24 months		
Equipment needed	Sewer camera (for pipes diameters down to 50mm).	Portable sewer jetter.	Jets® Descale Interface Unit.
Time Required	0.5–1 hour per 20 m of pipe. Approx. 1 day(s) for a building with 5,000–15,000 m ² GFA (Gross Floor Area)	0.5–1.5 hours per 20 m of pipe. Approx. 2 day(s) for a building with 5,000–15,000 m ² GFA (Gross Floor Area)	2-6 hours preparation. Cleaning cycle runs 2–6 hours. Approx. 1 day(s) for a building with 5,000– 15,000 m ² GFA (Gross Floor Area)
Requires vacuum system shutdown?	YES (section piping system in building to minimize vacuum down time)	YES (section piping system in building to minimize vacuum down time)	NO
Total intervention for one multi- story building	Approx. 3-5 working days depending on system size, accessibility, and scaling severity		

Removal of Soft Scaling

Step 1 – Camera Inspection (before cleaning)

Purpose: Assess pipe condition and determine the need for corrective cleaning.

Procedure:

- Before inspection. Open the main shut off valve and remove liquid from the vacuum system by opening service point/valve to flush the system.
- Close main shut off valve and start inspection from service point.



Figure 1. Illustration of Camera Inspection.

Step 2 – Removal of Soft Scaling with Sewer Jetting

Purpose: Remove soft scaling and expose any hard scaling for further chemical treatment.

Procedure:

- Before flushing, the vacuum valve may be opened briefly to remove excess liquid from the flushing sequence.
- Open the service point and begin flushing in the downstream direction. Flushing in the upstream direction is also possible when downstream access is unavailable.



Figure 2. Illustration of removal of soft scaling using a portable sewer jetter.

Step 3 – Camera Inspection (evaluate the cleaning of soft scaling)

Purpose: Evaluate the effectiveness of the initial sewer jetting.

Procedure: Following the initial jetting, a camera inspection can be conducted to assess the condition of the pipes. The inspection determines whether the cleaning has been sufficient or if further treatment is required. Follow the procedure described in Step 1.

Notes:

- If the pipes are clean, the procedure can be terminated
- If scaling remains, proceed to Removal of Hard Scaling

Removal of Hard Scaling

Step 4 – Soften Hard Scaling (Chemical Method)

Purpose: Soften and weaken hard scaling deposits.

Procedure:

- Install descale agent interface equipment with automatic dosing (0.5l/flush) and flushing functions to service point.
- Based on findings, adjust dosing to 5-10L of Jets® Descale Plus during 0,5-1h. Dose during minimum flush activity in vacuum system (night time or weekend). Longer duration time of Descale plus in pipes ensures greater cleaning effect.

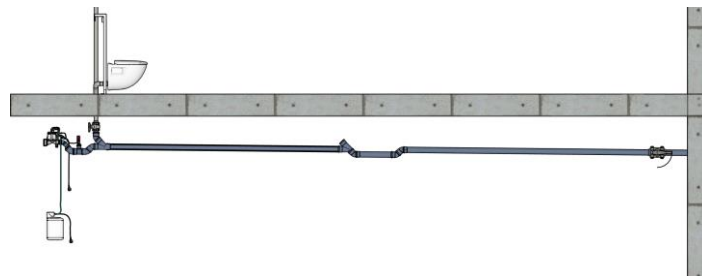


Figure 3. Illustration of soften hard scaling using a descale interface unit.

Notes:

- This method is normally effective up to 20m of pipe
- Effectiveness depends on transport distance, pipe wetting, and contact time
- High system activity reduces effectiveness
- Multiple dosing points may be required for longer pipe sections

Step 5 – Removal of softened scaling (Sewer Jetting)

Purpose: Remove chemically softened scaling and restore pipe capacity.

Procedure: After chemical treatment, sewer jetting is repeated using high-pressure equipment. The operation focuses on the sections that were chemically treated. The softened scaling is removed more efficiently during this stage, resulting in improved cleaning performance and restoration of pipe diameter. Follow the procedure described in Step 2.

Step 6 – Camera Inspection (evaluate the cleaning of hard scaling)

Purpose: Verify cleaning results and confirm system condition.

Procedure: A final camera inspection is performed to confirm that scaling has been removed and that the pipe system is in acceptable condition. The inspection ensures that no critical deposits remain and that the cleaning objectives have been achieved. Follow the procedure described in Step 1.

Notes:

- Document inspection results for maintenance records.
- If scaling remains, repeat chemical and jetting steps as required (Steps 4-6).