Roca Urinal Odour Problems

This report documents an investigation into persistent odour issues associated with a Roca siphonic urinal installation. The initial focus on identifying and addressing odour sources expanded to uncover maintenance and operational factors contributing to the problem.

Urinal Mat Installation

- Displays a purple "Ultimate 2.0 Eco-Mat" incorrectly placed over the kee-seal waste trap in a Roca siphonic urinal.
- A urinal mat is not compliant with Roca's operational guidelines by disrupting the engineered water flow essential for siphonic flushing.
- The textured mat surface interferes with laminar water flow, preventing effective vacuum formation and efficient flushing.
- Accumulates debris, hair, and organic matter, exacerbating blockages and microbial growth.

Struvite Accumulation in Trap Assembly

- Illustrates extensive white-to-yellow crystalline buildup (struvite—magnesium ammonium phosphate) within the kee-seal waste trap.
- This represents prolonged buildups, where calcium and protein in urine have reacted, forming mineral-like deposits.
- Critical siphon jet openings are clogged, obstructing the 4.2 m/s water velocity required for siphonic action.
- The brown discolouration signifies bacterial biofilm formation within the mineral matrix, increasing persistent odours and microbial hazards.

Trap Component Failure

- Catastrophic mineralisation fully covers the trap assembly, rendering internal pathways completely obstructed.
- Deposits appear densely layered, signalling long-term buildup and neglect beyond the scope of standard cleaning.

Compromised Bowl Seating Area

- Displays severe staining and mineral deposits around the trap interface following component removal.
- Clearly shows compromised sealing surfaces from sustained leakage caused by struvite buildup.
- Visible discolouration suggests chronic leakage, enabling sewer gases to migrate upward through the compromised seal, exacerbating odour problems.
- Indicates the loss of the 75 mm water seal depth necessary for odour and gas containment, significantly impacting hygienic conditions.

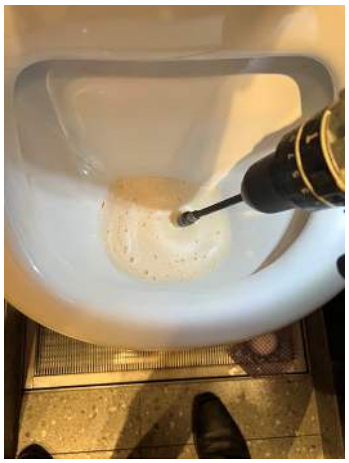
Advanced Struvite Accumulation in Bowl Interior

- Significant mineral buildup extends from the trap to the visible ceramic surfaces inside the bowl.
- Indicates prolonged accumulation allowing struvite to concentrate and crystallise.
- Specialised enzymatic products and prolonged treatment durations are mandatory to dissolve crystalline structures fully.

Persistent Mineralisation Despite Initial Treatment

- Shows the urinal bowl after initial cleaning attempts, indicating the continued presence of resistant struvite deposits.
- Highlights the inadequacy of standard cleaning agents and methods, reinforcing the necessity for professional-grade descaling solutions.
- Suggests the requirement for multiple intensive chemical treatments, potentially involving prolonged contact times (6-12 hours) for effective struvite removal.

Professional Descaling Application in Progress



- Depicts active remediation with specialised foam-based enzymatic cleaner visibly applied, ensuring prolonged contact and vertical surface adherence.
- A power drill suggests mechanical agitation for breaking down hardened deposits, highlighting severity and neglect.
- Demonstrates a dual approach (chemical and mechanical) essential for successfully treating highly mineralised ceramic surfaces.

Successful System Restoration

- It clearly shows the complete restoration of urinal functionality with clean ceramic surfaces and properly seated trap components.
- Confirms restoring a correct 75 mm water seal depth, ensuring effective odour control.
- Indicates that extensive component replacements and thorough professional cleaning protocols have successfully restored operational integrity and hygiene.

Precision Cleaning of Critical Components

- Highlights meticulous manual cleaning of internal urinal surfaces utilising specialised enzymatic cleaning foam.
- It ensures the complete removal of residual struvite and biofilm from complex, hard-to-access flow pathways, which is essential to prevent immediate recurrence.
- Demonstrates a thorough and precise approach critical for achieving reliable long-term functionality and maintaining siphonic efficiency.

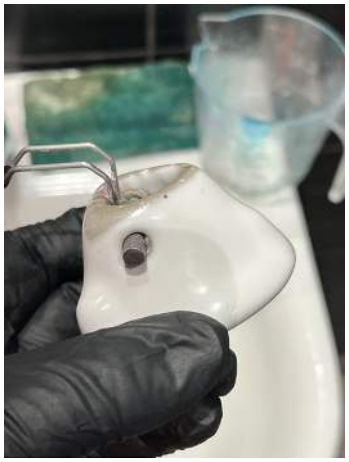
Component Treatment and Preparation

- Reveals an internal urinal fitting undergoing an intensive cleaning regimen, with visibly applied chemical agents designed to penetrate deeply into hardened mineral deposits.
- Highlights a staged cleaning process involving initial enzymatic applications, mechanical scrubbing, secondary descaling, and final sanitisation.
- Suggests prolonged neglect and emphasises the severity of contamination, mandating rigorous and systematic treatment procedures.

Complete System Restoration Success

- It depicts a fully rehabilitated urinal with pristine ceramic surfaces and an evident, functional water seal.
- It shows the purple urinal mat correctly positioned adjacent to but outside the urinal bowl, reflecting an implemented user education and accessory placement correction strategy.
- It confirms that professional-level restoration and preventative maintenance protocols have been effectively established, substantially reducing the likelihood of recurrence.

Individual Component Assessment and Handling



- Exhibits a technician in protective gloves closely examining a severely encrusted kee-seal waste trap component after removal.
- Demonstrates the magnitude and density of struvite mineralisation, confirming prolonged system neglect and ineffective previous maintenance.
- Suggests that simple in-situ treatment was impossible, necessitating detailed, intensive individual component cleaning or outright replacement.

Intensive Chemical Treatment Application

- Captures active descaling treatments applied to heavily mineralised trap components, showing chemical reactions and mechanical agitation.
- Highlights meticulous application of professional-grade enzymatic solutions designed explicitly for dissolving dense, crystalline deposits over extended durations.
- Reinforces the difficulty in restoring severely mineralised components, stressing careful chemical selection and application protocols.

Final Component Cleaning Verification

- Presents continued rigorous treatment of heavily mineralised components from various angles, verifying extensive mineralisation persistence even during active cleaning.
- Suggests that despite intensive restoration efforts, some discolouration or damage may remain permanent, emphasising the cost-benefit of early intervention versus extreme remediation.
- Validates the necessity of component replacements over exhaustive restoration when deposits reach severe mineralised conditions.