

Review of “Application of Dry Urinals”

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There are several parameters of the research and Application Of Dry Urinals Report (Report) that are not applicable to Zero Water Consumption (ZWC) urinals in California. Although the Report offers some useful findings, readers should be very cautious in applying this data in any decision making process for the following reasons:

1. The two predominate makes of ZWC urinals sold in California are Waterless and Falcon. Neither of these makes are part of the research and report. The research does include some makes using “traps with floating sealing liquid”, the method employed by both Falcon and Waterless. It is uncertain if the ZWC urinals in the test are representative of Falcon and Waterless, though some tested models may be custom branded twins. The research results may not be indicative of predominate makes and models of ZWC urinals sold and installed in California.
2. The reported research methods purposefully did not maintain the ZWC urinals according to manufacturers’ instructions. It is unfair to judge these research results unless the researcher provides adequate evidence that such improper maintenance is typical of installation sites. No evidence was provided in the report of such lack of maintenance being typical for ZWC urinals.
3. Many of the ZWC included in the research use a mechanical trap. Mechanical traps are not allowed in California plumbing codes.
4. The Report does not reveal different test results differentiating between the different makes and models. It is uncertain if mechanical trap ZWC urinals offer different results compared to floating liquid trap ZWC urinals, as used in California.
5. The research results showed a build-up of sludge and crystals in the drain line, but the test used only 1% slope for the drain line. The USA plumbing codes require a minimum 2% slope in all drain lines. The test criteria used only half the required slope designed by US plumbing codes. It is unknown what difference this may have in test results.
6. The greatest flaw of this Report is the test results offer no comparison to more common flushing urinals. This lack of a benchmark of typical standard equipment puts the purpose and usefulness of this Report in the category of “questionable”. If water-using urinals were part of the research, the Report does not reveal such data. The author states “by our measurements”, but the Report never reveals the measurements. It is well known that water-using urinal drain lines also can develop sludge and crystalline build-up.
7. Cleaning out urinal drain lines is one of the most despised tasks of building maintenance staff and plumbers, and this task has been required long before the introduction of ZWC urinals. There is no evidence to support the build-up is any way unique to ZWC urinals. The lack of a comparison between ZWC urinals and water-using urinals suggest the research and/or Report is incomplete. The Report’s

lack of including any statement to inform readers of common sludge build-up occurring also in water using urinals produces misleading information.

8. The Report states automatic flushing urinals use 1.5 to 2 liters per flush. This is much lower than the probable average usage in California. The EPA sets a standard of 1.0 GPF (3.78 liters) flush for new urinals, and older urinals often flush at volumes greater than 1.5 GPF (5.67 liters). While the author's opinion might be accurate for European countries, it is probably not accurate for California.

The Report provides incomplete information, and is misleading. The Report infers Dry Urinals cause more trap-way obstruction problems than water using urinals, but the research does not provide adequate evidence. This report can easily be misinterpreted to infer ZWC urinals cause sludge build-up issues that are not problematic with water urinals. Improper maintenance may be the cause of problems associated with ZWC urinals, but the report does not adequately support this theory or provide any evidence.

If the purpose of this Report is to show: a) the perils of improper maintenance of these urinals and, b) the need for 2% or greater drain line slope; the Report does not adequately state this thesis. This renders the Report extremely misleading to the typical reader of our Council Website documents.