



RATING REAL VALUE

At last the lowly toilet is getting the respect it deserves, or is it? While interest in the consumer market has fostered niche markets for high-end plumbing products, it wasn't until the early 1990s that investment in technological innovation and new operating systems for

toilets really hit the market. Of particular interest however, is the effect that mandatory consumption regulations have had on the industry.

While there were some initial problems with ultra low flush (ULF) toilets, product design has improved greatly since the early days and performance is now at or beyond the levels known prior to 1995. However, not everyone agrees on this point. The sentiment was/is that "two-flush" toilets are not really reducing consumption and continue to be plagued by performance problems. The byproduct of this perception is an interest in establishing some objective means of rating the true performance of the various toilet models currently available.

As a result, Veritec Consulting Inc. was retained to conduct independent testing as part of a joint testing program undertaken by Canada Mortgage and Housing Corporation (CMHC), the City of Toronto, the Canadian Water and Wastewater Association (CWWA) and the Regions of Durham, Halton and Waterloo. In the U.S., the National Association of Home Builders (NAHB) has conducted independent testing for the City of Seattle Public Utilities Division and the East Bay Municipal Utility District (San Francisco Bay area). *Consumer Reports Magazine* has also conducted several testing campaigns, publishing results in both Canada and the U.S. (the most recent in October 2002).

After reviewing those test reports and others over the years and I wonder as we consider the performance of these various models, are we considering the true value of them as well? In trying to determine this, it was necessary to ask some questions of ULF toilet manufacturers.

WHO WAS INTERVIEWED:

- Matt Holmes (MH), vice-president of sales, Briggs Plumbing Products
- Fernando Fernandez (FF), senior engineering manager, Toto USA

WHAT WAS SAID:

Q Can the performance of a toilet be accurately compared as one might compare the features and benefits of consumer goods like cars, sunglasses or DVD players?

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MARKET INFLUENCES

The plumbing industry was for many years a manufacturing and distribution driven business. The past 30 years have seen a trend away from this to a more marketing and sales driven industry. There have been several catalysts driving this trend. One has been the blurring of the chain of traditional two-step wholesale distribution. Another has been the evolution (or revolution) of the consumer market. Yet another has been technological and design innovations driven by regulatory changes such as the Energy Policy Act of 1992 in the United States and similar regulations in jurisdictions across Canada.

Most mainstream companies responded to consumer demand with an ever-changing array of new colors and styles. They distribute CD-ROM catalogues, have web sites and advertise in popular trade and consumer magazines. For a few plumbing manufacturers, things have changed to the point of them having brand recognition as strong as chain restaurants or auto companies.

This is the result of:

- Competition which is particularly evidenced in the growth of the import market for fixtures and fittings. With limited access to the market through traditional two-step wholesale distribution, many of these companies helped to create the specialty plumbing showroom retailer.
- The emergence of big box stores as a meaningful point of distribution. Could our industry of the 1960s or 1970s have imagined how many toilets these retailers would sell in the year 2003?
- The effect of the internet as a means of consumer research. The desire of the consumer to make more informed choices is a business reality. Was there ever a time when a consumer would call up his local plumber for information on the range of toilets available? I was once told that the average person will either outright buy, or influence the purchase of three toilets in his/her lifetime.

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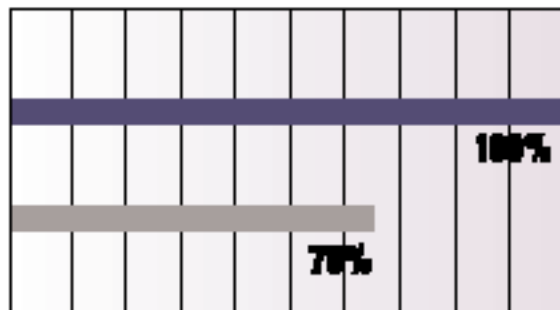
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MH: “Yes, this is regularly done. How much water, water surface area in the bowl, line carry, how many balls, sponges or rags it flushes etc. Some toilets will do better in one area and worse in others. If you judge performance on a couple isolated tests, the results will be misleading. You need to look at a variety of performance issues as you would with a car for example.”

FF: “Toilet performance is not easily translated into comparable features of typical consumer goods such as VCRs, DVDs, etc. These goods perform the primary job at hand but strictly rely on features to distinguish themselves. Toilets, however, not only rely on features but also performance to a large degree. Performance can be subjective to the consumer. What is good for one may not be the same for another.”

AUTHOR’S VIEW: The making and selling of a toilet bears little resemblance to

the making and selling of consumer goods like those listed. Take the cost/pricing matrix applied to a pair of fashion sunglasses. If you were to apply this to an average two-piece toilet that currently has a trade price of \$90.00, you would see that same toilet cost several times what it does now. Toilets may seem unevolved, but they are truly engineered products. The bottom line is that most toilets are a pretty good value all things considered.

Q If more objective information is necessary, should certification testing include criteria designed to be used as marketing data to assist contractors, homeowners and others wishing to make purchase decisions?

MH: “No. This is not their job. They are enforcing an industry standard. Does your product meet these criteria or not? They also charge the manufacturer to do the testing. If I pay, the information

should be mine and mine alone. Why should it be made public? However, certification testing is an industry issue. Industry standards need to be elevated. Just because 15 different toilets are CSA approved doesn’t mean they perform equally. The recent tests by *Consumer Reports Magazine* and others have attempted to raise the bar and help guide consumers to the best product. Bottom line, there should be a higher minimum. Let other independent labs reveal facts about performance that can be used for marketing. What would be nice is if everyone used the same criteria for testing.”

FF: “The concept seems to have good intentions. This has actually come up at CSA and ASME committee meetings before in regards to a classification system for water closets. However, the complexity of relating real world scenarios to

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simulations in a test lab to draw a uniform conclusion across the board for all to meet is a difficult task. There are various areas of importance to look at. Nonetheless, the risk of taking certain types of testing data to use in a purchasing decision has pros and cons. It may be helpful to carefully examine which aspects can be extracted to assist in such decisions.”

AUTHOR’S VIEW: If the testing is to offer objective data for comparative ratings, it must be done by parties with no vested interest in the outcome. Having said this, who would pay for this? In order to develop meaningful data, the testing agency must have specialist knowledge of toilets and their workings. CSA could be contracted to develop and administer a new test regime that meets these criteria. The funding mechanism for this could be built into the existing certification process and participation would not be mandatory.

Q *Should the industry support any move to establish a new test protocol such as the one put forth in the NAHB testing or should changes in testing be pursued within the existing framework of CSA, ASME and ANSI? If yes, could this or should this result in another level of approval with NAHB or some other non-traditional testing body in addition to the current requirements for CSA, ASME and ANSI certification?*

MH: “CSA and ANSI should raise standards but results should not be made public because this is paid for by the individual manufacturer. I wouldn’t mind seeing an independent lab test annually to reveal who is number one. The testing needs to cover a broad range of performance issues. They should test at least three units of each model. Each unit should be picked from different manufacturing lots. They absolutely cannot be handpicked units supplied by the manufacturer.

There should be discussion about the test and importance of performance in each. Each should be weighted for importance to determine best overall.”

FF: “This is currently the task at hand in both the U.S. and Canada. A new protocol is being established for the U.S. and the same topic will be given more attention in Canada in future committee meetings. The consensus is that this is intended to assist in weeding out problematic product in the field. Thus, such products would have to be redesigned or pulled out from the market. I think independent testing activity is something that will not go away. I do not feel that this will increase the amount of certification needed.”

AUTHOR’S VIEW: Don’t create a new bureaucracy, work within the existing framework.

Q *Do the reports currently being circulated contain information that accurately represents field performance? If yes, how should this information be disseminated? If not, what should be done to improve the process to strive for consistent and meaningful results?*

MH: “Much of the information is good but not perfect unless you tested the real thing. They need to search for [testing] media that better matches real life media passing through a toilet.”

FF: “I would say such data is comparable but not necessarily accurate. One may have a bowl that meets industry tests but does not perform too well in the field, thus not providing accuracy in correlation of the data.”

AUTHOR’S VIEW: No they don’t. In the summary of the Veritec report it states, “It is important to note that none of the testing materials used either by CSA or the independent testing accurately simulate the toilet’s ability to clear human waste.” Well then, what are we testing for? While each of the independent testers used at least some of the same media and methods employed by CSA or ANSI, there was little consistency in the new media they chose to introduce. Some of this new

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media included “o” shaped oat breakfast cereal, powdered drink crystals and sponges with steel rods glued inside them. As a fixture rep on service calls to consumers, I used to use crispy rice cereal and broken pieces of chocolate bars (a-la *Caddyshack*). The research should first focus on finding suitable standardized test media and then on the testing.

Q *Is some of the consumer attitude toward ULF products preconceived and did it initially result from a lack of real experience with ULF products? If yes, what can the industry do to overcome this situation? Will comparative testing of current ULF models help? Should there be comparative testing of vintage non-ULF products and current ULF products instead?*

MH: “Many consumers’ opinions are based on what was happening six years ago. Most gravity units are working pretty well today. Double flushing is not the norm. Keep in mind, 3.5 gallons per flush (gpf) toilets plugged too if you put

enough down them. In my opinion, 1.6 gpf units don’t equal 3.5 gpf performance but they work significantly better than the early versions of 1.6 gpf. I believe that only vacuum and pressure assist truly bring us back to 3.5 gpf plus performance. To overcome this, consumers simply need to be informed. The recent testing articles are a step in the right direction.”

FF: “Consumers are more educated. There are some that expect a 1.6 gpf to do everything that the 3.5 gpf used to do and more. This will not always be overcome, although the industry is addressing this by addressing performance requirements.”

AUTHOR’S VIEW: Consumers who leave their home of 30 years to move into a new home are going to compare their old 3.5 gpf toilet to their new 1.6 gpf unit. I used to get calls from consumers who would say that their new toilet wasn’t working right not because it didn’t flush well, but because “the tank wasn’t

totally full” or it “shut off so quickly.” Consumer perceptions of performance unquestionably skew their expectations. Only hands-on experience will change this.

Q *Field repairs can impact the long-term water conservation ability of ULF products and this is becoming an issue with water utilities and conservation officials. What can be done to insure that water savings can be maintained when ULF units are repaired with parts from the after-market or non-OEM parts?*

MH: “This is a hot issue, particularly with metro water districts who are giving 1.6 gpf toilets away to homeowners with higher flushing toilets. The water districts are hot about this and do their own testing to ensure units they are giving away cannot be modified to flush on higher volumes. If owners replace metered flappers with standard flappers,

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the toilet will flush more water. Overflow tubes need to be low so that if a tank is filled to the top of the tube, the maximum flush is 1.6 gpf. Some manufacturers provide high tubes. If the

AUTHOR'S VIEW: If it says 1.6 gpf it should be 1.6 gpf. After-market parts suppliers dominate the home repair retail outlets. As many of the new ULF systems have only been available for a few

market in the early 1990s, market forces have weeded out many of the weak "two-flush" toilets. What these tests can do is effectively demonstrate the need to continue to improve designs and to fund the development of new methods of testing that will provide consistent and meaningful results.

"They should test at least three units of each model. Each unit should be picked from different manufacturing lots. They absolutely cannot be handpicked units supplied by the manufacturer."

homeowner adjusts the water level up, you flush more water. It can be easily controlled."

FF: "For field repairs, the use of OEM parts is always recommended to maintain the warranty in many cases and maintain the product functioning as intended."

years there isn't a huge market for replacement parts yet. However, maybe retailers and aftermarket parts suppliers need to take some initiative and make metered flappers and other OEM repair parts available now.

In closing, the results of the testing discussed here cannot replace real world experience. Since the advent of the ULF

■ *Mark Evans is a 20-year veteran of the plumbing and heating industry, with sales and management experience in the wholesale distribution, rep agency and manufacturing sectors of the business. Reach him by e-mail at writemarkevans@hotmail.com.*

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