

THE 60-YEAR JOURNEY TO THE DEVELOPMENT OF AN AUSTRALIAN FLUSHABILITY STANDARD

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ABSTRACT

There is a considerable lack of education when it comes to our water and wastewater systems. Parents flush their children's goldfish down the toilet when they die. Tissues and paper towels are used as toilet paper substitutes. Really, toilets are the perfect disposal system for anyone who works outside of the industry: out of sight, out of mind.

For everyone who works within the industry, we know this is not true, and that this mindset has caused considerable and increasing grief in the past couple of decades. A combination of both ineducation and misleading advertising has resulted in wet wipes being a leading cause of blockages in global sewer systems. Urban Utilities, for example, removes 120 tonnes of wet-wipe-induced blockages in the sewer system per year, removed at a cost of \$1 million.

In order to counteract global backlash of emerging problems with wet wipes in the sewers, two large global associations representing wet-wipe manufacturers developed the first "flushability" test, the INDA EDANA Slosh Box Disintegration Test FG502.R1(18). However, this was met with scepticism that it could not be trusted to be an unbiased standard. Thus, the IWSFG (International Water Services Flushability Group) developed flushability guidelines agreed upon by 250 water organisations, from the perspective of protecting their assets, the community and the environment.

However, it was quickly proven that the two methods were at variance with each other when describing required disintegration propensity, with the manufacturers' method being significantly more "energetic" than the IWSFG method, resulting in greater disintegration. The question remained – how energetic are the sewers in reality? Is there a fair, representative method that can be developed to test flushability that anyone can replicate without using a live sewer?

Finally, the Australian Standard for Flushable Products was proposed in early 2019, with participants including representatives of manufacturers, water and wastewater utilities and

WSAA (Water Services Association Australia). A key part of the standard's development was the use of the largest replica sewer main located at Urban Utilities' Luggage Point Innovation Centre. The standard drew upon the current specifications within the INDA/EDANA and IWSFG tests and compared the results to UU's findings from the test sewer. The sewer conditions were replicated in a bench-top "slosh box", after experimenting with countless combinations of test parameters. The Australian Flushability Standard was finally released on Monday May 23, 2022, more than three years after its original inception.

In this study, I have explored the existing methods by INDA/EDANA and IWSFG and will compare and contrast all existing methods in this presentation. I also have detailed the trials, tribulations and interesting discoveries faced along the way, turning a one-month project into an 18-month project, to developing the Australian Standard.