

TRACK CHANGES

For many of us the notion of ‘tracking changes’ is largely associated with reviewing and amending digital computer files. But the process is also employed for development of our products covered under the WaterMark certification scheme. **Terry Nguyen** reports.

Plumbing products we see through distribution networks have not always been simply offered the WaterMark without having to first earn their place on shelves.

To reach the finish line that is WaterMark certification, products often need to clear hurdles often resulting in multiple re-iterations to get the product just right.

The largest cause for product changes during testing at the PROVE plumbing laboratory is with products that do not meet the critical design and performance requirements unique to Australian Standards.

Products that comply in numerous overseas markets will rarely meet the equivalent Australian Standard without some slight modifications. For example, a European in wall shower mixer with 12mm deep female threads does not meet the minimum 15mm required thread depth to meet conformity in Australia.

There are also voluntary changes that often occur during the testing process too, where manufacturers do not want to meet standards, but exceed them for stand out performance in a competitive market.

An isolation valve that requires less effort to operate effectively, or a flexible pull out spray tap with superior flow performance are both marketable advantages. Products arriving at the laboratory can sometimes go through R&D projects where a series of modified units are compared against each other to find the correct balance between performance and useability.

While there are numerous reasons why products go through changes before finalisation, the most important part of all of these changes is traceability.

Tracking and managing all of the changes that occur during the entire process is crucial to guarantee that the final product that ends up on the



shelves was the successful variant.

Consider a local Australian distributor looking to import an in wall shower mixer which is already approved in its current form for many international markets. Laboratory testing may reveal some important changes that would need to be made for the common design to meet some of Australia’s specific and unique requirements. Those changes need to be carefully tracked by the Australian distributor so that all interested parties are privy to important developments.

A standard process is not defined in the WaterMark scheme, so it is

up to the responsibility of all parties involved with the project to show due diligence. Information about any changes made to the initial design need to be communicated back to the manufacturer, who may then possibly need to further pass the update on to any OEM suppliers, or other third party providers.

Test laboratories such as PROVE keep product revision history within test reports to show and record any improvements with product development. Failed results from initial test samples are kept in the final report and serves as a reminder about any

positive learning outcomes to aid in future product design.

Updated technical specifications and drawings must be supplied to the WaterMark Conformity Assessment Body to keep the final representative design on file.

Often the assessors are given an application for a product that could go through several changes before the final design is given the stamp of approval. All changes throughout the testing process must be captured, so that a documented design freeze for the successful variant is noted on its WaterMark file.

This can be quite an arduous task for a single licence where only a few models are used to cover dozens of other similar products. Discipline and meticulous record keeping are critical, because ultimately the continued quality assurance of all the products listed under the WaterMark licence depend on this.

When all processes work seamlessly together the end result is a product that meets ongoing compliance for its WaterMark licence. A breakdown of communication can lead to products forgetting their important updates, and reverting back to their substandard origins.

Missing or incomplete records of the final design prevents auditors properly inspecting manufacturing facilities carrying out scheduled product surveillance activities. It also creates confusion when products sampled from the market unexpectedly fail a test with a lack of cause.

Undocumented changes to a product after it has received WaterMark certification does unfortunately occur in our industry.

If you have ever picked up a product and thought, "Wow... how on Earth did this ever get certified?" It is possible that the product in your hand has changed since when it was first

assessed. While there will always be deliberate product cost saving alterations by the opportunistic, there is also every chance that a product unintentionally transforms as a direct result from inadequate tracking of changes.

The Australian Building Codes Board updated the WaterMark certification scheme a few years back which includes independent retesting of products. In Australian laboratories the results of independent re-testing is already proving that the changes are working and taking an effect in ensuring products remain fit for purpose in our plumbing and drainage networks. ■

Terry Nguyen from PROVE Engineering is a key signatory for mechanical testing and measurement of plumbing, waterworks and solar hot water.



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