

ANSI/RESNET/ ICC 850-2020

Standard for the Calculation and Labeling of the Water Use Performance of One- and Two-Family Dwellings Using the Water Rating Index

American National Standard

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Approved March 23, 2020

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First Printing: June 2020

ISBN: 978-1-952468-00-1

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PRINTED IN THE USA

FORWARD (Informative)

This Standard provides a consistent, uniform methodology for evaluating, quantifying, and labeling the water use performance of one- and two-family dwellings. The methodology compares the water use performance of an actual home (rated home) with the water use performance of a reference home of the same geometry, resulting in a relative Water Use Rating called the Water Rating Index (WRI). Where the water use performance of the actual home and the reference home are equal, the Water Rating Index is 100.

The Reference Home used for this comparative analysis has the attributes of a standard home built circa 2006. The underpinnings of the indoor Reference Home model are based on ANSI/RESNET/ICC Standard 301-2014, Addendum A. The outdoor Reference Home model is adapted using data from the Water Research Foundation's *Residential End Uses of Water Study II*. Both the indoor and outdoor calculation models are grounded in actual field water use data. It is the opinion of the Standard Development Committee that alternatives not included in the calculation of the WRI did not have sufficient data to develop an equation (on par with the existing indoor and outdoor models) to confidently and accurately predict their water consumption.

One such element that did not make it into this Preliminary Draft Standard is the use of alternative water sources to displace potable water use. The committee considered this issue, and there was agreement that eventually this standard should account for the impact of alternative water sources, like graywater and harvested rainwater. However, the committee decided that, at this point, there was insufficient reliable data on how these alternative water systems impact water use under a variety of field conditions to develop a calculation to quantify their impact on a home's potable water use. Therefore, in order to maintain the technical rigor of the calculations in the rest of the standard, alternative water sources do not provide water use reductions in a rated home in this current draft. RESNET and ICC are interested in performance and usage data on alternative water sources and systems, and request such data to be submitted through the public comment process.

It should be noted that Section 6.2 does allow Water Rating providers to petition for adjustment to the WRI for a Rated Home with features or technologies not addressed by Approved Software Rating Tools or this Standard. This process for innovative design requests will allow for technologies or features not specifically covered in the standard to petition for credit.

A WRI rating includes water use for: toilets, kitchen faucets, lavatory faucets, showerheads, clothes washers, dishwashers, water softeners, outdoor/landscape irrigation systems and pools/spas. There are additional factors that also influence the rating, including: excess water pressure, house size, geographic location, number of bedrooms, lot and landscape size and hot water distribution layout. The following components are not included in the standard due to a lack of data: whole house humidifiers, water filtration systems and alternative water sources.

This Standard contains both normative and informative material. The body of the Standard is normative and must be complied with to conform to the Standard. Informative materials are not mandatory and are limited to this forward, footnotes, references and annexes, all of which are clearly marked as informative.

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