

## Summary of Revisions to the WaterSense® Specification for Showerheads

The U.S. Environmental Protection Agency (EPA) is announcing the release of Version 1.1 of its *WaterSense Specification for Showerheads*. The purpose of this document is to summarize the revisions made to the specification, share the reasoning behind the changes, and provide a timeline for compliance with the new requirements.

EPA considers the updates referenced in this document to be minor in nature. The updates are meant to provide clarification of the existing requirements and do not materially affect the performance or efficiency requirements for showerheads. Specifically, EPA intends to incorporate by reference relevant requirements of the American Society of Mechanical Engineers (ASME) A112.18.1/Canadian Standards Association (CSA) B125.1 *Plumbing Supply Fittings* standard, which has been updated by the ASME A112/CSA B125 Technical Committee on Plumbing Fittings to provide consistency with the *WaterSense Specification for Showerheads*.

These planned revisions do not affect the certification status of any existing WaterSense labeled showerheads. EPA anticipates that these revisions will increase the reach of the *WaterSense Specification for Showerheads* and will ensure that showerheads receiving the WaterSense label are certified, marked, and labeled consistently, in accordance with EPA's intent, and will continue to meet consumer expectations for efficiency and performance.

### I. Background

WaterSense released its initial *Specification for Showerheads* in March 2010. Since then, WaterSense has issued nine clarifications addressing the specification scope, maximum and minimum flow rate verification protocol, and marking requirements.<sup>1</sup>

In addition, EPA has worked with the ASME A112/CSA B125 Technical Committee on Plumbing Fittings to revise ASME A112.18.1/CSA B125.1 over the years to harmonize the spray force, spray coverage, minimum flow rate, and marking requirements with the *WaterSense Specification for Showerheads*. This cooperative relationship 1) engaged experts from the manufacturing, utility, and certification communities; and 2) worked through an existing public process established in the United States and Canada for developing standards and specifications for plumbing fittings. EPA sees this specification revision as the final phase of that harmonization effort. Within the updated specification for showerheads, EPA directly references ASME A112.18.1/CSA B125.1, where feasible, to align the testing and certification processes.

Additionally, since the specification was published, the market for showerheads has changed. Rain showers, previously a small part of the market and considered a luxury item, have gained popularity. In addition, manufacturers have begun to develop new models of rain showers, many of which are water-efficient. A rain shower is a type of showerhead that is installed on the ceiling or at the end of an extended arm, so it is located directly above a bather. Water falls vertically from a rain shower onto the bather, mimicking natural rainfall. The original spray force performance testing protocol developed in collaboration with the ASME A112/CSA B125 Technical Committee did not account for the rain shower product subtype. It was designed for

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<sup>1</sup> EPA. *Compendium of WaterSense Product Specification, Certification, and Labeling Clarifications*. June 29, 2017. [www.epa.gov/watersense/product-specifications#pane-4](http://www.epa.gov/watersense/product-specifications#pane-4)

more traditional fixed showerheads that have a dynamic spray and are mounted overhead, typically at a 45-degree angle to the bather. As a result, the existing requirements have limited the number of rain showers that have qualified for the WaterSense label to date.

Further, consumer choice has been inadvertently stifled. Some states, municipalities, and other entities have adopted WaterSense criteria into regulations and plumbing codes, requiring showerheads sold to carry the WaterSense label. In these locales, consumers may not be able to purchase rain showers. Given these challenges, EPA has determined that extending the WaterSense label to a larger showerhead product category would benefit consumers and further increase adoption of WaterSense labeled showerheads.

The remainder of this document summarizes the revisions made to the *WaterSense Specification for Showerheads* to harmonize requirements with the ASME A112.18.1/CSA B125.1 standard; ensure greater consistency of showerhead certification, marking, and labeling; and clarify the specification's applicability to rain showers.

## II. Summary of Specification Revisions

### **Section 1.0 Scope and Objective**

WaterSense has clarified that the specification applies to rain showers, even though rain showers were not explicitly excluded from the scope of the original specification. The definition of rain showers is included by reference to ASME A112.18.1/CSA B125.1. WaterSense has also removed the definitions of fixed showerheads and hand-held showers to avoid redundancy with the definitions incorporated by reference to ASME A112.18.1/CSA B125.1.

WaterSense has clarified that body sprays are not included in the *WaterSense Specification for Showerheads*. The popularity of body sprays has increased since the specification was originally published, making it useful for WaterSense to clarify within the specification itself that body sprays are not currently eligible for product labeling. As stated in Version 1.0 of the *WaterSense Specification for Showerheads Supporting Statement*, body sprays are excluded from this specification because their function and design are wholly different from that of a showerhead or hand-held shower.

### **Section 2.0 General Requirements**

WaterSense has removed language regarding requirements for multi-modal showerheads and alternative water use settings to avoid redundancy, as these requirements have been integrated within ASME A112.18.1/CSA B125.1 and are now incorporated by reference to that standard.

### **Section 3.0 Water Efficiency Criteria**

WaterSense has updated the specification to clarify that both maximum and minimum flow rates must be tested in accordance with the procedures in ASME A112.18.1/CSA B125.1.

In addition, as previously indicated in the *Compendium of WaterSense Product Specification, Certification, and Labeling Clarifications* (Reference IDs SH-1214-1 and SH-1214-2), WaterSense has updated the reference to the Code of Federal Regulations (CFR) for the flow rate testing verification protocol for showerheads. The flow rate verification protocol referenced in the *WaterSense Specification for Showerheads* (Version 1.0), [10 CFR 430, Subpart F, Appendix B, Step 6(b)], has been superseded by 10 CFR 429.29, and the methodology has changed. WaterSense has also incorporated modified instructions for applying the flow rate

verification protocol to the evaluation of the minimum flow rate. The instructions were previously outlined in clarification SH-1214-2 and are now included in Section 3.1.3.3 of the specification.

#### **Section 4.0 Spray Force Criteria**

Since the publication of the *WaterSense Specification for Showerheads*, WaterSense has worked closely with the ASME A112/CSA B125 Technical Committee to incorporate the WaterSense performance testing protocol and requirements for spray force and coverage and to harmonize the specification with the ASME A112.18.1/CSA B125.1 standard. With this version of the specification, WaterSense has updated this section to incorporate by reference the relevant procedures in ASME A112.18.1/CSA B125.1 related to spray force. WaterSense has also removed Appendix A, which outlined the test procedure for spray force, from the specification to reduce redundancy with the requirements that are now in the standard.

As WaterSense was working with the ASME A112/CSA B125 Technical Committee to adopt requirements of the WaterSense specification into the standard, there was consensus that the spray force testing protocol should be revised to accommodate rain showers. Under Version 1.0 of the specification, showerheads are required to be mounted at a 45-degree angle to the bather, such that the showerhead spray hits a force plate used to verify the showerhead with a spray force of 2 ounces-force (ozf). Rain showers are mounted directly above a bather, with the showerhead faceplate parallel to the floor. Because rain showers have minimal horizontal force, their spray cannot fully reach the force plate used to measure spray force and assess compliance with Version 1.0 of this specification. Due to this challenge, many rain showers were not able to meet the spray force requirement and earn the WaterSense label.

To account for rain showers' typical mounting configuration and ensure consistent and equivalent testing requirements to standard showerheads, WaterSense worked with the ASME A112/CSA B125 Technical Committee to update the spray force test protocol included in the ASME A112.18.1/CSA B125.1 standard. The new test protocol and performance criteria for rain showers are mathematically equivalent to the protocol and criteria used to test standard fixed showerheads under Version 1.0 of this specification. More information on the changes to the spray force test protocol and criteria can be found in WaterSense's [Explanation of Performance Testing Under the WaterSense Specification for Showerheads, Version 1.0](#). This update simply serves to equalize requirements for rain showers and standard showerheads and reflect their typical mounting configurations.

#### **Section 5.0 Spray Coverage Criteria**

WaterSense has updated this section to incorporate by reference the relevant procedures in ASME A112.18.1/CSA B125.1 related to spray coverage. WaterSense has also removed Appendix B, which outlined the test procedure for spray coverage, from the specification to reduce redundancy with the requirements that are now in the standard.

#### **Section 6.0 Marking**

WaterSense has removed the specific requirements for marking and packaging to avoid redundancy, as these requirements have been integrated within ASME A112.18.1/CSA B125.1 and are now incorporated by reference to that standard.

## **Section 9.0 Definitions**

WaterSense has eliminated extraneous definitions that are no longer referenced in the revised specification.

### **Appendix A: Spray Force Procedure and Appendix B: Spray Coverage Procedure**

As mentioned previously, the spray force and spray coverage performance testing protocols, originally provided in Appendices A and B of Version 1.0 of the specification, respectively, are now incorporated by reference to ASME A112.18.1/CSA B125.1. To reduce redundancy with the standard, WaterSense has removed the entirety of Appendices A and B from the revised specification.

This change does not affect the specification's original requirements or intent.

### **Appendix A: Informative Annex for WaterSense Labeling**

WaterSense has updated Appendix C from Version 1.0. With the removal of Appendices A and B, Appendix C is now Appendix A. WaterSense has also clarified that the requirements in Appendix A must be satisfied for products to be marked with the WaterSense label.

#### *Scope Clarifications*

WaterSense has added a scope clarification regarding the applicability of this specification to shower panels or shower towers. Shower panels are products that can include one or more showerheads in combination with one or more body sprays. WaterSense had previously issued a clarification indicating that these products may be certified to the *Specification for Showerheads* if the entire shower panel/tower meets the maximum flow rate requirement of this specification, and at least one operating mode meets all the requirements of this specification (Reference ID SH-1216-1 in the *Compendium of WaterSense Product Specification, Certification, and Labeling Clarifications*). WaterSense has now incorporated this clarification into the revised specification.

#### *WaterSense Partnership*

WaterSense has updated footnote 3 to clarify the requirements for private labeling. To mark a product with the WaterSense label, private labeling organizations must have a signed WaterSense partnership agreement with EPA. This is consistent with the *WaterSense Program Guidelines*.

#### *Conformity Assessment*

WaterSense has revised the language to indicate that products will be assessed for conformance to the specification by a licensed certifying body that has been accredited for this specification per the *WaterSense Product Certification System*. These minor editorial revisions are intended to align this section with the *WaterSense Product Certification System*.

#### *WaterSense Label Use*

WaterSense has added requirements for WaterSense label use to clarify marking guidelines for product packaging and online and printed specification sheets. This language is intended to align with requirements included in more recent WaterSense specifications and ensure consistent application of the *WaterSense Program Mark Guidelines* across product categories.

Further, WaterSense has incorporated requirements for product packaging that contains both a WaterSense labeled showerhead and non-labeled products. For these products, the packaging must clearly indicate which items within the package have earned the label. This language was added to the specification to ensure adherence to the applicable marking requirements within the *WaterSense Program Mark Guidelines*.

### **III. Timeline for Compliance With Version 1.1 of the Specification**

Version 1.1 of this specification is in effect as of July 26, 2018.