



WaterSense[®] Product Specifications and Certification

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What Is WaterSense?

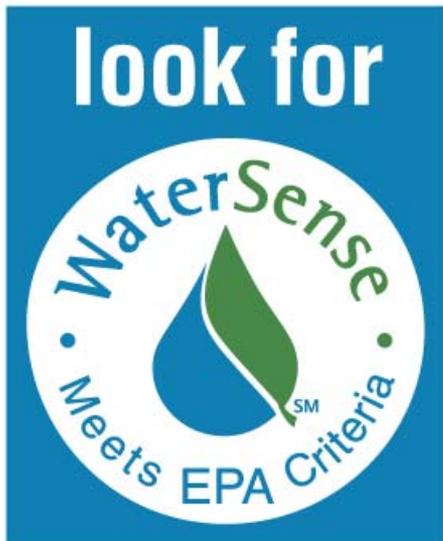
**A partnership program
sponsored by the U.S. EPA**

Promotes the value of water and helps Americans make smart decisions regarding water use and water-using products.

Aims to increase the adoption of water-efficient products and services by consumers and organizations.



WaterSense Specification Development



To earn the WaterSense label a product must:

- Be about 20 percent more water-efficient than conventional models
- Offer equivalent or superior performance
- Perform its intended function in its intended system

EPA relies on industry and other interested parties with experience in:

- Design
- Manufacture
- Installation
- Maintenance

EPA and its stakeholders

- Define important performance attributes
- Develop test methods to evaluate the attributes
- Establish performance and efficiency levels



WaterSense Specification Development Process

1. Technical analysis and market research

- How water-efficient products are differentiated from their standard counterparts
- Whether there are existing and widely accepted performance and efficiency standards/specifications
- Potential water and cost savings from nationwide adoption of the water-efficient product
- Environmental impacts
- Level of stakeholder support



WaterSense Specification Development Process

2. Notification of Intent (NOI) to develop a specification
 - Identify data gaps and research needs to stakeholders
 - Solicit input and request further data on outstanding technical issues
 - Begin working with stakeholders to define
 - Important performance attributes
 - Evaluation methods for those attributes (if none exist)
 - Correlation between performance and user satisfaction
 - Water efficiency and performance levels
 - Work may be done through consensus-based standards development groups or through less formal stakeholder groups



WaterSense Specification Development Process

3. Draft specification

- Issued when technical issues and information gaps are adequately addressed
- To the extent possible, based on existing standards and specifications
- Opportunity for formal public comment on specific product evaluation criteria and performance levels
 - 45 to 60 day comment period (written comments)
 - At least one public meeting for oral comments
- Released with a supporting statement
 - Provides rationale and justification for water efficiency and performance criteria
 - Indicates water savings potential
 - Describes cost-effectiveness for consumers



WaterSense Specification Development Process

4. Final specification

- Consider and resolve comments received on draft specification
 - Publish compilation of public comments
 - Publish public meeting presentation and summary
 - Publish response to public comments
 - Revise supporting statement to reflect changes
- Establish third-party infrastructure for certifying products to meet specification criteria for water-efficiency and performance



WaterSense Specification Development: Case Studies

Irrigation Controllers

■ Background

- In 2002, Smart Water Application Technology (SWAT), a consortium of industry and utility stakeholders, was formed and began drafting test protocols
- In 2005 WaterSense begins research on Irrigation Control Technology
- 2008 SWAT issues 8th version of protocol
- WaterSense intends to use this protocol in a draft specification for weather- or sensor-based irrigation control technology





WaterSense Specification Development: Case Studies

Irrigation Controllers

■ Status

- 2008 WaterSense works on preparing protocol for 3rd party certification
- 2009 Issued draft specification and received over 100 comments
- 2010 continue working to establish certification process for product
- Fall 2010 issue 2nd draft to resolve continuing issues
- Spring 2011 issue final specification



WaterSense Specification Development: Case Studies

Showerheads

■ Background

- WaterSense initiated research in 2006
- At same time ASME/CSA Joint Harmonization Task Force on Showerheads was forming
 - Manufacturers, water and energy utilities, testing laboratories, consultants, and water-efficiency/conservation specialists
- Began collaborating with the task force in 2007 to:
 - Define performance attributes of importance (undefined)
 - Develop evaluation methods for those attributes (none existed)
 - Consider system impacts and health and safety issues
 - Correlate performance attributes to user satisfaction
- Participation in this existing process rather than leading it has facilitated willingness to share proprietary research data





WaterSense Specification Development: Case Studies

Showerheads

■ Status

- September 2009 Issued draft specification and received less than 20 comments
- March 2010 issued Final Specification
- Specification contains two new performance test methods, one based on worked done in Australia
- ASME/CSA standard will match WaterSense specification
- May 2010 over 30 labeled showerheads



WaterSense Specification Development: Lessons Learned

■ Goals

- Consider issues of importance to a variety of stakeholders
- Develop technically sound and vetted water efficiency and performance criteria
- Ensure the process is open and transparent

■ Lessons learned

- Process needs to be made available to all stakeholders
 - Post information about the process on the WaterSense Web site
 - Publish supporting statements with draft specifications
 - Publish articles in major trade publications (e.g., Plumbing Engineer)
 - Discuss the process at technical conferences
- Use existing standards and test method development processes where available to save time and money
- Provide multiple opportunities for stakeholder involvement
 - Added the NOI step in the process



WaterSense Specification Development: Benefits

- **Benefits of specification development approach**
 - Fosters stakeholder leadership and vested interest in the program
 - Provides access to expertise and resources for research and development of test methods
 - Encourages industry collaboration and data sharing
 - Provides flexibility and saves time and resources by not reinventing what's already been developed and proven to work
 - Allows for better and faster problem solving
 - Allows for faster refinement of test methods thru round robin testing by numerous organizations.
 - Allows WaterSense to more quickly label emerging technologies if adequate performance and water efficiency protocols exist
 - Effectively transforms the market for water-efficient products



WaterSense Product Certification

- All products must be certified by an independent third-party certifying body
- EPA needed a mechanism to:
 - Establish and implement its specific certification requirements
 - Objectively assess capability and competence of certifying bodies
- WaterSense's product certification infrastructure relies on an established private sector process
 - Based on ISO/IEC Guide 65 *General requirements for bodies operating product certification systems*
- Third-party certifying bodies are accredited to these requirements by independent accreditation bodies



WaterSense Product Certification Infrastructure

■ Accreditation bodies

- Role:
 - Evaluate, accredit, and oversee certifying body capability and competence to certify products to ISO/IEC guide 65, the WaterSense certification system and product specifications
- Credentials:
 - Operate accreditation program in accordance with ISO/IEC 17011 *General requirements for accreditation bodies accrediting conformity assessment bodies*
 - Offer accreditation services to ISO/IEC Guide 65
 - Peer evaluated and signatory to the International Accreditation Forum Multi-lateral Agreement (IAF MLA)
 - Approved by EPA and signatory to an MOU



WaterSense Product Certification Infrastructure

■ Certifying Bodies

● Role:

- Evaluate manufacturer's production process, test product conformance, conduct ongoing market surveillance and product testing
- Authorize the use of the WaterSense label to manufacturers of certified products
- Maintain list of certified products

● Credentials:

- Operate product certification program in accordance with ISO/IEC Guide 65 and the WaterSense certification system
- Accredited by an EPA approved accreditation body for each WaterSense product specification
- Licensed by EPA to certify products for WaterSense



WaterSense Product Certification Infrastructure

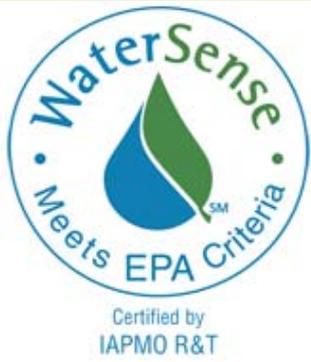
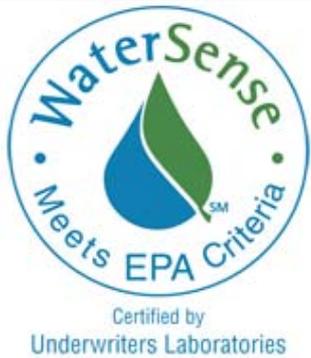
- Manufacturing Companies
 - Role:
 - Design compliant products and submit them for testing and certification
 - Abide by WaterSense logo and label use guidelines
 - Police label as appropriate in marketplace
 - Credentials:
 - Sign a WaterSense partnership agreement
 - Contract with an accredited certifying body for certification services



WaterSense Product Certification Infrastructure

- EPA
 - Develop WaterSense certification system requirements and product specifications
 - Sign licensing agreements with CB's and MOU with AB's
 - Police label in market place
 - Oversee process with NIST
- NIST
 - Provide additional oversight to accreditation and certification process.
 - Assist EPA in developing and revising certification requirements.

WaterSense Product Certification



- **Benefits**
 - Focuses EPA resources on marketing and specification development
 - EPA is in compliance with National Technology Transfer and Advancement Act (NTTAA)
 - More rigorous, which is good from a marketing perspective
 - Better policing of label and on-going surveillance of products
 - Faster product approval times
 - No limit on business relationships
 - Increases consistency in product testing
 - Instills confidence in WaterSense labeled products
 - Reduces barriers to global trade
- **A strong independent third-party certification process is the key to consumer confidence in WaterSense labeled products!**



Summary

- WaterSense has established an open and transparent specification development process
 - Work through consensus-based standards development groups where they exist (e.g., ASME, ASTM)
 - Reference consensus-based standards where they exist and adequately address performance
 - Adapt existing standards/specifications to fill gaps where necessary
- WaterSense relies on the internationally recognized process and ISO/IEC standards and guidelines to establish its third-party certification infrastructure
- The process works!
 - Released 4 final specifications
 - Labeled over 2400 models of toilets, urinals, showerhead and faucets
 - All products are certified by an independent third-party and continually assessed for conformance to WaterSense specifications



More Information



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