

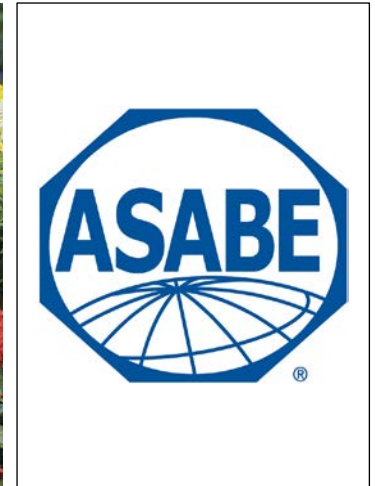
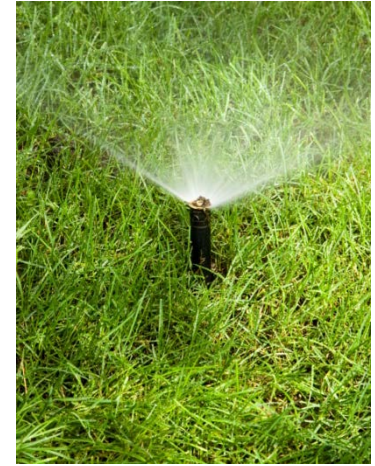
This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



Landscape Irrigation Sprinkler & Emitter Standard

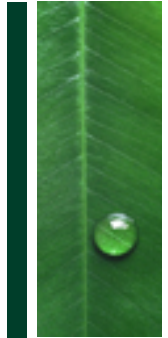
Overview of the Coming
ASABE/ICC Standard



WaterSmart Innovations Conference
Las Vegas, Nevada
October 3, 2013
T-1354, 3:40-4:10 PM

What we'll cover

- Project Background
- Overview of Standards
- Overview of Draft Standard
- What's Left?
- Getting Involved



Timothy Malooly CIC, CLIA, CID
Water in Motion, inc.

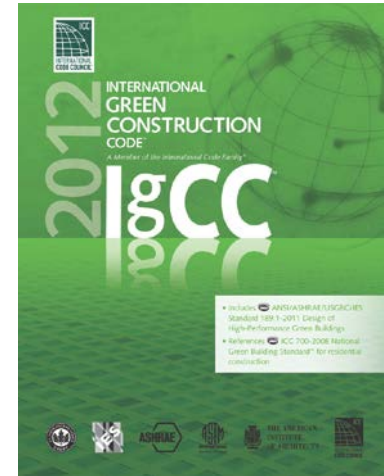
2008 EPA WaterSense® Partner of the Year

Chair, ASABE/ICC Irrigation and Emission
Devices Committee (IS-IEDC)



Project Background

- ICC initiated projects in May, 2010 to develop ANSI consensus product standards for landscape irrigation sprinklers and emitters.
- Done in response to several industry issues:
 - Need for standards for reference in new green codes & standards with sections relating specifically to irrigation.
 - Increasing involvement of code officials in the inspection of landscape irrigation systems in some parts of the country.
 - Lack of basic minimum product design and performance requirements.
 - Lack of uniformity among test methods for common performance factors.



Project Preparation

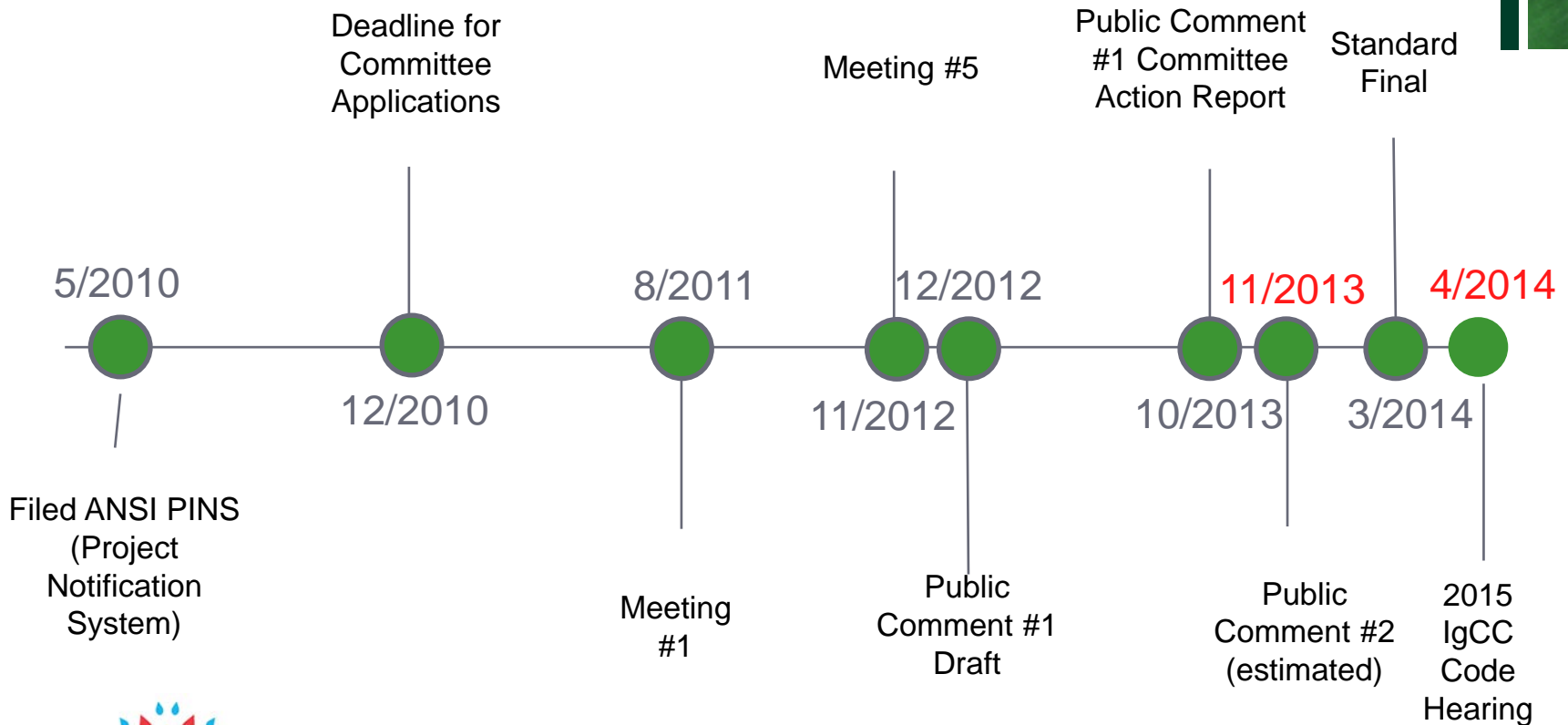


ICC Conducted a roundtable discussion on the projects with industry stakeholders at WSI 2010 and the 2010 Irrigation Show. Results included:

- Invited ASABE to partner on the standard. An excellent partnership that has helped to ensure consistency with existing standards and terminology.
- Decided to retain microirrigation in its own section within the document.
- Extended the application period for standard committee volunteers to ensure the widest possible participation pool.



Standard Development Timeline



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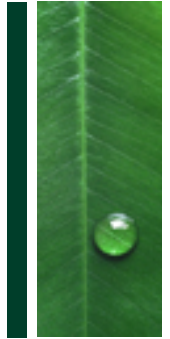


A Brief Overview of Standards

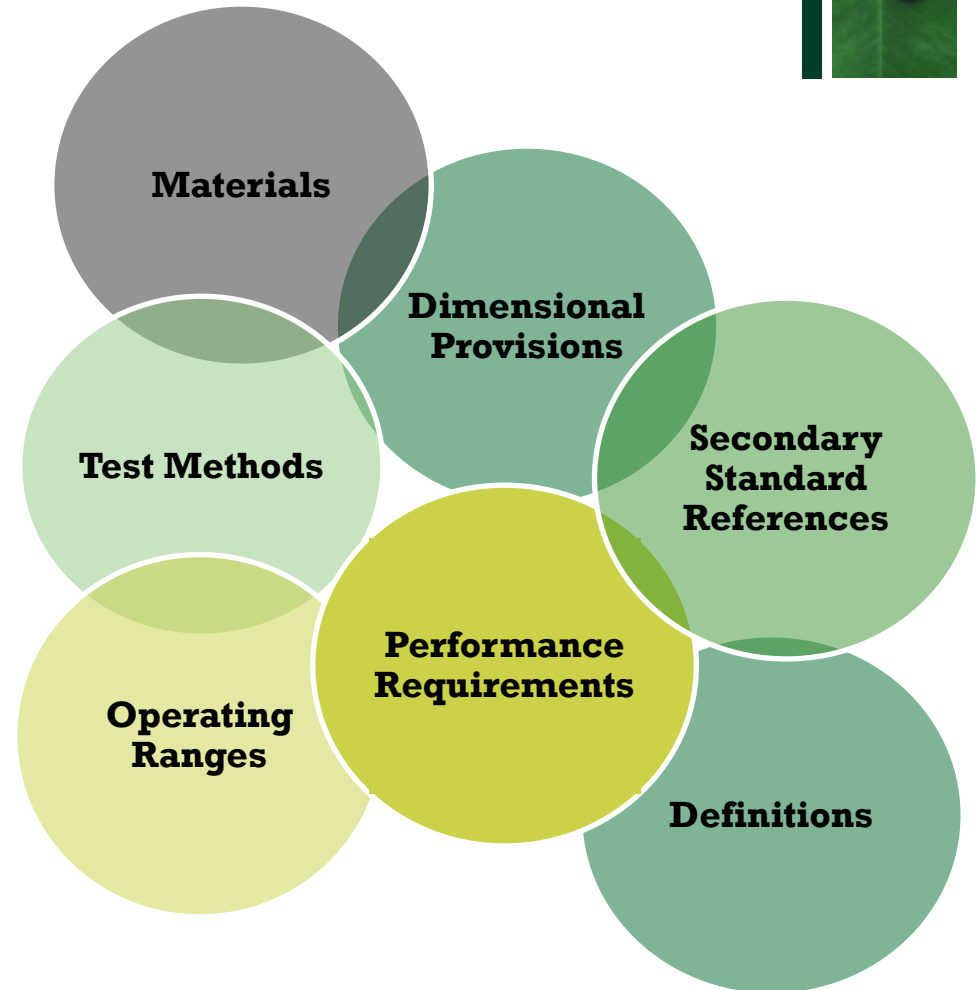


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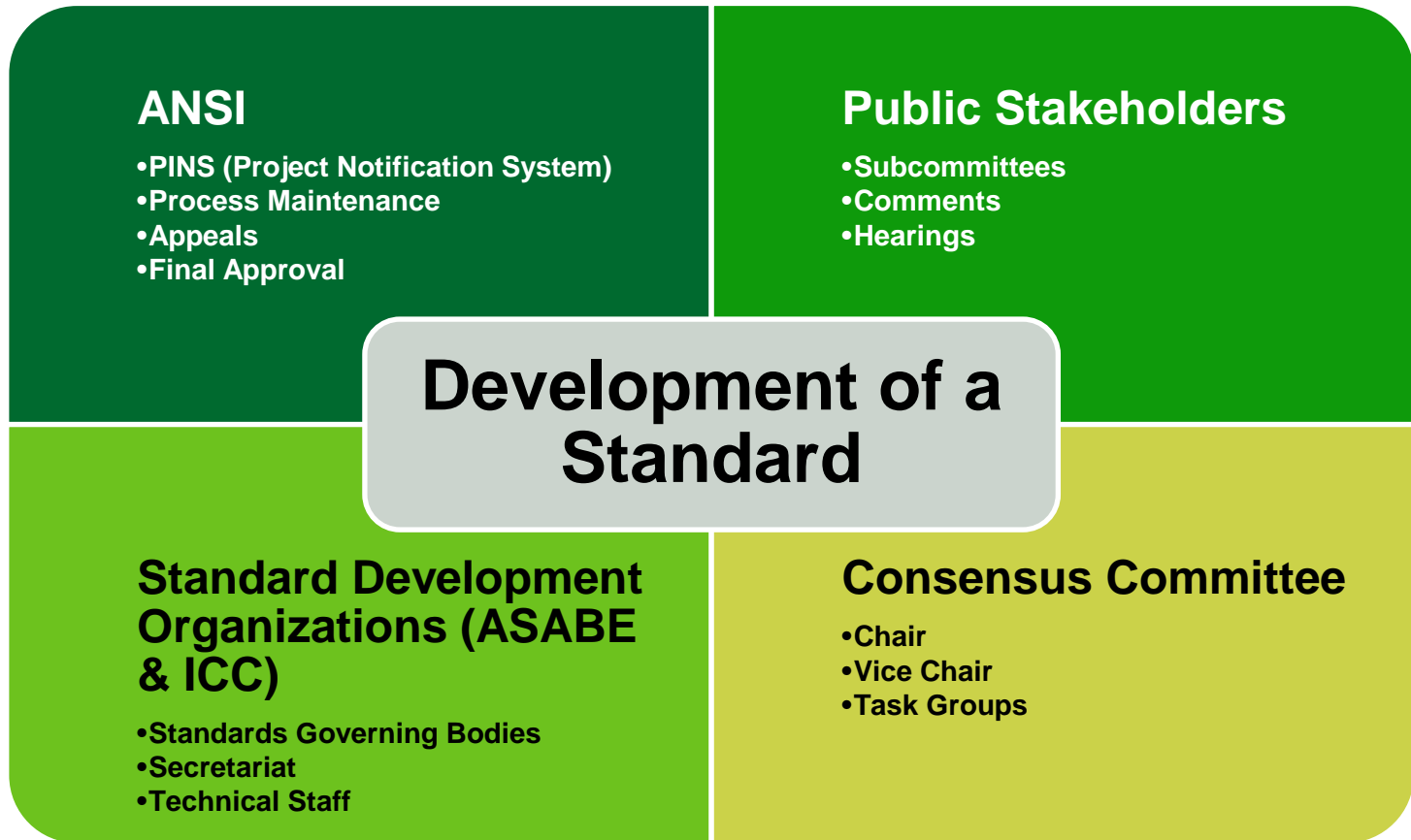
What's in a Product Standard?



- Provisions for the design, construction, performance and testing of products.
 - Must allow for innovation.
 - Emphasis on (minimum) performance provisions, not prescriptive design.
- Assure function of components within systems.
- Supports certification assessment (product testing and labeling)



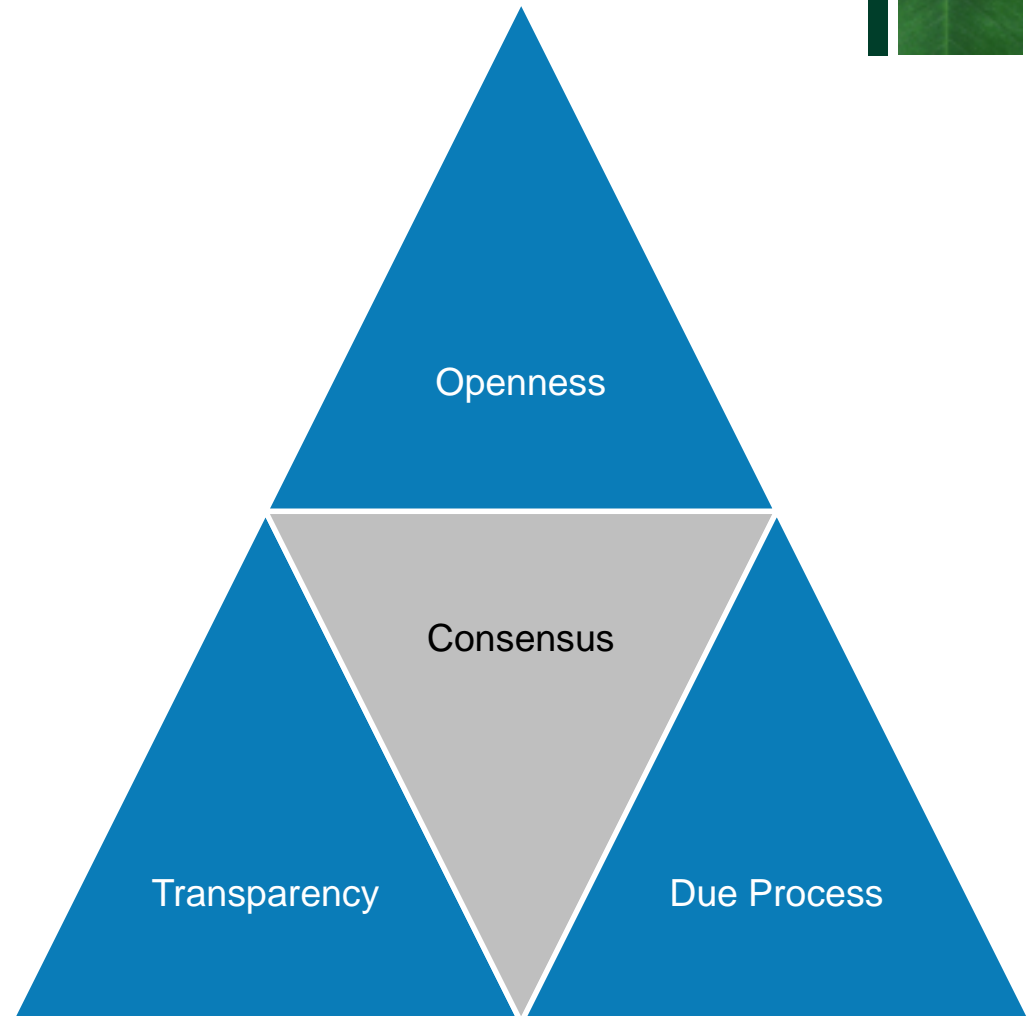
Who is involved?



ANSI Process - an Overview



- Openness
 - All stakeholders may participate; no single interest may dominate
 - Committee determines content (not ICC, ASABE or ANSI)
- Transparency
 - Nothing is hidden: Records, processes, deliberations are open and publicly available
- Due Process
 - Appeals mechanism
 - Process based on ANSI requirements.
- Consensus
 - Decisions require more than a majority but not unanimity; all viewpoints are considered



Consensus Committee Roster



Leadership

- Michael Dukes, PhD, University of Florida (Sprinkler Task Group Chair)
- Travis Tsunemori, ASABE (Admin, Packaging & Marking Task Group Chair)
- Brent Mecham, Irrigation Association (Vice Chair and Microirrigation Task Group Chair)
- Tim Malooly, Water in Motion, inc. (Chair)



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Other Represented Organizations

- Rain Bird Corporation
- Hunter Industries
- U.S. EPA WaterSense Program
- Tampa Bay Water
- Southern Nevada Water Authority
- Alliance for Water Efficiency
- City of Phoenix
- CA Department of Water Resources
- Iredell County, NC
- City of Carrollton, TX

Additional Participants Include



- Dow Chemical
- The Toro Company
- QAI Laboratory
- Underwriters Laboratories
- ASIC members
- PLANET
- Irrigation Mart
- Consultants, designers and other practitioners

All meetings are open to the public and an extensive Interested Parties List is updated (via email in addition to website updates) on all project developments.

Project website located at: www.iccsafe.org/is-iedc



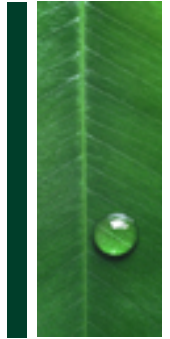


Overview of Draft ASABE/ICC Landscape Irrigation Sprinkler and Emitter Standard



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Applicability – What Devices are Included?



- Sprinklers and emitters designed for use within landscape irrigation systems.
 - Excludes exclusively agricultural sprinklers and emitters and valve-in-head devices.

- Sprinklers

- Sprays
- Rotors, including MSMT
- Bubblers



- Microirrigation

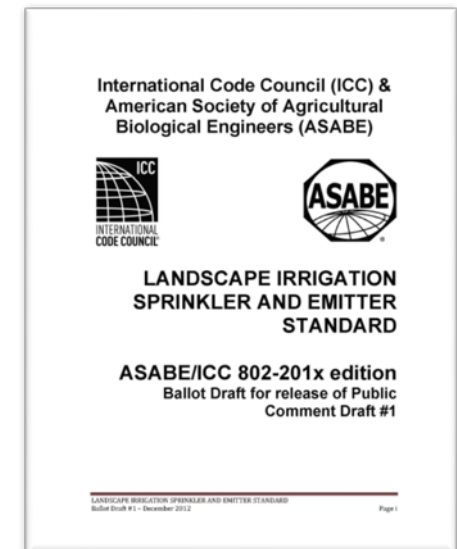
- Drip emitters (point source, drip line, multiple outlet)
- Microsprays



Public Comment Draft 1 Outline

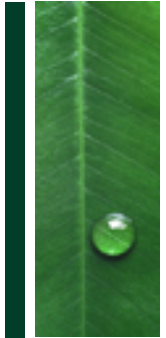


- **CHAPTER 1 ADMINISTRATIVE PROVISIONS**
- **CHAPTER 2 DEFINITIONS**
- **CHAPTER 3 REQUIREMENTS FOR SPRINKLERS AND BUBBLERS**
 - General
 - Materials
 - Sprinkler and Bubbler Design Requirements
 - Sprinkler and Bubbler Performance Requirements and Test Methods
 - Sprinkler and Bubbler Product Marking
- **CHAPTER 4 REQUIREMENTS FOR MICROIRRIGATION EMITTERS AND MICROSPRAYS**
 - General
 - Materials
 - Microirrigation Emission Device Design Requirements
 - Microirrigation Emission Device Performance Requirements and Test Methods
 - Microirrigation Emission Device Product Marking
- **CHAPTER 5 REFERENCED STANDARDS**



Minimum Requirements

- Ambient Air Temperature: -40 to 140°F (-40 to 60°C)
- Operating Air Temperature: 40 to 140°F (5 to 60 °C)
- Dynamic Water Temperature: 40 to 85°F (5 to 36.4 °C)
- Integral pressure regulation for sprays.
- Resistance to UV degradation and oxidation (without impacting performance)
- Provide specific information by some publicly available means.



Test Specifications



Sprinklers

- Flow rate
- Distance of throw
- Uniformity: Calculated using data from distance of throw.
- Hydrostatic burst pressure.
- Pressure regulation (mandated on sprays, optional elsewhere)
- Check valve head (if included)



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Microirrigation Devices

- Uniformity of flow rate
- Emitter flow rate as a function of pressure
- Deviation of mean flow rate from nominal flow rate
- Microspray distance of throw
- Emitter pull-out
- Water-tightness
- Emitter exponent
- Coefficient of variation
- Check valve head

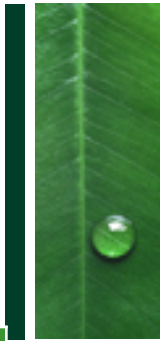
Sprinklers – Tests & Performance Requirements



	Sprays	Rotors	Bubblers
Flow Rate	X	X	X
Distance of Throw	X	X	
Uniformity (calculated)	X	X	
Burst Pressure	1.5xMax/150psi	1.5xMax/150psi	1.5xMax/150psi
<i>Check Valve* Head</i>	7' head	7' head	X
<i>Pressure Regulation*</i>	X (required)	X	X

* Check valve head, pressure regulation test only required when feature is present.

Microirrigation – Tests and Performance



	Point-Source	Line-Source
Uniformity of Flow rate	+/- 7% deviation of mean from nominal published	+/- 7% deviation of mean from nominal published
Flow rate as a Function of Pressure	+/- 7% published	+/- 7% published
Emitter Pullout	> 9 pounds	
Water-tightness	No Leakage	No Leakage
Emitter exponent*	< 0.2	< 0.2
Coefficient of Variation	< 7%	< 7%
Check valve head**	X	

*Emitter exponent only required for pressure-compensating emitters.

** Check valve head test only required when the feature is present.

Microsprays



	Test & Performance
Microspray Flow Rate	+/- 7% published flow rate
Uniformity of Flow Rate	+/- 7% published flow rate
Microspray Distance of Throw	X
Check Valve Function	X
Coefficient of Variation	<7%



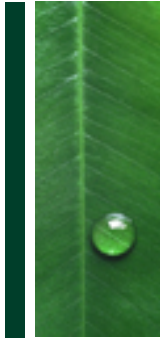
Marking and Labeling

- All information to be provided in some publicly available location.
- Specific list of information to be provided, test method (if applicable) and units for each device type.
- Manufacturer name
- Connector type and size
- Pop-up height
- Presence of an integral flow shut-off, check valve and/or pressure regulating feature
- Instructions for installation and servicing



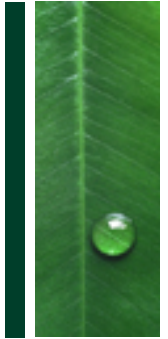
Benefits for Water Efficiency

- Integral pressure regulation required
- Consistent, more accurate test results
- Better information for designers and installers enabling better designs and product choices
- Sets the groundwork for additional standards and performance specifications
- Improves durability, reduces likelihood of leakage failures
- Provides a means for inspection, verification and quality control in the field



What's Left?

- Second Public Draft Review
 - Expected November, 2013
- Possible Third Public Review
- Consensus Committee Document Approval
- Submission to ANSI
 - Review of development procedures for compliance with formal process. No consideration of technical content
- Publication
 - Ready for inclusion in specifications/regulations/codes



Call to Action!

Now:

- Submit comments to Public Comment Draft #2 (estimated release November, 2013)
- Participate in Committee Calls and Meetings
- Visit project web page to learn more: www.iccsafe.org/is-iedc

Later:

- Submit code change proposal to incorporate the Standard into the 2015 IgCC - by January 6, 2014
- Reference or Incorporate the Standard into design guidelines, specifications, ordinances

For more information on ICC code process and to sign up to receive updates on the standard, visit ICC Booth 102 or contact Travis Tsunemori at ASABE.



Project Web Page: www.iccsafe.org/is-iedc



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