# IN THIS ISSUE

ASPE American Society of Plumbing Engineers™ BALTIMORE



## MEETING FORMAT

| | |
|---|---|
| 6:00 - 6:30 | Social |
| 6:30 - 6:45 | Announcements & Table Tops |
| 6:45 | Dinner Served |
| 7:00 - 8:00 | Presentation |

| | |
|---|---|
| DATE: | September 25, 2024 |
| TIME: | 6:00pm to 8:00pm |
| PLACE: | Olive Grove Restaurant |
| TOPIC: | Tankless Water Heaters |
| SPEAKER: | Navien |

Register Today

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*Local Chapters are not authorized to speak for the Society.*
*Newsletter questions? Please contact Nikita Patel*

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Tour: 5:00 – 6:00 PM
HH: 6:00 – 8:00 PM

## SEPTEMBER 18
## SAGAMORE SPIRIT DISTILLERY TOUR

Join us as we kick off the 2024-2025 ASPE season at the Sagamore Spirit Distillery in South Baltimore.

We will tour the water-front distillery, including a whiskey tasting, followed by a happy hour at the Nineteen O'Nine Bar on-site.

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Chuck Swope, PE, CPD, LEED AP BD+C
Chapter President

**Summer Greetings!**

**Big things are happening at the Baltimore ASPE chapter this year! I am proud to announce that this season is our 50th anniversary! I am also proud to serve as Chapter President for another season, alongside our esteemed board. As you may recall from our closing meeting last season, we appointed Nicole Murphy and Ray Plesnarski to serve as our VP of Membership and Administrative Secretary, respectively. Don't worry, your favorites are still on board and ready to serve.**

50 years is an amazing amount of time and I'm pleased to say that the chapter is older than I am (not many things are these days). This season will be all about celebrating what has made our chapter great and the things we have that will keep it that way. We've partnered with the Baltimore Chapter of ASHRAE and are offering sister topics for our November meeting. They will be presenting on the use of High-Pressure Atomization for Humidifcation and our chapter will present on the how to create the Reverse Osmosis/Deionized (RO/DI) water systems required.

I also recently had the opportunity to attend first meeting of this season's Capital Region Fire Sprinkler Association at the University of Maryland MFRI center. There I met Terin Hopkins and a surprise guest Ken Isman. You all may remember Ken as our February presenter for many years. My intent was to learn more about how our chapters can work together and found that our chapters have a lot in common. Terin and Ken showed me around the Standpipe Lab and new meeting ideas started to form right away! Next stop, the Chesapeake Chapter of the Society of Fire Protection Engineers.

It sounds cliché to say that we couldn't do it without the support of our sponsors, but it's true. Our chapter is a volunteer organization that produces no product nor renders services. What we do is offer the best way of getting engineers together to share ideas and to get our affiliates in touch with them. It is tough to pry our dedicated members and future members away from their work, so it's a special occasion to do it after hours. Since this is a banner year, I wanted to share a little of what we have planned:

- New Locations!
  - October's Meeting will be at Little Havana! I wanted to shake up our venues to help get some fresh ideas and bring someone out that might not have otherwise joined.
  - Our November and December meetings will be held in Timonium at The Valley Inn! This is an effort to reach more of our engineers, or at least make the drive a little easier for those that made the trek down to the BWI corridor.
  - Our January meeting will be held at the Local UA 486! You asked and we listened. There were a few that let me know that time outside of work and away from home is very precious and that they had to choose between attending only one of our great meetings. This year we've decided to consolidate our Joint Union Meeting and our Technical meeting into the same so that no one has to miss out. We'll have new events planned, technical sessions, demonstrations, tabletops, and more.
- Our December meeting will also be an award ceremony! We want to recognize our long tenured members and hopefully display our recreated Chapter Charter!
- Our regular participation in Engineer's Week and our Joint Event with the Local 486. We'll also be partnering with the Baltimore ASHRAE chapter for joint topics.
- Summer Party! This one is the big one to close out the year. I'm hoping for a crab feast myself, with good times and prizes to be handed out to recognize all of our affiliates and engineers for making the chapter what it is today.
- We're working on AYP social get-togethers, factory tours at the Rheem Plant and more! As details are ironed out, we'll announce them via email, newsletter, or likely both!
- Polos, T-shirts, Mugs and more! We'll be giving away and offering some merch this season so you can show of to your friends and make your enemies jealous. The chapter challenge coin was just the tip of the iceberg.
- More things that we haven't even considered yet! That's the best part of our chapter. If an opportunity presents itself, we are flexible and adaptive to take advantage of them. If you have a great idea for an event, we'd love to hear about it!

I think I've run out of my allotted exclamation points, but please watch out for more upcoming news. !!(had a few more left)

!

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Julian Chiveral, LEED AP BD+C
Vice President- Technical

# Technical Report

As we step into September, there's a buzz of excitement in the air as we kick off the 50th anniversary season of the ASPE Baltimore Chapter. This milestone year is filled with anticipation for what lies ahead, and I'm thrilled to celebrate with all of you — the dedicated professionals who make this chapter thrive.

This year, we have an awesome lineup of topics to keep you engaged and enhance your professional knowledge. Specific topics and presenters are still subject to change, but I've included a tentative overview later in the newsletter. Some of the topics on the docket include elevator codes and standards, deionization processes, the pros and cons of plastic pipe, and heat pump water heaters. These sessions are designed to keep you at the forefront of industry trends and developments.

In addition to an outstanding technical program, we're shaking things up this year by hosting our technical meetings at a variety of venues around the city. Our September meeting will be at the tried-and-true Olive Grove in Linthicum, but take note for future meeting locations, including Little Havana in Locust Point, and The Valley Inn in Timonium. We believe these new venues will provide a fresh and engaging atmosphere for our meetings, encouraging even more fruitful discussions and networking opportunities.

To kick off the season, our first meeting will be on Wednesday, September 25 and I'm honored to have Dan Coffey as our guest speaker. Dan is the Vice President of Business Development at Henley Construction and has served as an adjunct professor at Montgomery College's Construction Management program for nearly 30 years. His vast experience and expertise will provide invaluable insights during his presentation on the NIST Net-Zero Energy Residential Test Facility in Gaithersburg, MD.

For those unfamiliar, the Net-Zero Energy Residential Test Facility (NZERTF) is a groundbreaking project developed by the National Institute of Standards and Technology (NIST). The facility is a living laboratory designed to demonstrate that a typical suburban home can generate as much energy as it consumes over a year. It integrates advanced construction techniques and state-of-the-art renewable energy technologies, setting a new standard for sustainable residential design. Dan's presentation will delve into the technical challenges and innovations involved in this project, offering a unique perspective on the future of energy-efficient building design.

We're eager to see you at the meeting and throughout the season as we celebrate our chapter's golden anniversary. Here's to a year of learning, collaboration, and continued excellence in plumbing engineering!

# Clean Energy's Impact on Piping Systems

As the clean energy transition drives increased demand for copper, projects will face heightened susceptibility to market dynamics and force changes in materials the engineers choose.

*July 4, 2024 by Greg Swafford, CPD, GPD, ASSE 12080*

Former U.S. Rep. John Larson once remarked, "Globalization is not a monolithic force but an evolving set of consequences — some good, some bad and some unintended." Nowhere is this more evident than in the global initiatives aimed at transitioning to clean energy.

This transition brings its own set of consequences, many of which are yet to be fully understood. However, we can anticipate certain implications, particularly concerning the global supply of minerals.

**Increasing Copper Demand in Clean Energy Transitions**

Energy transitions throughout history have come with a need for new materials. Today, with the increasing pursuit of clean energy sources such as wind, solar and battery technologies, the demand for minerals, particularly metals, has surged. Among these metals, one stands out: copper. Its natural properties — conductivity, ductility, efficiency and recyclability — allow it to be used across a myriad of clean energy applications, rendering it the critical material for a clean energy transition.

However, the scale of copper demand for generating energy from solar and wind surpasses that required for fossil fuels by a staggering sixfold, notes the Copper Development Association. This unprecedented demand trajectory foretells a significant challenge: copper deficits are projected to exceed 9 million metric tons by 2035, with estimates suggesting the need to produce as much copper in the next 25 years as has been produced in the last 5,000 years.

**Challenges in Sourcing Copper**

Exacerbating the challenge of sourcing this vital metal is the intricate web of political and regulatory hurdles inherent to the mining process. For instance, the proposed NewRange copper-nickel mine in northeastern Minnesota has been embroiled in a convoluted approval process for nearly two decades. Environmental concerns, indigenous rights and community opposition are only a few factors contributing to the protracted delay, reports Heatmap News.

Moreover, the debate surrounding the mine highlights a broader dilemma: the trade-off between economic benefits and environmental sustainability. While copper is indispensable for clean energy, the potential environmental impact of mining operations raises significant ethical and ecological questions.
Here are a few more examples highlighting the complex challenges and controversies associated with mining projects worldwide, ranging from environmental degradation and social conflicts to regulatory disputes and legal battles:

1. Pebble Mine, Alaska, United States. The proposed Pebble Mine, located in the Bristol Bay region of Alaska, has faced significant controversy due to its potential environmental impact on one of the world's most productive salmon fisheries. Concerns over habitat destruction, water pollution and threats to indigenous communities have led to widespread opposition and legal battles.
2. Oyu Tolgoi Copper-Gold Mine, Mongolia. The Oyu Tolgoi mine, one of the world's largest copper-gold deposits, has been subject to disputes between the Mongolian government and the mining company Rio Tinto. Issues surrounding revenue sharing, environmental protection and community benefits have led to delays and tensions between stakeholders.
3. Carmichael Coal Mine, Queensland, Australia. The proposed Carmichael Coal Mine, led by the Indian company Adani, has faced opposition from environmental groups and indigenous communities concerned about the project's impact on the Great Barrier Reef, water resources and climate change. Legal challenges and public protests have delayed the project's development.
4. Ok Tedi Mine, Papua New Guinea. The Ok Tedi mine, operated by a consortium of mining companies, has been the center of controversy due to its environmental and social impacts on the surrounding communities and ecosystems. The mine's operations have led to deforestation, river pollution and disruptions to indigenous livelihoods, resulting in lawsuits and calls for remediation.

*This article originally appeared in Plumbing Engineer, a PHCPPros publication. For more articles like this, please visit www.phcppros.com*

# Clean Energy's Impact on Piping Systems

This regulatory quagmire underscores the inherent complexity of balancing resource extraction with environmental conservation efforts, a challenge that will only intensify as global demand for copper continues to rise.

**Implications for Plumbing Engineers**
The ramifications of this heightened demand for copper extend beyond the energy sector, posing implications for plumbing engineers. Particularly, the choice of piping materials in our projects warrants attention. There is no debate: copper pipe and tubing reign supreme as the preferred material for domestic and hydronic piping systems in commercial construction.

However, projected copper deficits amplify our vulnerability to market fluctuations, impacting prices and availability of these materials. As the clean energy transition drives increased demand for copper, our projects will face heightened susceptibility to market dynamics. This translates to expected price hikes and prolonged lead times for copper piping materials.

As deficits escalate and concerns over price and availability intensify, the construction industry will seek alternative materials.

**Considerations for Alternative Materials**
In addition to the looming price and availability concerns, there are other reasons plumbing engineers should consider specifying alternative materials to copper:

- Cost savings. In recent years, construction inflation has seen a significant increase, with nonresidential construction inflation rates hitting 12% in 2022, the highest since 1980-1981, reports Construction Analytics. This trend necessitates constant evaluation of options for cost savings by architectural/engineering/construction teams.
    - In these cases, labor and material savings represent simple yet effective ways to control costs. However, copper pipe and tubing present challenges in installation time and price stability.
- Installation. Depending on the joining method, copper can take up to three times longer to install than many plastic piping systems.
- Theft. Copper theft, exceeding $1 billion annually, adds to the instability in copper prices, notes Sheriff magazine. Construction sites are particularly vulnerable to copper theft, resulting in significant financial losses and project delays.
- Corrosion. The leading cause of metal pipe failure underscores the importance of selecting durable and corrosion-resistant materials for piping systems.

**Moving Toward Plastic Piping Systems**
As the burgeoning demand for copper intensifies and we confront all the costs associated with such materials, it becomes essential to consider alternatives. Plastics, in particular, are poised to emerge as a viable substitute for copper piping systems in the face of this disruption.

When evaluating plastic alternatives, it is crucial to consider factors such as the transported fluid, peak operating temperature and working pressure. Plastic piping materials certified to NSF 61 and NSF 14 standards are deemed safe for potable water distribution. However, it is important to note that not all plastics are suitable for potable water distribution, and each material requires careful consideration based on its unique properties and applications.

Below are key considerations when choosing a plastic piping system:

# Clean Energy's Impact on Piping Systems

- Application and performance criteria. Not all plastics are the same. Each has unique properties which make them ideal for some applications, while disastrous in others. Understand how the system will be used and do your homework to select the right material for the right application.
- Design and installation. The biggest issue with plastic piping systems is that engineers and contractors treat plastic piping like they do copper. Plastic piping has different properties, pressure, temperature, compatibility, expansion, etc. Designing and installing a plastic piping system as you would copper will inevitably lead to a piping failure.
- Specifications. Specify around the material you designed for. Do not simply list all the potential materials and allow the contractor to choose from them. Copper is not plastic, and not all plastics are the same. If your project is destined to use plastic piping, then start with a single plastic piping material meeting the application and performance requirements of your project.
    - When a project is designed in copper and changed to plastic during value engineering, cost savings are reduced, but the potential of failures increases.
- Installers. Require anyone handling and installing plastic piping systems to be trained and qualified via the ASME B31.3 bonders qualification standard.
- Manufacturers. Choose manufacturers with the history, expertise, quality and support necessary to deliver long-lasting, high-performing systems.

**Prediction and Call to Action**

If the United States aggressively pursues a transition to clean energy, in my opinion, plastic piping systems are poised to replace copper pipe and tubing as the dominant material for potable water distribution in commercial construction within the next 10 to 15 years. This prediction necessitates a proactive approach from industry stakeholders.

Ultimately, decisions regarding piping materials should be based on comprehensive assessments of factors, including market dynamics, regulatory changes, performance criteria and suitability for specific applications. Additionally, consulting with industry experts and staying abreast of emerging trends and innovations is essential for making informed decisions in this evolving landscape.

In anticipation of these shifts, plumbing engineers should undertake two proactive measures:

1. Education on alternative piping materials. It is imperative for us to familiarize ourselves with alternative piping materials, particularly plastics. Expanding our knowledge of plastics is required to recognize the distinct characteristics of these alternative materials. Finding the right material for the right application is key to the long-term success of plastics for potable water distribution.
2. Development of best practices. As the landscape evolves, we can develop best practices aligned with the changing dynamics. We can leverage our technical expertise to influence how the construction industry navigates disruptions during the transition to clean energy, positioning plumbing engineers as leaders in this domain.

As we navigate the transition to clean energy and confront the challenges posed by the increasing demand for copper, plumbing engineers must adapt and innovate. By staying informed, embracing alternative materials and developing best practices, we can position ourselves as leaders in the construction industry, driving sustainable and resilient solutions for the future.

*Greg Swafford, CPD, GPD, ASSE 12080, principal at Smith Seckman Reid, is a seasoned veteran in plumbing engineering and manufacturing, boasting more than 25 years of hands-on experience. His diverse background provides a unique lens through which to view industry dynamics, offering valuable insights into plumbing design and product launch strategies in an ever-evolving market landscape.*

*This article originally appeared in Plumbing Engineer, a PHCPPros publication. For more articles like this, please visit www.phcppros.com*

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Kathy Dwyer
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# Treasury Report

Welcome to 2024-2025 ASPE kickoff newsletter. We are all looking forward to a great year and many exciting topics. We are going to try out a few different venues as well so please give me feedback on what you think of the food and the venue. Our wonderful VP Tech with the help of el president have come up with a practical and exciting group of new presentations for you to enjoy. Pass the word around the office and let's get some newbies to some of these presentations!

I am happy to report our chapter is in solid financial position. We have had many supportive companies step up and advertise which is much appreciated. I hope you will support those who support ASPE. You all have been great about singing up and I do appreciate it. The restaurant needs the counts earlier than the day of which is the reason I ask for some advance notice.

The Olive grove restaurant, Little Havana and the Valley Inn are ready with their yummy menus and hospitality!

I look forward to seeing all of you soon!

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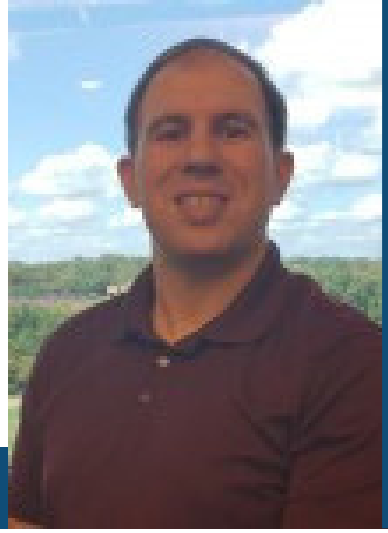

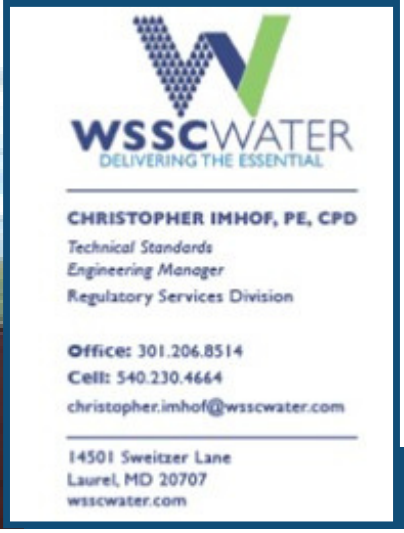


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Chris Imhof, PE, CPD
Vice President- Legislative

# Legislative Report

## Proposed changes to Virginia Plumbing and Gasfitting Licenses

The following is a list of proposed revisions to Regulation 18VAC50-30. "Individual License and Certification Regulations,"

- Revised to add a definition for "Residential Journeyman" and to create a new class of license for Residential Journeyman Plumber. A Residential Journeyman HVAC license is also proposed. A residential license is not proposed for gasfitters.
- The new class of license, Residential Journeyman Plumber, can be obtained with 2 years of experience and 160 hours of approved training. A traditional Journeyman Plumber license requires 4 years and 240 hours of training.
- A Residential Journeyman Plumber would qualify to become a Master Plumber with an additional 3 years of experience.

https://register.dls.virginia.gov/details.aspx?id=11069

## ICC Code Cycle

Committee action hearing #2 for the Group A Codes (IFGC, IMC, IPC, ISPSC) will take place October 23 – 31.

The public comment period for submittals will tentatively start on January 20.

## IAPMO and ASSE Now Offer READ-ONLY Access to Library of Standards

The International Association of Plumbing and Mechanical Officials (IAPMO) and ASSE International are offering read-only access to their library of standards. This includes access to more than 100 national standards (including American National Standards, Canadian National Standards, and Professional Qualification standards, as well as more than 200 industry standards (IGC, PS, and TS). Many of these standards are referenced in the plumbing, mechanical, solar, swimming pool and building codes.
https://www.iapmo.org/group/update/standards_library

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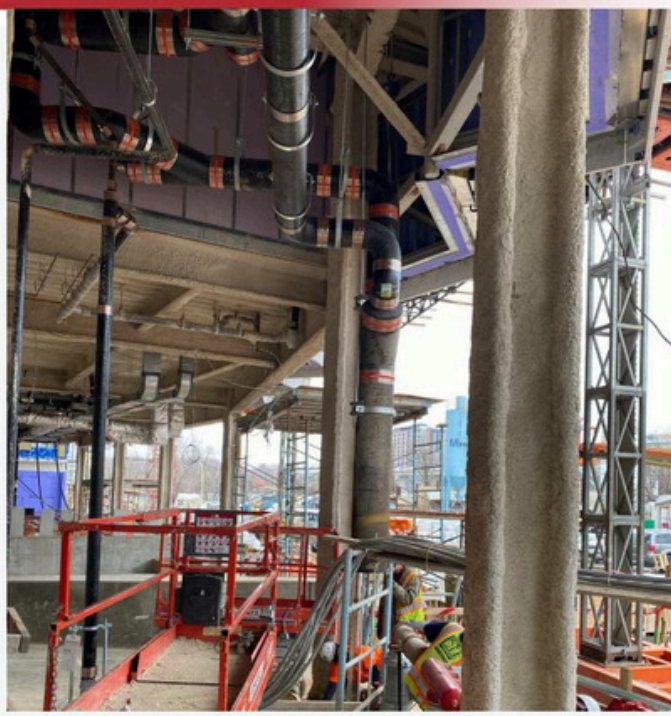

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# AYP Report

**What is AYP?**
ASPE Young Professionals is more than just a special interest group; it's a community within ASPE that focuses on the unique needs and interests of young professionals in the plumbing engineering field. Whether you're just starting your career or have a few years under your belt, AYP provides opportunities to network with peers, participate in educational events, and develop your leadership skills. If you're an ASPE member and you're 35 or younger, you're already a part of the group!

**Your new AYP Liaison:**
As the (almost) sole Baltimore ASPE board member under 35, I am proud to now serve as your new AYP Liaison! My job this year is to serve as the primary point of contact between the AYP group and the Baltimore chapter board, facilitating communication and organizing events tailored to young professionals.

**Upcoming AYP Event:**
Sagamore Spirit Distillery Tour and Happy Hour. I'm excited to announce our first AYP event of the season: a tour and happy hour at Sagamore Spirit in South Baltimore! This event is a fantastic opportunity to touch base with other young professionals while enjoying a guided tour of Sagamore's state-of-the-art distillery.

- Date: Wednesday, September 18th, 2024.
- Time: Tour begins promptly at 5PM; Happy hour will be 6PM - 8PM.
- Location: 301 E Cromwell St, Baltimore MD 21230
- Details: Space is limited, and registration is required. Secure your spot by registering on the ASPE website today!

**I Want Your Input!**
As I continue to plan AYP events, I'd love to hear your ideas. What will convince you to spend your valuable free time with plumbing engineers? Whether you're interested in educational workshops or more social outings, your feedback is invaluable. Please reach out with your suggestions — I'm here to make sure your needs are served and help you make the most of your ASPE membership.

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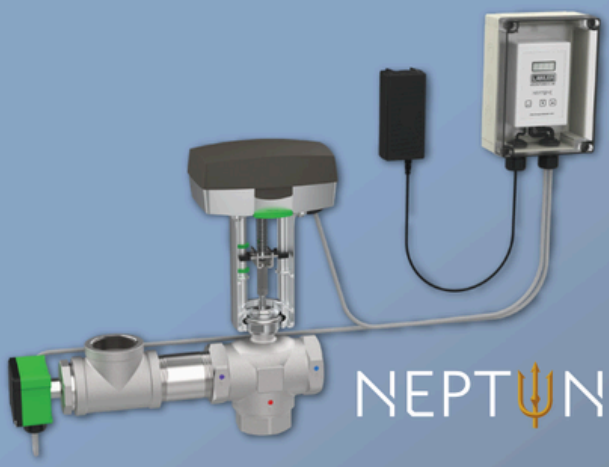

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SPECIFICATION
DRAINAGE
(LIT-067)


CLPB-2022
LIGHT COMMERCIAL
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(LIT-048)


AD-2022-USA
ACCESS DOORS
(LIT-043)


BEECO-2022
BACKFLOW PREVENTERS
AND ACCESSORIES
(LIT-071)


NH-2022-06
NO HUB COUPLINGS
(LIT-044)


TDPC-2023
POLYMER CONCRETE
TRENCH DRAINS
(LIT-076)


TD-2023
GRP & STEEL
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(LIT-046)


TDSD-2023
SHOWER DRAINS
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STAINLESS STEEL
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ROOFGUARD ROOF
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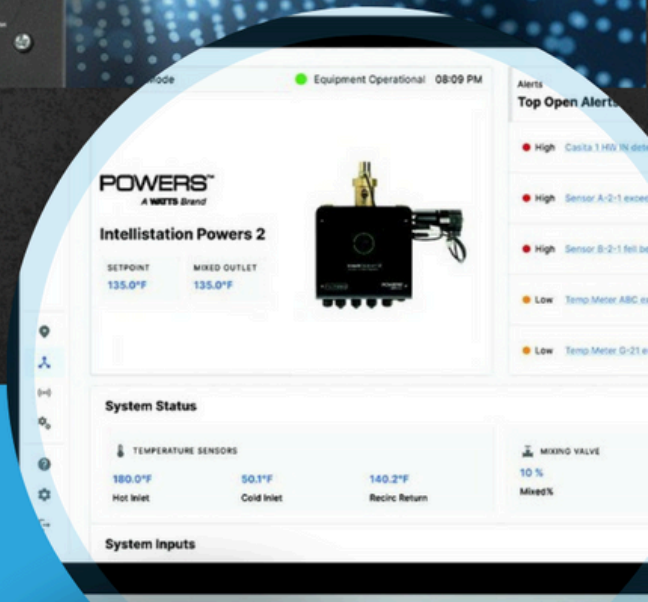
## Temper Water. Not Expectations.




### Key Features:

- Improved temperature control with Globe Valve Design
- Sensor package options to fit any application
- Improved touchscreen with screen swipes
- Full temperature monitoring and pressure/flow rate monitoring options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**IntelliStation 2** performance data can be viewed from anywhere and tracked over time for trends that can help optimize your system and anticipate issues. This next generation mixing valve can be monitored and controlled remotely via **Nexa** or your BMS, and doesn't require factory preprogramming, a laptop, or special software when commissioning or making or adjustments.

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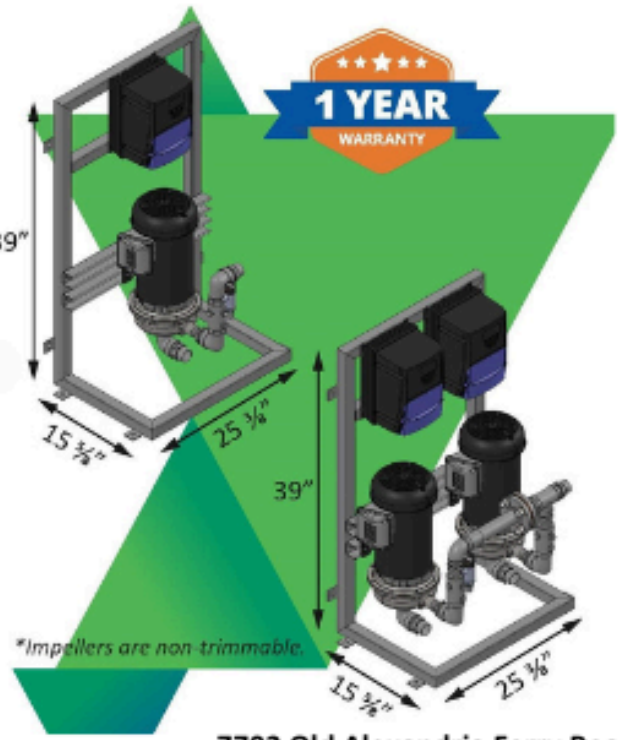
The MicroFlo Series is a highly compact, 1 or 2 pump booster for LOW FLOW -- LOW BOOST applications. Buildings that are only a couple stories, have lower water movement needs, or small footprints. **The MicroFlo is designed specifically for these smaller appli-**

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Public health and safety are a common concern. Targeted for commercial applications, Bemis has a comprehensive offering of seats with DuraGuard® Antimicrobial Built-In Seat Protection™ and STAY·TITE™.

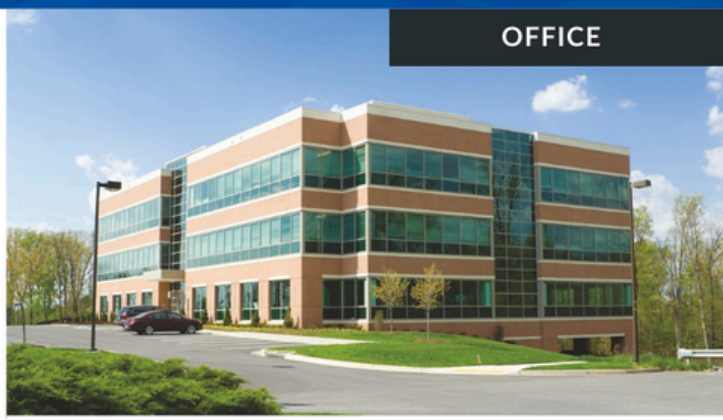
## WHAT IS DURAGUARD?

DuraGuard is an antimicrobial property built into the toilet seat to inhibit the growth of bacteria. The active ingredient in DuraGuard is zinc pyrithione, a non-VOC (volatile organic compound), broad-spectrum, highly effective antimicrobial agent used to control mold, mildew, yeasts, fungi, algae, gram positive and negative bacteria. DuraGuard does not protect users or others against bacteria, viruses, germs, or other disease-causing organisms.

## WHAT IS STAY·TITE?

STAY·TITE Seat Fastening System™ anchors the toilet seat to the bowl by using a patented bolt design with a finned bushing and glass-filled nylon nut, eliminating the need to retighten the seat to the bowl after installation.

## CONTACT YOUR REP FOR ADDITIONAL INFORMATION



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### DEFLECTION
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### STEPPED JOINTS
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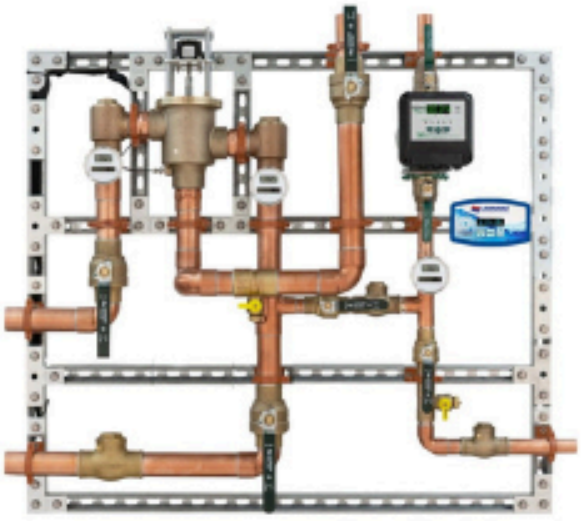

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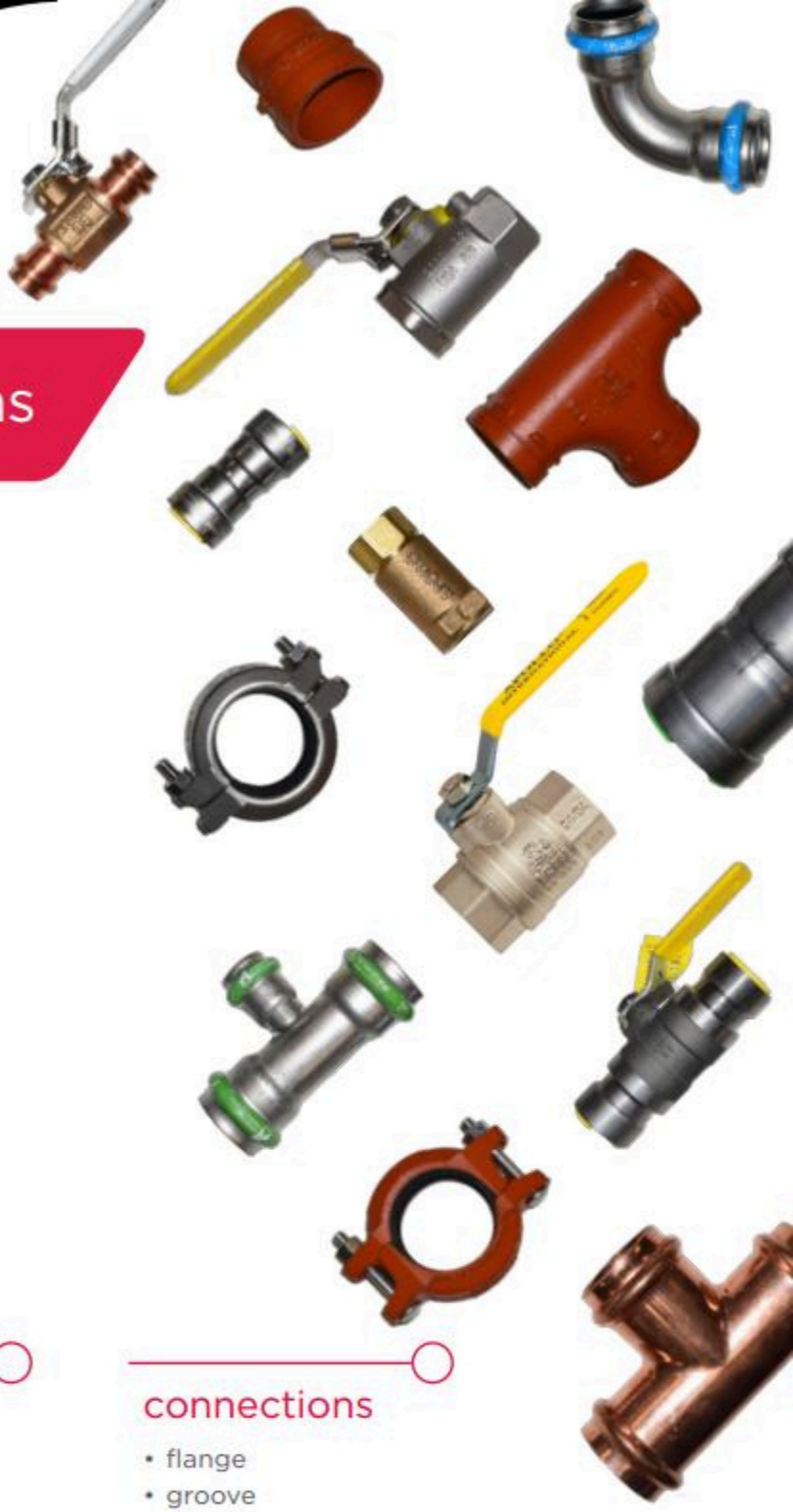
aalberts integrated piping systems

# valve and piping solutions



## don't just buy products, buy solutions

At Aalberts integrated piping systems, we create mission-critical products surrounding valve and connection technology.

Our group creates systems that are applicable for key verticals such as residential, commercial, industrial, and utility. These are designed and developed by our team of in-house engineers.

This complete piping and valve solution combined with our services are available through different channels.

### verticals

- battery
- chemical
- data centers
- education
- food and beverage
- hospitality
- oil & gas
- pharmaceutical
- power generation
- mixed-use
- water treatment

### materials

- brass
- bronze
- carbon steel
- copper / steel
- ductile iron
- lead-free brass
- stainless steel

### connections

- flange
- groove
- press
- push
- solder
- threaded
- welded

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# Schedule of Events

| | | |
|---|---|---|
| **SEPT 25** | Tankless Water Heaters | Olive Grove<br>Linthicum |
| **OCT 16** | Elevator Codes and Standards | Little Havana<br>Locust Point |
| **NOV 20** | RO/DI Water Systems | Valley Inn<br>Timonium |
| **DEC 18** | Pros & Cons of Plastic Pipe | Valley Inn<br>Timonium |
| **JAN 23** | Industry Night with UA486 | UA Local 486 Training Ctr<br>Rosedale |
| **FEB 26** | Fire Suppression Specialties | TBD |
| **MAR 26** | Heat Pump Water Heaters | TBD |
| **APR 23** | Radon Mitigation | TBD |
| **APR 2024** | Annual Golf Tournament | Details to Follow |
| **MAY 21** | Everything We Do Wrong | TBD |
| **JUN TBD** | Annual Summer Party | Details to Follow |

## MONTHLY SPONSORSHIP OPPORTUNITIES

**Tabletop Presentations:** $100 to provide a tabletop presentation of equipment or material relative to the plumbing profession. The tabletops will be set up from the beginning to the end of the monthly meeting and provides the opportunity to provide a brief (under 5 minutes) presentation.

***Please make checks payable to the Baltimore Chapter of ASPE. Contact Kathy Dwyer or Chuck Swope if interested***