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DETAILS INSIDE
The SoPHE network
SoPHE is an international organisation that aims to provide a higher profile and focus for public health engineers within CIBSE. We run technical events, site visits and provide support to our members around the world.

UK
UAE
Ireland
UK
Hong Kong
Australia and New Zealand

The COVID-19 pandemic has dramatically demonstrated the importance of public health engineering and the importance of the term ‘public health’. As individuals many of us have had firsthand experience or at least known someone who has been directly or indirectly affected by the virus. We wish a speedy recovery for the survivors of the virus and condolences to those who haven’t made it through in fairness affected by this pandemic. As an industry we have experienced the critical role in designing, supplying, constructing and maintaining systems for public health. We have been instrumental in providing temporary solutions for the full spectrum; temporary hospitals to account for a large disaster, with companies rising to the challenge without question or complaint. It proves the correctness of the industry and the essential service we provide.

In this edition we have the first Running Centre of Excellence and SoPHE Young Engineers Practical Competition and the collaborative success of that event. ARUP presents a focus on the Water Practical Competition and the collaborative success of that event. ARUP presents a focus on Public Health and the COVID-19 pandemic, which includes hospital oxygen systems. The Water Management Group has provided us the first series of talks with the first on Boilode with an interesting debate around hot water temperatures. Amanda Stanley raises an interesting challenge around water scarcity and a potential dry zero scene. There is also a theme to the well-practised of Arthur Churchyard, who many of us know well and some of the founders of SoPHE. We also welcome Ross Wiskield from New Zealand and SoPHE and thank him for forward to NZ updates hopefully it is not just a black rugby record!

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PAM Pre-assembled Stack Solutions

For more information see the article on page 14

New from PAM
PAM now offer a pre-assembled service to the construction market, enabling contractors and installers to benefit from this more cost effective way of installation with a material that has already recognised for its many traditional advantages.

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Contact SoPHE

World Health Organisation

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Contact SoPHE

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Find out more at www.thesophe.org

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In this edition
Jonathan Gaunt talks about a turbulent year and changes to come.

Jonathan Gaunt
Chair

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Plumbing Centre of Excellence

Industry Working Group update

By Jonathan Gaunt
Cundall, Associate Director

On February 4th of this year, SoPHE held its first combined Plumbing Centre of Excellence (PCE) and SoPHE Young Engineers (YEN) Practical Competition at Westminster College in East Londan. Last year’s event was a huge success for all involved and we look forward to seeing everyone back again this year. The day involved paired teams from the two groups participating in tasks both with a theoretical and practical focus. The day was designed to encourage collaboration between like-minded individuals and provide a chance to meet with manufacturers, industry leaders, and other students from across the UK.

The overall PCE student winner will be awarded the 2020 Chris Sneath bursary which will support them with educational material to help with their studies. Additionally, 1st, 2nd, and 3rd prizes will be awarded to the YEN students and Young Engineers that were deemed to be most deserving through the judging process. The prizes and trophies were initially intended to be awarded on March 20th during the World Plumbing Day. However, due to the growing concerns of Covid-19 and the wide geographical range of those attending the event, it was decided to delay the event to a later date in the YEN term. If you wish to attend the competition please contact Sanjay Modasia (JA Brooks), Mark Davis (Steenie Stewie), or Steve Vaughan (Teach Plumbing) for more information.

The journal is available online.

The Journal from The Society of Public Health Engineers

Water Management Society (WMSoc)

Steve Vaughan

We have been working with the WMSoc to develop a bespoke training course relating to Legionella Risk Assessments for Water systems which will have a specific focus on domestic water systems and associated treatment and commissioning methods. Working with their specialist training staff, the course has been developed to provide practical training on experience using the training rigs at the WMSoc Centre. It will aim to provide a knowledge suitable for young engineers or those with limited experience in legionella control within domestic water systems.

The training course will be City and Guilds Accredited. Although progress has been somewhat delayed we are planning to finalise details in early 2021 and hope to have the course available next summer.

There have also been several opportunities for SoPHE members to attend WMSoc events for free or at member rates during the last eighteen months, such as their ‘Gearing Up! 2’ conference in November as well as promoting online presentations such as the overview of Water Safety Plans (BS 8680:2020 Water Quality) and two very helpful ‘Water Safety Guidance for Small Businesses’ which focused on returning buildings back to service following the COVID-19 pandemic. The document can be downloaded here.

The Journal from The Society of Public Health Engineers

COVID-19 Pandemic Guidance Documents, available online

WMSoc: BS 8680:2020 WATER QUALITY

SoPHE: https://www.soophe.org.uk/ResourceCenter/40777453dd6649f44ef120c9

Legionella – the risk of building water systems

Many buildings were closed down extremely quickly in response to government imposed social distancing measures, in some cases, with limited ongoing maintenance taking place. The guidance is available here.

In addition, the new British Standard BS 6860:2020 Water Quality – Water Safety Plans – Code of Practice provides guidance on the management of water risks in buildings. New standards were recently published including Legionella. The Code of Practice provides direction to Water Safety Groups to ensure they have a holistic approach to water safety across all types of systems and equipment which use or contain water.

The Journal from The Society of Public Health Engineers

IHEEM Collaborative

Malcolm Altherton

The collaboration between SoPHE & IHEEM has been on hold, primarily due to the COVID-19 pandemic. However, as you can imagine IHEEM have been busy as they continue to support the IHEEM’s National Health Service (NHS) dinner throughout the pandemic.

According to IHEEM sources, a very successful – ‘Healthcare Estates in Focus’ online Digital View, occurred between Monday 5th October & Friday 2nd October 2020, healthcare speakers from all different sectors of the Estate were able to provide some fascinating insights into the Healthcare Sector is coping & evolving with developing changing environment we all find ourselves in & how it’s important that we all work together & adapt as circumstances change, how everyone was able to pull together & create the new highspec hospitais that we’ve seen built in different parts of the united kingdom in a very short space of time.

The Journal from The Society of Public Health Engineers

The Journal from The Society of Public Health Engineers

CIPHE – Mitigating the risk in building water systems

Martin Gourlay

Shocking, stagnant or standing water can cause conditions that increase the risk for growth and spread of Legionella and other bacteria associated with clinical infections. As discussed in the previous editions of "Water Line", the journal of the water management society can be found online.

The report has been finalised and published, providing guidance on mitigating the risk of building water systems post Covid-19.

The Journal from The Society of Public Health Engineers

The Journal from The Society of Public Health Engineers

We would also like to remind members that past editions of “Water Line”, the journal of the water management society can be downloaded for free from their website www.watermanagement.org.uk. The summer 2020 edition includes a feature article on disinfection of domestic water systems as well as President Trump’s original ideal.
The COVID-19 pandemic has shown us a true reflection of the strengths and weaknesses in our buildings systems. Our initially well-designed water systems have been left unused in normal operation for months, while our hospital oxygen systems are pushed beyond capacity, writes the Journal from The Society of Public Health Engineers.

The increase in oxygen flow exceeded the design capacities for many hospitals in Ireland (oxygen is not designed to be the supply source, which relies on an external company chain). This pandemic is highlighting the need to review oxygen supply systems for existing and new hospitals across the world. The need for future adaptability in hospital ward design and hospital service design has been brought to light during the pandemic. How do you ensure resilience for the next pandemic? Have we enough future expansion of a system? Are ward designs flexible and suitably adaptable in future?

The incorporation of a building Water Safety Plan is shown to be more relevant than ever to help protect the public using the facilities and to help protect a building’s infrastructure and equipment. As an industry we have encouraged our clients to have an appropriate water safety plan in place for their space, building, and portfolio. This is documented via a concise assessment that encompasses the hazards, control measures, monitoring and validation of the public health water systems and connected equipment (that stores or uses water), in the form of a Water Safety Plan. A building Water Safety Plan can be revisited and implemented during the entire building lifecycle including design and specification, construction and installation commissioning, decommissioning and recommissioning, maintenance and operation, alteration and refurbishment; and deconstruction.

Water Challenges

White buildings have been partially or fully closed. Water distribution through buildings has become more isolated in the worst case, completely stopped. This isolation and stagnation can cause a myriad of events to occur. These events include cold water becoming warmer (hot water becoming cooler), and degeneration of disinfectant levels (both in the safety mains feeding a building as well as the systems within the building), all resulting in possible biofilm and microbial growth within the piping systems.

Building Water Safety Plan

The Water Safety Plans differ from a legionella risk assessment as they cover all aspects of a buildings water system, even extending to how waters drainage where appropriate. All incoming and outgoing water is being considered throughout the life of a building in a comprehensive Water Safety Plan. The Water Safety Plan would also be expected to compliment or include items from any legionella risk assessment. An in-depth and methodical assessment of the building would also ensure all parts and components of a system are taken care of such as grease waste systems, future water use (e.g.: irrigation, fire, gas feeds, water heaters and water filtration systems).

Globally, the process of Water Safety Planning (WSP) can be guided by adapting the World Health Organization (WHO) Water safety in buildings guidance. This has been done in the UK via the BS 8680:2020 water supply quality - Water safety plans – Code of practice, and in Hong Kong via the Guidance Notes for Drinking Water Safety Plans for Buildings. Whilst not addressing building plants, many countries may have similar methodologies that can be applied for hospitals. e.g. Content for Disease Control and Prevention (CDC) developing a Water Management Program to Reduce Legionella Growth & Spread in Buildings: and requirements to reduce Legionella risk in healthcare facility water systems to prevent cases and outbreaks of legionnaires disease, and ASHRAE Standard 188 Legionella: Risk Management for Building Water Systems. USA.

Building Water Safety Plan: Santa Rosa Lima Hospital, oxygen supply in Covid-19 pandemic

Medical Oxygen Supplies

Medical oxygen in hospitals during the COVID-19 pandemic has been the backbone system for life supporting ventilators. Ventilation is usually achieved through Intensive Care Units (ICU) to support and assist critically patients who do not have the lung capacity or ability to sustain their own life. Medical professionals discovered in the early stages of the virus spread that oxygen therapy administered via assisted ventilation increased chances of survival and enhanced patient recovery. However, this oxygen therapy requirement, in conjunction with the large increase in patients requiring ventilators, exponentially overwhelmed hospital ventilator availability and increased the strain on global oxygen systems. In many countries (including the UK and Ireland) oxygen is not designed to be the main gas supply for ventilators, traditionally ventilators are primarily driven by medical air compressors. This change in supply strategy, coupled with the large increase in ventilation usage to cope with patient influx, prompted a global oxygen supply emergency to 1. Increase, reuse or prioritise the oxygen pipe flow capacity. 2. Assess the site oxygen plant capacity on existing systems and 3. Provide new temporary or permanent oxygen supply systems in record time. The increase in oxygen flow exceeded the design capacities for hospitals in terms of pipeline size and plant delivery capacity. To give an example of major issues faced, the reservoirs before and during the pandemic for the UK National Health Service (NHS) under HTM 02-01 are outlined below.

Medical Oxygen Supply – Before COVID 80 l/min 10 l/min

Medical Oxygen Supply – During COVID 30 – 80 l/min

Medical ventilator infection case study for COVID-19 Coronavirus patients

Medical ventilator infection case study for COVID-19 Coronavirus patients

Before COVID

Medical Air Supply

During COVID

30 l/min 10 l/min

Medical ventilator infection case study for COVID-19 Coronavirus patients

Medical ventilator infection case study for COVID-19 Coronavirus patients

Some hospital locations using Pressure Swing Adsorption (PSA) technology, which produces oxygen onsite with no external decontaminates, may have been more fortunate. Traditionally however, oxygen feeds from gas cylinder oxygen is often the main supply source, which relies on an external company chain.

To conclude

The full impact and final outcome of the COVID-19 pandemic may only be revealed to us in the future. However, as a collaborative industry there is now a need to look beyond the standards and codes and delve further into the realm of risk assessment with clients. As we start to re-occupy office spaces, hotels, etc and continue to fight the COVID-19 pandemic in our hospitals, we see as a collaborative industry how we need to analyze the current design norms and use a collective, critical thinking design approach.

Our overall goal is to provide a safe and functional space for the public and building managers. By working together as a unified team, architects, engineers, building owners, manufacturers, suppliers and the public health industry can successfully collaborate for overall enrichment of our societies. From ensuring that good hand washing practices can be undertaken, to providing the supporting oxygen systems, we truly are in the defense and support of public health.
Biocides

What is a biocide?

In the water treatment industry, a biocide is a general term used for a chemical compound that will destroy or make a micro-organism or bacteria harmless so that it cannot reproduce and multiply. They are harmful to aspects of human health such as contact with skin or eyes – you must always use suitable precautions when handling and be aware of the risks they present to you and others. Read and act on all safety data. You do not want these chemicals on your clothes or skin, in your eyes or inhaled.

Biocides are also dangerous to the environment if released inappropriately.

We use biocides to prevent bacteria in water-related problems – some of which harm human health. These include Legionella (which can cause pneumonia) and algae and biofilms which can block heat exchangers and reduce system efficiency. Corrosion of metal surfaces due to bacterial activity also occurs frequently.

Biocides must be applied above a minimum concentration for a minimum time to be effective. There may be other factors such as temperature or pH that affect how well they work. Usually adding more biocide for a longer contact time (like more biocide) is NOT an option.

• Generally easy to measure in water both manually using simple tests, or automatically – though control can be more difficult – so they can be regulated to give a good result at minimal cost
• Work quickly and broadly easy to add/dose
• Normally low cost per cubic metre of water but may vary to atmosphere readiness
• Can be added continually or as a short term shot dos – if the bacterial is acceptable
• Have no dispersant effect, killing only the surface layer and allowing bacteria to live in an underlying manner – so usually require a also a dispersant/flocculant biocide (see below)
• Over dosing has little benefit and tends to cause corrosion/biofouling, can still be under-dosed

Types of biocide

There are two major groups: oxidising biocides and non-oxidising.

Oxidising biocides

These are widely used and effective at low concentrations. The most common ones are chlorine based (often as sodium hypochlorite), bromine, peroxide-based products and chloramine. Less common are ozone and iodine. Ultraviolet (UV) light is NOT an oxidant.

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• Have no dispersant effect, killing only the surface layer and allowing bacteria to live in an underlying manner – so usually require a also a dispersant/flocculant biocide (see below)
• Over dosing has little benefit and tends to cause corrosion/biofouling, can still be under-dosed
• Not always compatible with process in use (contamination) or other water treatment chemicals
• Still need to be selected correctly, handled and used correctly as may release toxic gases or dust, cause fires or potentially explode.

Non-oxidising biocides

These are usually added as liquids and are relatively complex chemical compounds and usually need to be added at relatively high concentrations and be present for a few hours to achieve a good kill. It is common for a compound to be effective against many bacteria – but not all. This would allow the remaining bacteria to grow freely, possibly using the dead ones as a food source – so a second biocide, which works in a different manner, is added to ensure this does not happen. This is often called an alternating biocide programme – though the biocides do not have to alternate equally. It is common for at least one of the liquids to have a dispersant or flocculating effect to prevent deposits forming.

• Relatively easy to add via some form of automatic dose equipment, usually involving a pump, typically batched or based on water volume added
• One often used to supplement an oxidiser such as bromine tablets
• Relatively difficult/inexpensive to measure the concentration manually or automatically
• Relatively expensive, especially on high volume, hardworking evaporative systems.
• Will not kill all bacterial bacterial resistance is known
• Appropriate selection is required and dose programme adjustment to suit the site

In all cases

• It is common for biocide effectiveness to be monitored using basic bacterial tests such as diplicates or lab tests
• Environmental awareness, CODSS and all relevant H&S controls should be understood – and met
• Dose equipment should be suitable, similar to the mixing valves engines and other leading experts to provide guidance and technical support to develop a workable solution with regard to reducing the energy demands for domestic hot water supply.
• Treat all these chemical compounds with care – they can cause significant harm to you and others.

Summary

This is a huge and complex subject if in doubt, seek advice from the supplier, equipment suppliers, consultants etc. as required.

By Steve Vaughan, Regional Director and Public Health Engineering Technical Lead at AECOM as well as a member of CBiSE SoPHE Technical and Education steering groups.

With the ever increasing urgency to reduce the energy consumption within buildings, the focus on the energy requirements for generation of domestic hot water (DHW) has never been so critical. Particularly when you consider that within a modern apartment the space heating connected load can be as low as 1kW whereas the DHW load will often be in excess of 2kW. So it is plan to see that there is potential for significant energy savings associated to DHW generation. Furthermore, when you also consider DHW distribution heat losses (which also contributes to the risk of building overheating), the challenges become even greater.

This article focuses on design and regulations constraints for UK residential projects (multiple apartments) however there may be aspects discussed below relevant to other countries or project sectors such as healthcare.

In my role at AECOM I have been involved with the CBiSE Domestic Hot Water working group which includes representatives from SoPHE, consulting building services engineers and other leading experts to provide guidance and technical support to develop a workable solution with regard to reducing the energy demands for domestic hot water supply.

At this stage the priority is to reduce the industry standard instantaneous DHW delivery temperatures (non-storage low water content systems, from 48°C for TMV1 to 60°C for TMV2) to a maximum fill temperature of 50°C. This is achievable through the use of biocides which are not always compatible with process in use (contamination) or other water treatment chemicals.

DHW delivery Temperatures

The common design approach is to select 50°C (+/- 5°C delta T) as the DHW delivery temperature from an instantaneous DHW water generation unit. This allows for the DHW temperature to drop to 35°C (~7°C temp drop from heater to outlet) and maintain current code compliance. This requires a minimum delivery temperature of 50°C at the outlet.

The requirement for a minimum delivery temperature of 50°C is based on the requirements of temperature regimes as the method of legionella bacteria control within domestic water systems.

Legionella bacteria is found everywhere in the environment. It is a natural inhabitant of water and can survive in store tap water and surface and multiply in non-stirred sources. Warm water between 20–45°C is the perfect water temperature for the bacteria to multiply. If Solar heated at temperatures above 60°C “You cannot usually get legionella disease from drinking water containing the bacteria.”

Industrial working group proposals focused on a reduction from 55°C to 50°C however, non-compliance constraints for limiting domestic hot water supply temperature to baths where thermostatic mixing valves (TMV2) are provided to ensure a maximum fill temperature of 48°C to be compromised. This is because a DHW supply of 52°C will contravene the TMV approval constraints, which for TMV2 require a minimum DHW delivery temperature of 52°C with manufacturers also stipulating a minimum delta T to heater outlet temperature of 5°C.

So increasing the DHW supply temperature to 50°C would introduce compliance with regard to temperature stability and scalding risk.

Constraints

There is now a consideration to further reduce DHW instantaneous delivery temperature to 45°C which may result in the omission of the TMV for both LA and LA. In this case further challenges with regard to compliance with several codes such as HSE (Health and Safety Executive) and Water Regulations with regard to legionella control.

- Temperature regime for legionella control will be compromised
- Biocide treatment will also be considered as the primary method of legionella control

Building Regulations

- As the 46°C will now become the controlling device for DHW temperature control rather than the TMV

2. Source – www.nhs.uk/conditions/legionnaires-disease/
Thermostatic Mixing Valve (TMV)

National House Building Council (NHBC), Water regulations and HSE with regard to appliance delivery temperatures:

• A reduction to the required minimum delivery temperature of 55°C (NHBC have already reduced their specification requirements from 60- 65°C for higher DHW temperatures)

Product constraints:

• TMV certification (KAIWA, BS EN 1111 and BS EN 1287 for construction and general specification)

• Temperature stability of shower valves (many of these are calibrated based on a CWH supply temperature of 50°C or a minimum delta t between CWH supply and blended temperature of 15°C)

• Stability and safety for DHW temperature control as part of the instantaneous DHW generation unit (such as KDI or Electro)

• Avoiding dead legs on DHW systems and technical constraints associated to maintenance temperature taps.

Internally in some multiple residential projects, consultant Public Health engineers often provide a method of basical water treatment (usually a chemical dosing system) as a safeguarded for water to pipes (regardless and biofilm control) where there is concern about overheating of the cold water supply (which will compromise the temperature regime requirement to keep the cold water supply below 20°C) due to building overheating issues which can emanate from the TMV circuits. Therefore allowing the DHW temperature will obviously reduced uncontrolled heat loss but it may be necessary to retain the biofilm control method to due to low DHW temperatures.

Reducing the temperature will also reduce the role of scale build up within the TMV generation equipment such as plate heat exchanger or electric heating elements which in turn extend plant life and lifetime efficiencies.

With so many regulations to be considered such as building regulations, water regulations, NHBC policy and health and Safety Executive guidance documents as well as client expectations there are numerous potential conflicts and challenges. Particularly if moving away from temperature regime for regional control

What’s next?

It is possible to lower the instantaneous DHW delivery temperature in the TMV. TMV temperatures can be significantly reduced which also have a positive impact on the control, ‘LTHW energy requirements, reduction in distribution losses, low flow save and reduce the potential for building overheating. Reduced LTHW temperatures also bring the opportunity to use low grade reclaimed heat sources and alternative generation plant such as Air Source Heat Pumps also become much more viable.

As with many complex engineering challenges, further issues and questions emerge as we delve further into this subject. Below are some of the issues that are also being considered:

• Is reciprocating is to be adapted to the primary method of control for TMV and if so, then it is critical that the water treatment programme is correctly maintained, relating to both functionality and health and safety aspects. More rigorous system monitoring is likely to be required, to ensure that the recommendations are not inadvertently changed or practical to adopt this approach on some projects. Questions maybe arise when checking if any off-site facilities management teams (Healthcare projects for example). But on the other hand, are all systems which are therefore temperature regimes as the primary method of regional control within domestic hot water systems one of the biggest challenges we are facing within the industry for a long time therefore we welcome your thoughts.

The future of hot water

The design principles and options for hot water generation now and will continue to change at an unprecedented pace

Weather to meet government targets for No Carbon Zero, Carbon, reduce energy consumption and the reliance on the fossil fuel has to be considered. It is inevitable that these challenges will impact on DHW delivery temperatures as well as the methods that we use to generate domestic hot water

This, as stated above is likely to impact on the methods of regional control and health and safety issues relating to scaling risks.

With the emergence of ambient loop primary water distribution systems, the opportunities for heat reclaim from, for example, waste water systems or other similar systems will increase.

Ambient loop systems also lend themselves to apartment based water to water heat pumps and DHW storage. However, technology needs to continue to advance to improve efficiencies without the need for pre-heating DHW from source heat pumps with water to water heat pumps or electric heat pumps.

If biocide dosing is to be adopted as the fundamental concept to lower delivery temperatures (such as CAST iron pipes) which also have a positive impact on the control, ‘LTHW energy requirements, reduction in distribution losses, low flow save and reduce the potential for building overheating. Reduced LTHW temperatures also bring the opportunity to use low grade reclaimed heat sources and alternative generation plant such as Air Source Heat Pumps also become much more viable.

For further information on Thermostatic Mixing Valves and certification refer to:

IWA Guide to Certification for the UK Certificate for:

Thermostatic Mixing Valves (Type 2 TMV and Type 2 TMK)

Tempering valves

PAM have now launched a new pre-assembly stack system for the Ensign BS 877 cast iron above ground drainage system.

Who wants to save 60% time on-site?

Do you want to reduce site movements?

Do you want to build a simple and safe system?

Do you want to improve their environmental impact?

Simplify equals high performance

In the ever more complicated world is often the simplest solutions which can save the best results. All too often we see the focus on cost as a key factor without truly understanding the knock on impacts to other issues such as product specification, time on site, installation risks and ultimately end user comfort.

Drainage systems are a key example of this and the specification of the material will have a dramatic effect on both short and long term impacts. By specifying Cast Iron, you will be selecting a material that is fire rated and combined with a mortar sill drip will give the best fire protection. As an example by specifying HDPE you now have to consider the use of a fire color and the performance required, but the added risks linked to wrong or poor product installation and its effective life in service. The performance differences has been recognised in recent changes to the Building Regulations. For fire safety buildings has moved to stipulate the use of more durable fire resistant materials for the external elements on building over 18m high. The solution here is to specify Cast Iron, so much would you not to any other way. Also, piping and venting have further limitations of materials shall be A1. Should this change also be extended to the internal compartments in buildings?

Cast iron pre-assembly service can also provide an immediate spring to mind for “modern” building design. Saving time on-site and its effective life in service. The performance differences has been recognised in recent changes to the Building Regulations. For fire safety buildings has moved to stipulate the use of more durable fire resistant materials for the external elements on building over 18m high. The solution here is to specify Cast Iron, so much would you not to any other way. Also, piping and venting have further limitations of materials shall be A1. Should this change also be extended to the internal compartments in buildings?

With PAM's new pre-assembly service launched for the Ensign BS 877 cast iron above ground drainage system, all future projects will have to deliver pre-assembled stack systems meeting the requirements of the regulations. By specifying HDPE you may have a very long heat loss through the slab and normally above the access point. This enables flexibility on the straight pipe above can be cut to site any take up site height differences between floors.

The benefit of offsite manufacturing has long been understood by the building and construction industry. Traditional materials such as cast iron would perhaps not be the most effective for the modern “methods” of construction, but Saint-Gobain PAM knows that it is time to change perceptions around cast iron. A pre-assembled stack system meets the pressures of tight timeframes, overcomes the problem of skilled labour shortages, minimises the need for movements & storage on site and ensures consistent quality through a strict factory-controlled quality inspection routine with all testing prior to dispatch.

In this ever more complicated world it is no surprise that we are seeing more projects which are pre-assembled products. PAM will provide detailed CAD drawings of the stack system for the specification of the material and long term impacts. By specifying Cast Iron you have to consider the use of more durable fire resistant materials for the external elements on building over 18m high. The solution here is to specify Cast Iron, so much would you not to any other way. Also, piping and venting have further limitations of materials shall be A1. Should this change also be extended to the internal compartments in buildings?

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On 21st October, Polypipe Building Services EVDS delivered an interesting virtual seminar with a presentation in February on the SoPHE West Midlands started off 2020 this & following discussions with a number of Industry and Contractors group members for their continued support to SoPHE & CIBSE to enhance the SoPHE UAE regional profile. Adam Smith from Polypipe Middle East will be visiting on 19th November with the region for over 10 years and brings with him a vast knowledge of the polyethylene knowledge to the team. Polypipe have continued their continued support to SoPHE UAE and will continue to sponsor the society for the 5th year running. We would like to express our deep appreciation for supporting SoPHE since the regional launch to date.

The key objective of SoPHE in the UAE region is to facilitate knowledge sharing via CPD’s and promote more interaction among industry stakeholders. SoPHE UK is looking forward to resuming the technical events once safe to do so, and have proved to be valuable to our member regions and will aim to further enhance this in future endeavours.

Gionvi is a Chartered Public Health Engineer with eleven years of experience in the Building Services sector and has worked and lived in Maltese, Seuculues, United Kingdom and United Arab Emirates as a Public Health Project Engineer. Gionvi is currently involved on various prestigious projects in the UAE and is keen to be part of the SoPHE regional group. As a Gionvi is committed to work with SoPHE and CIBSE to enhance the SoPHE UAE regional profile.

As Covid-19 restrictions are lifted the SoPHE Group in the UAE is committed to resuming the seminars and technical events across the region.

SoPHE NZ New Zealand

SoPHE South West

As a result of the National Lockdown at the end of March 2020 (due to the pandemic), it meant that our usual Technical Events have temporarily stopped – as well as the SoPHE Northern dinner which was due to take place in May 2020 (which I mentioned earlier), however, unbeknown to this group of contractors, the number of Industrial Associate (IA) members, on 1st February held their first online meeting. Virtual CPD – kindly provided by Delayer – which was entitled ‘Covid -19 Water Treatment’. A great session and was enjoyed by all. Subsequent to this, we’ve decided further CPD’s to take place online. SoPHE members for their continued support to SoPHE & CIBSE to enhance the SoPHE UAE regional profile.

Caterham will follow in November discussing the use of the internet for temperature modelling to reduce the risk of legionella.

We are working on providing CPD for our upcoming virtual seminar which hopefully will appeal a wider audience to attend.

In June we delivered our first virtual seminar in association with GSE looking at embedding accounts in drainage pipework systems.

EVDS delivered an interesting virtual seminar on virtual drainage systems in July.

On 21st October, Polypipe Building Services presented their Watermark system discussing the benefits of such a system.

SoPHE West Midlands

SoPHE West Midlands started off 2020 with a couple of events in February by the Dunlop Vacuum System, unfortunately a global pandemic then ensued. All of our following meetups were put on hold/ postponed and eventually cancelled due to social distancing restrictions. In June we delivered our first virtual seminar in association with GSE looking at embedding accounts in drainage pipework systems.

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Water: the next liquid gold – Day Zero is coming

While the world grapples with the impending ‘Climate Emergency’ another lesser known crisis is emerging. The UK is running out of water, writes Amanda Stanley Senior Public Health Engineer, from Elementa Consulting London.

In the United Kingdom, the widely held assumption is that fresh potable water is abundant, readily available and cheap. Since it is an undressed by water and shunned to have irregular rainfall, this is an understandable mistake.

The truth is that the sustainability of the UK’s water supply is affected by multiple factors. Regardless of rainfall volume, conditions are on the earth determined how much of that water is added to the usable water supply. Climate change, population growth and irresponsible water use are all contributing to water shortage. Water supply can become stretched, as less essential resources are being taken for granted.

Breaking the myth that water is abundant

There is approximately 136 billion km³ of water on the world. Sounds like a lot, but how much can we easily process to drink (Worldwide)?

The adjacent flowing pie chart shows only 2.5% of that is fresh water, or 97.5% is Saltwater

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We would welcome any contributions to future editions, please let us know us about:

Future events
Items or comments you think may be worth raising or informing your fellow members.
Technical articles from members, giving situations encountered and how they were overcome.

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ABG's 'blue roof' system attenuates & controls rainwater discharge at roof level, forming an integral element within the SuDS design on many modern developments - especially on tight urban sites.

The system's control chambers enable rainfall from storm events to be discharged at a managed rate, to help meet the site's SuDS planning requirements.

ABG blueroof can also be combined with multiple surface finishes & final area uses, at both podium and roof level - including green roofs and biodiverse roofs, amenity terraces, plant areas and trafficked, podium areas.

ABG are a leading UK manufacturer, supplier and installer, and can provide a PI-insured design service; based upon over 30 years of drainage and installation experience for sustainable, green/blue infrastructure projects.

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