SpotLight on Maintenance

OPFMA Newsletter - Connecting Knowledge with Public Facilities' Needs!

Spring 2017

Ohio Public Facilities Maintenance Association

OPFMA is a not for profit (501) (c) (3) independent educational trade organization

Inside Edition:

Editor's Note:

Next Edition – JUN 2017

Publication Terms & Deadline

Deadline for Materials Submission to be Published – JUN 01, 2017

OPFMA 2017 First Quarter

By Alexandra Schneider, OPFMA Administrator /CEO

Greetings and Happy Spring from the OPFMA Board of Trustees & Administration!

In 2017 we are celebrating the OPFMA 30th Anniversary and would like to express our deep appreciation of OPFMA Membership's sustained support making OPFMA possible!

OPFMA Board of Trustees' main goal always was how to best serve our Membership's educative needs! Attendees' feedback is needed and appreciated in selecting and developing new training seminars.

In 2017 we are offering five new seminars:

- Electrical Fundamentals
- Access Control, Surveillance & Life Safety
- Fundamentals – Indoor Environmental Quality
- Energy Conservation Fundamentals
- Fundamentals of HVAC Operation

For seminar schedule and registration visit OPFMA website at: www.OPFMA.ORG

OPFMA 2017 Conference & Annual Trade Show

Oct 23rd & Oct 24th

Early Bird Attendee

JUN 30th – Deadline

Columbus Crowne Plaza North Hotel

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2017 Trade Show Registration

Started during OPFMA 2016 Trade Show

64% of Exhibition Booths are SOLD

OPFMA Board held its first meeting on FEB 09, 2017- it was hosted by TRANE, whose long term support is very much appreciated!
The first two and a half months of 2017 were very productive with new energy was added to our Board of Trustees and a new Cleveland Chapter started!

OPFMA Marketing & Membership Chairman, Constantin Draganoiu for months searched OPFMA membership for the most active & dedicated members, eager to support OPFMA development for years to come. We're happy to introduce new OPFMA Trustees & to WELCOME them aboard:

- Jeremiah Swetel, FMP - Cuyahoga County Public Library
- Phil Hacker III - Kettering City Schools
- Belinda Kenley - Energy Optimizers, USA, LLC

OPFMA 2017 Board Composition & Contact Info - see page 8, as well as OPFMA website!

- OPFMA President – Carl Roxbury
- OPFMA Vice-President – Jeremiah Swetel
- OPFMA Treasurer/Secretary – Wayne King

OPFMA New Members – Welcome Aboard!

Individual Member

Bryan Frey - Bellevue City Schools - Maintenance
Steve Golden - Bellevue City Schools - Maintenance

Institutional Member

Little Miami School District – David Florea, Mike Davidson and Kim Fuerst
Cuyahoga County Public Library – Anita Adler, Kelly Daily, Norm Manley, Jim Mazur, Dominic Stupica, Adam Thompson, Rick Weiss, Phil Sumen Dale Shafer, Frank Radovanic, Terri Thompson, Gus Dionisos Dave Chism
Lorain City Schools – Jeff Hawks, Kevin Haupt, Don Jacopin & Jim Mossbruger
Aurora City Schools – Sal Arquilla, Mike McGlothlin, Jim Miller
Lima Public Library – Brian Clutter

Corporate Associate Member

Environmental Water Ltd. - Emily Bickford - Service Representative
Simon Roofing and Sheet Metal Co. - Kelly West - Vice President of Sales

Cleveland Chapter

Kick off MTG Jan 18, 2017

OPFMA Members:

- Cuyahoga Cty PBL Library - Staff (10)
- Dan Knecht: City of Euclid
- Brian Preseren: Constellation Schools
- Tom Kuhn: Lorain County JVS
- Jerry Pavlick: Lorain County JVS
- Dan McClintock: Brunswick City Sch
- Nick Sivado: Brunswick City Schools
- Robert Kelly: Brunswick City Schools
- Brian Bartlebaugh: Lorain Cty Library
- Chris Kelling: Hudson City Schools
- Robert Vonst: Hudson City Schools

Business/Contractors / Consultants:

- Andrew Gorski: Miracle Method
- Tom James: Northshore Mechanical
- Fred Bryant: Buckeye Surface
- Dave Lepre: Equiparts
- Eric Wright: PTA Engineering
- Nathan Boring: PTA Engineering
- Alan Sutton: Service Tech Corp
- Pat Herbert: EA Group

Cleveland Chapter

Chapter's opening meeting on JAN 18, 2017 was received with great enthusiasm in the NorthEast Ohio area - 29 participants, 20 of them are OPFMA members!

OHIO PUBLIC FACILITIES MAINTENANCE ASSOCIATION

The Cleveland Chapter came into existence due to the effort & diligence of Constantin Draganoiu, OPFMA Membership and Marketing Chairman and Jeremiah Swetel deep interest & enthusiasm for OPFMA as well as their willingness to work hard to make it happen!

Cleveland Leadership

Chairman
Jeremiah Swetel
Cuyahoga Cty Pub Library

Secretary
Bob Kelly
Brunswick City Schools

Contact info on
WWW.OPFMA.ORG

Upgrading Your Facility: Substantial Savings without Compromising Quality

By Breanna Sneeringer, Miracle Method Surface Refinishing

As infrastructure begins to age, renovations play an essential role in effectively managing the appearance and functionality of a facility. When it comes to establishing a clean, attractive and healthy environment, the protection against the growth of mold, mildew and bacteria is critical for sanitary conditions. Over time, tile, grout, floors, walls, countertops and other surfaces become difficult to clean and maintain due to the buildup of dirt, germs, and mildew that seeps into the pores of the surface. When faced with similar situations like broken tile, cracked and chipped fiberglass and leaking shower pans, tear-out and replacement is often deemed far too expensive and time consuming for facility maintenance.

The quest for affordable remodeling with minimal downtime and disruption to ensure proper facility management continues to emerge as a top priority. The time and cost-savings alternative of surface repair and refinishing eliminates the need to replace existing countertops, tile walls and floors, leaking shower pans, vanities and bathtubs.

The refinishing process consists of multi-layer, hi-tech acrylic coatings and is professionally applied with HVLP equipment to create a molecular bond with the original surface, resulting in a durable and beautiful refinished surface.

Refinishing can be a time saving, cost saving and durable alternative to traditional replacement. However, when it comes to selecting a quality refinishing provider, be sure to ask these top 10 questions for optimal results:

1. Can the company provide case studies and references from projects completed at other facilities?
2. Are technicians trained and certified employees or subcontractors? *(The lack of technical expertise may hinder project efficiency, resulting in the delay of full operational standards.)*
3. Do they have the willingness and ability to adapt to diverse project demands?
4. Do they have the capacity to handle large projects?
5. Is the service provider licensed, insured and do they provide a warranty?
6. Are there any hidden costs or maintenance contracts to maintain the surface in the future? *(Cleaning and sealing tile alone often requires additional costs for resealing every 12-8 months)*
7. Do they have a proven bonding technology to assure durability and adhesion?
8. Are finishes heat and scratch resistant, seamless, non-porous and impervious to water?
9. Do they provide service in all the areas in which you may need service?
10. Most importantly, does the service provider meet the facility's requirements and budget?

Answering these questions will give you a good idea of the importance a refinishing provider places on their standard of quality, technical training, and ultimately, identifying substantial savings within a facility maintenance budget. When taking the time to evaluate service providers, facilities need to ensure they take the right steps in selecting a proven, cost-effective process that allows for facility upgrades without the mess and hassle of removal and replacement methods.

Old Time Remedies

Poison Ivy – soak a washcloth in cold milk to make a compress for the itchy skin. This old-time remedy really works!

Minor kitchen burns - run cold water over skin, and then apply a slice of onion. It blocks the substance making you feel pain.

Cuts – cut yourself? Pour some wine into the cut. Its polyphones kill bacteria and prevent infection.

Mood Smoother – Potatoes is second only to chocolate! One medium baked potato delivers 24gr of carbohydrates that soothe jangled nerves & elevate mood. Loaded with B6 boosting serotonin, natural brain chemical making you feel happy! Also potato is bursting with Copper, Magnesium & Manganese boosting bone health. Potato packs more Potassium than a banana, that's help beat the high blood pressure, too! No wonder people love potatoes!

Callus – to soften a callus, apply a piece of pineapple rind & cover it with adhesive bandage overnight!

Athlete's Foot – soak your feet in a basin of warm water with a few crushed garlic cloves and a splash of rubbing alcohol.

Roofing - a Dollars and Sense Case for Preventative Maintenance

By Anthony Vross, Simon Roofing

Being proactive with roof maintenance turns the more commonly employed run-to-failure model on its side. You know the phrase, "If it's not broken, don't fix it?" In roofing, if you wait until it's broke to fix it, you're going to spend nearly twice as much on maintenance and premature replacements than if you stayed ahead of such issues.

Practicing proactive maintenance is proven to be more cost effective in the long run, and your commercial roof will last much longer, too.

Take a look at this common scenario: A facility manager detects a leak and dispatches a roofing company to repair it, but neglects addressing anything else on the verge of disrepair until the next leak rears its ugly head. Then, another service call is needed &the budget takes another hit.

Further exacerbating this circle of reactivity, maintenance budgets are often based on how much was spent the previous year. There's little or no consideration for longer-term planning or committing money be spent on efforts that might extend the useful life of the asset and save budget dollars over a longer period of time.

The numbers speak for themselves. Facility executives who react to problems as they occur pay more for maintenance; an average of 25¢ per square foot annually. Owners and facility managers who routinely inspect and repair proactively – before problems happen – spend an average of only 14¢ per square foot annually. Plus, proactively maintained roofs last an average of 21 years compared to an average lifespan of 13 years for roofs under reactive maintenance. (Roofing Contractor)

It's easy to understand that the longer you can extend your roof's life before succumbing to a replacement, the more your overall savings increase and your life cycle costs decrease. Being disciplined with proactive roof maintenance, which should include semi-annual professional inspections coupled with best-practice self-inspections (see sidebar), will prolong the life of your roof and minimize the leaks and other disruptions that occur when you're not on top of knowing its condition!

Facility executives have limits on what they can spend on building maintenance, and the roof is certainly not the only asset funded by that budget. Big-ticket items like unexpected roofing expenses can quickly claim the share of several other maintenance needs and priorities.

Identifying ways to lower costs in this category, particularly with a large asset like roofing, can free up significant funds for other projects.

Diagnostic tools, data analysis programs and scientifically formulated coatings that now exist in the commercial roofing industry can extend the life of an existing roof system without having to jump to a complete tear-off and replacement.

Proactive Roof Asset Management: A Guide

Proactive roof asset management includes accurately projecting capital expenses for preventative maintenance, repairs and other services that can extend the life of the roof. Most critically as part of this planning is an accurate, scientific-based measurement of the roof's life expectancy. Asset management cannot be effective if such calculations are incomplete.

The first step in roof asset management is an inspection. The National Roofing Contractors Association recommends roofs should be inspected at least twice per year. Such inspections should be thorough, including the testing of roof membranes and core sampling, in addition to infrared scans and visual examinations.

In my estimation, too many roofs are being replaced unnecessarily because of bad information about the condition of the roof. A roof undergoes serious wear and tear throughout its lifetime, with factors such as weathering and degeneration taking their toll. Not always, however, does that mean the roof needs to be replaced. Through scientific testing and analysis, a quality roofing provider can accurately determine remaining roof life expectancy and depletion rate, as well as whether roof repair or restoration is a viable option over roof replacement.

Proactive roof asset management empowers the facility executive to take control of roofing-related expenditures through long-range planning based on current and anticipated future conditions, taking into account geography, climate and performance of similar roofing systems. These are positive steps for those who recognize the value of extending a roof's life. Being proactive can very well be the difference between less-costly roof restoration now and a much more expensive total replacement later.

Editor's note:

Anthony Vross is a co-owner of Simon Roofing, a national roofing contractor and manufacturer that was recently named among the largest roofing contractors in the United States.

Myths and Facts of HVAC Refrigerants

Robert M. Ambrose, CEM, *Regional Business Development Manager, Daikin Applied*

A global commitment to a healthy, sustainable environment is changing the refrigerant landscape for the HVAC industry. Navigating that change has become difficult as regulatory activity, media scrutiny, and competitive forces combine to create a complex landscape of messages. Our Industry needs to be committed to solving the problem of climate change by innovating rigorously and responsibly, and creating candid, fact-based dialog to help you make the most informed decisions possible.

Myth: HCFCs are not being phased out

FACT: HCFCs, including R123, are being phased out. Limitations on HCFC production began in 2004. The Montreal Protocol established a phase-down schedule that mandates the 100 percent phase-out of HCFCs, including R123, in new equipment by January 1, 2020. It allows 0.5 percent of base-level consumption to service existing HVAC equipment until January 1, 2030. The U.S. schedule for meeting the Montreal Protocol phase-out requirements is summarized in the following table, provided by the EPA.

U.S. Action to Meet the Montreal Protocol Phase out Schedule

Year to Be Implemented	Implementation of HCFC Phase out through Clean Air Act Regulations	Year to Be Implemented	Percent Reduction in HCFC Consumption and Production from Baseline
2003	No production or import of HCFC-141b	2004	35.0%
2010	No production or import of HCFC-142b and HCFC-22, except for use in equipment manufactured before January 1, 2010	2010	75.0%
2015	No production or import of any other HCFCs, except as refrigerants in equipment manufactured before January 1, 2020	2015	90.0%
2020	No production or import of HCFC-142b and HCFC-22	2020	99.5%
2030	No production or import of any HCFCs	2030	100.0%

Phaseout of Class II Ozone-depleting Substances

https://www.epa.gov/ods-phaseout/phaseout-class-ii-ozone-depleting-substances

Myth: A little ODP is OK.

FACT: No amount of ODP is OK. Stratospheric ozone protects us from ultraviolet rays. Ozone is depleted by chlorine-containing compounds that reach the upper atmosphere. Because CFCs and HCFCs contain chlorine, which has ozone depletion potential (ODP), the Montreal Protocol originally focused on phasing out CFCs and HCFCs. It mandates that all refrigerants with ODP will be phased out for new equipment by January 1, 2020. The next-generation refrigerants will require essentially zero ODP and low global warming potential (GWP).

Myth: Europe has banned R134a.

FACT: Europe has not banned R134a for chillers. Europe has banned certain types of HFCs in highly emissive applications like automobiles, where mobility makes cooling systems more susceptible to leaks. In these applications, there is a limit of 150 on the refrigerant's GWP. Today in Europe, there is no restriction for chiller applications on HFCs with GWP less than 2500, including R410A or R134a.

Continued on page 6

Myths and Facts of HVAC Refrigerants

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Myth: HFCs should not be used today

FACT: Regulatory activity is underway for HFCs, but they remain the right choice for HVAC equipment today. Two significant regulatory actions have occurred recently:

1. On September 26, 2016, the EPA announced that specific refrigerants including R134a and R410A can no longer be used in new chillers, effective January 1, 2024. This restriction applies only to new chillers; other HVAC products will continue to use these refrigerants for new equipment and the refrigerants will be available before and after January 2024 to service existing equipment.
2. On October 15, 2016, negotiators from more than 170 countries agreed to amend the Montreal Protocol to implement the phase down of HFCs to about 10 percent of current levels by 2036. Developing countries will phase down HFCs at a slower rate through the next decade.

The regulatory complexity makes it easy to confuse the implications:

- It is safe to use R410A and R134a in new equipment right up to the Jan 1, 2024 date, and to continue servicing existing equipment until 2036.
- R134a will be available long after 2024 to service existing HVAC chillers and as a key component of refrigerant blends including R513A, R513B and R450A which are about 40 percent R134a. This assures the continued production and abundant supply of R134a well into the future.
- The gradual phase down allows time for regulatory approval of new alternatives and continued use of A1 refrigerants R134a and R410A.

Myth: A chiller's R123 can be switched out for R1233zd.

FACT: R1233zd is not a retrofit alternative for R123. R1233zd is an A1 refrigerant with essentially zero ODP and very low GWP. However, it is not a "drop-in" for R123; the equipment must be redesigned to use R1233zd because R1233zd requires higher pressures and operates at a different volumetric capacity than R123. New R1233zd chillers will require ASME code construction of the heat exchangers.

There is no such thing as a true "drop-in" alternative for R123. The identified retrofit alternative for R123 is R514A, which will require some changes to the equipment to operate. R514A carries the same undesirable higher toxicity "B" designation as R123 (as defined by ASHRAE Standard 34). R514A will also reduce the capacity of an existing R123 machine.

Myth: Lower GWP is always better

FACT: A lower GWP can come with trade-offs. Many lower GWP refrigerants also have lower efficiency than the refrigerants we are using today. For chillers, the vast majority of impact on climate change will come from generating electricity to run the equipment, versus refrigerant emissions. Containment is also critical: there is no direct impact on global warming from refrigerants as long as they are contained and not released into the atmosphere.

A better indicator of the global warming impact than GWP "total equivalent warming impact" (TEWI) measures direct and indirect emissions of greenhouse gases. More recent work has focused on the "life cycle climate performance" (LCCP) of products. LCCP is another way to measure overall environmental impact from manufacture to end of life. For more on TEWI and LCCP, please refer to these sites:

- Life Cycle Climate Performance Guideline: International Institute of Refrigeration
- The Role of Environmental Metrics (GWP, TEWI, LCCP) in the Selection of Low GWP Refrigerants

Conclusion

The facts on HCFCs prove that HFCs and R1233zd represent the best choices for new equipment today. At Daikin, we are working directly with code officials and industry associations to innovate next-generation refrigerants with essentially zero ODP and reduced GWP. We are investing in the development of equipment and building systems that reduce our environmental impact. Daikin fully supports bringing HFC refrigerants into the Montreal Protocol framework; this model has been successful for CFCs and HCFCs. Daikin's Magnitude® chillers have achieved an Environmental Product Declaration in accordance with ISO 14025, which relies heavily on the LCCP methodology for evaluation.

Editor's note:

For more information, please contact Robert Ambrose at robert.ambrose@daikinapplied.com or 440-773-3081

2017 Board Meetings Schedule:

FEB 9th

APR 13th

JUN 22nd

SEP 14th

DEC 7th

Board Meetings are held in Columbus

2017 Conference & Trade Show

Crowne Plaza Hotel:

Oct 22nd 5:00 pm

Conf. Committee Meeting

Oct 23rd & Oct 24th
Conference
&
Trade Show

For newsletters' archive visit our website!
www.opfma.org

2017 OPFMA Board of Trustees Contact Information

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A Note from the Editor:

Dear reader, OPFMA publishes the "SpotLight on Maintenance" for your benefit; for serving better your interests - your feedback is of a paramount importance!

Suggestions – Sharing Experiences – and Constructive Criticism are welcomed by simply bringing in "SpotLight" topics and ideas of interest to you could be beneficial to many other readers.

Let Your Voice be Heard - Just drop a note at: editor@opfma.org or **visit** www.opfma.org and **click on** "Contact us" – I would be happy to bring your ideas and comments in The SpotLight!

Thank you,
Alexandra

Publication and Submission – Terms & Requirements

"**Spotlight on Maintenance**" is the official publication of the **Ohio Public Facilities Maintenance Association,** a 501(c) (3) not for profit organization for educational and professional development of public facilities maintenance employees.
It is published quarterly and distributed in the second half of the month of **March, June, September** and **December**.
A special edition would be added as events dictate.
 SpotLight on Maintenance Editor/Publisher - Alexandra Schneider.

Deadline: Articles & Photos Submission is on the 1st Day of the Month of Publication.

All documents must be submitted in **Word format** and sent as an e-mail attachment.
All photos and Ads must be in **JPEG format** and sent as an e-mail attachment.

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