



Advanced Track: Cooling Tower Cleaning 102

"BEFORE YOU JUMP IN"

Copyright © 2019 NADCA. All Rights Reserved.  
No part of this publication may be reproduced or distributed by any means, electronic or mechanical, including photocopy, recording, or any other information storage and retrieval system, without prior written consent from the publisher.

---

---

---

---




---

---

---

---

Presenters

Paul Keller Jr., ASCS

Kevin Uilkie, ASCS, CVI

---

---

---

---


---

---

---

---

Disclaimer



This presentation is not intended to be a comprehensive program covering all aspects of this topic. All technicians are encouraged to read and follow all applicable standards, codes and regulations related to this topic.

- ✓ It is the responsibility of each individual contractor to follow local building codes and licensing requirements and to work safely in accordance with OSHA guidelines.
- ✓ It is the contractor's responsibility to take proper precautions on each project to prevent cross contamination. Always take the health and safety of the building occupants into consideration before you conduct any cleaning procedures.
- ✓ All of the following tips are only general tips. They do not cover every situation and it is your responsibility to adapt these tips to the individual system you are working on.
- ✓ The Instructor is not responsible in any way for the work you perform after viewing this slide show. You are responsible for your own work.
- ✓ The views and opinions following are the instructors opinions and not necessarily the official position of the National Air Duct Cleaners Association.

---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

### Safety

- Personal Safety
- Public Safety

The safety and responsibilities can not be stressed enough when microbial infection is involved.




---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

### Cooling Tower Cleaning 102

- Personal Safety- Gloves and waterproof coveralls are used to protect your skin from biocides in the circulating water.
- Recommendations for cleaning- Wear gloves, water proof shoes (rubber boots) and waterproof coveralls (Tyvek suits), and a half face respirator with P2 grade twin filter.

---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

### Cooling Tower Cleaning 102

#### Cooling Tower Cleaning

- ❖ The most effective way of avoiding all the problems encountered with a cooling tower is a regular and thorough manual washout every six months.
- ❖ During the cleaning process the public must be kept out of the operational area, and sprays must be confined to the operational area.

---

---

---

---

---

---

---

---

**TECHNICAL NADCA CONFERENCE**

### Cooling Tower Cleaning 102

The process is particularly important before a tower is commissioned or restarted after a shutdown period of one week or more.

Before cleaning a tower the operator must check the service and maintenance records to see if there has been any changes made to the system or if anything needs to be done before shutdown.

---

---

---

---

---

---

---

---

**TECHNICAL NADCA CONFERENCE**

### Cleaning a Cooling Tower

**Equipment**

- Safety Clothing (PPE) as required
- Cooling Tower
- Operation Manual
- Cleaning Equipment

---

---

---

---

---

---

---

---

**TECHNICAL NADCA CONFERENCE**

### Common Procedure

- Complete a Risk Assessment for the task.
- Wear all required PPE.
- Follow operation manual and shut down the tower.
- Dismantle tower.
- High pressure clean all internal components as instructed.
- Reassemble tower.
- Fill tower with water to the required depth.
- Follow operations manual and start tower.
- Check operation.

---

---

---


---

---

---

---

---



**Preventative Maintenance**

- Expensive breakdowns, Legionella, inefficiencies, and increased running costs can mostly be attributed to poor maintenance.
- It is imperative that service personnel, owners, and users of cooling towers are committed to ongoing preventative maintenance.

---

---

---


---

---

---

---

---



**Cooling Tower Cleaning 102**

- Preventative maintenance should provide the owner/user with the following;
  - Early detection of problems that may lead to a breakdown.
  - Maintain the systems efficiency.
  - Determine that the system is complete and operating correctly.
  - Remove the need to do corrective repairs.
  - Maintain Bacteria to safe levels.

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---


---

---


---

---

---

 TECHNICAL  
NADCA  
CONFERENCE

Concrete  
Towers



---

---

---

---

---

---

---

---

 TECHNICAL  
NADCA  
CONFERENCE

Cooling Tower  
Cleaning 102



---

---

---

---

---


---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower Cleaning 102



---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower Cleaning 102



---

---

---

---

---

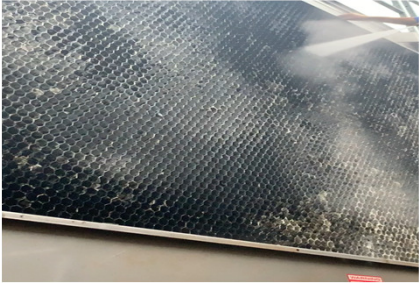
---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower Cleaning 102



---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Are You Any  
Good at  
Problem  
Solving?



---

---

---

---

---

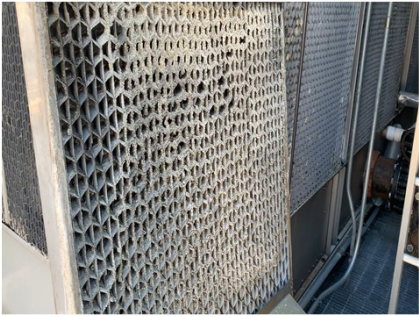
---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower  
Cleaning 102



---

---

---

---

---


---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower  
Cleaning 102



---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower  
Cleaning 102



---

---

---

---

---

---

---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Cooling Tower  
Cleaning 102



---

---

---

---

---

---


---

---

**TECHNICAL  
NADCA  
CONFERENCE**

Fill Pack

• YOU MUST FIND A DELICATE BALANCE BETWEEN REMOVING SCALE AND NOT DAMAGING THE FILL



---

---

---

---


---

---

---

---



 Do you like puzzles?



---

---

---

---

---

---

---

---

 Basins



---

---

---


---


---

---

---

---

 Cooling Tower Cleaning 102



---

---

---

---

---

---

---

---

  
Cooling Tower  
Cleaning 102



---

---

---

---

---

---

---

---

  
Additional  
Towers



---

---

---


---


---

---

---

---

  
Additional  
Photos



---

---

---

---

---

---

---

---



Cooling Tower Cleaning 102




---

---

---


---

---

---

---

---



References

Cooling Towers- by Bruce Davison

[ehow.com-operate-maintain-cooling-tower-efficiency](http://ehow.com-operate-maintain-cooling-tower-efficiency)

Alliance for Water Efficiency

---

---

---


---

---


---

---

---



Advanced Track: Cooling Tower Cleaning 102




---

---

---


---

---

---

---

---



Advanced  
Track: Cooling  
Tower Cleaning  
102

**Presenter Contact Information**

- Paul Keller Jr.  
• [pkeller2@service-techcorp.com](mailto:pkeller2@service-techcorp.com)  
• (727) 539-7000
- Kevin Uilkie  
• [Kevin@kmfacserv.com](mailto:Kevin@kmfacserv.com)  
• (623) 930-5490

---

---

---

---


---

---

---

---

Thank you  
for  
Participating!



---

---

---

---

---

---

---

---