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SAFETY

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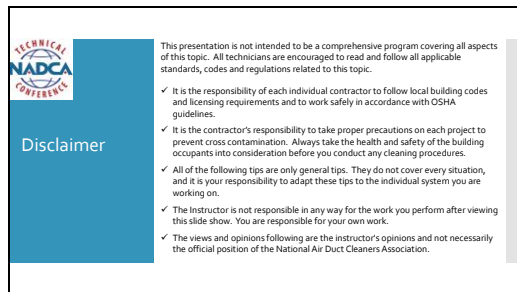
Presenter



Matt Mountain
ASCS, CVI

Matt Mountain is a 2nd generation duct/HVAC cleaning technician and business owner. Matt cleaned his first duct system at the age of 14 and currently holds the ASCS and CVI Certifications. Mountain Duct Cleaning provides Residential, Commercial, and Industrial duct and HVAC cleaning services in the Minneapolis/St. Paul MN metro area.

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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 instructor's opinions and not necessarily the official position of the National Air Duct Cleaners Association.

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What We'll Learn

- Having a Safety Plan
- Personal Protective Equipment (PPE)
- Engineering Controls/Containment
- Lock-Out Tag-Out
- Fall Protection
- Hazardous Materials
- Hazard Communication

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Safety

Safety is a multi-step process.




Is this guy being safe?

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Safety

And it requires a wholistic approach!



How about now?









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Safety – PPE

Personal Protective Equipment (PPE)

TYPES OF RESPIRATORY PROTECTION

| | | | |
|---|--|---|---|
|  <p>Respirator (Air Purifying) Respirators are used to protect workers from inhaling airborne contaminants. They are classified into two types: air-purifying and air-supplying. Air-purifying respirators filter the air through a filter, while air-supplying respirators provide a constant flow of clean air from a source.</p> |  <p>Respirator (Air Supplying) Respirators are used to protect workers from inhaling airborne contaminants. They are classified into two types: air-purifying and air-supplying. Air-supplying respirators provide a constant flow of clean air from a source.</p> |  <p>Respirator (Air Purifying) Respirators are used to protect workers from inhaling airborne contaminants. They are classified into two types: air-purifying and air-supplying. Air-purifying respirators filter the air through a filter.</p> |  <p>Respirator (Air Purifying) Respirators are used to protect workers from inhaling airborne contaminants. They are classified into two types: air-purifying and air-supplying. Air-purifying respirators filter the air through a filter.</p> |
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Safety – Engineering Controls


Engineering Controls (Containment)

Meant to protect the workers, the occupants, and the property.

ACR, The NADCA Standard – 2021 Edition

3.13 Summary of Engineering Controls:
Appropriate engineering controls are mandatory on every HVAC cleaning and restoration project. Protecting workers and building occupants and preventing cross-contamination **shall** be considered a priority on every project. It is recommended that the above listed engineering controls are considered minimum requirements. When a contractor has any questions about project-specific engineering controls, it is recommended that an Indoor Environmental Professional (IEP) be consulted.

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Safety – Engineering Controls


Engineering Controls (Containment)

ACR, The NADCA Standard – 2021 Edition

3.9 Level 1 Containment:
Level 1 is the minimum level of containment that **shall** be used on all HVAC system component cleaning projects.

Level 1 Containment

- Negative Pressure
- Protective Coverings
- Clean Equipment
- Cross-Contamination Control




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Safety –
Lock-Out
Tag-Out

Lock-Out Tag-Out




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Safety –
Lock-Out
Tag-Out

Lock-Out Tag-Out



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Safety – Pop
Quiz

POP
QUIZ

What is the most common OSHA citation/fine?

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Safety –
Fall Protection

Fall Protection

HIERARCHY OF FALL PROTECTION

1. HAZARD
2. PASSIVE
3. ACTIVE
4. CONTROL
5. RESCUE

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Safety –
Fall Protection

Fall Protection

Ladders

- Shall be inspected for visible defects by a competent person on a periodic basis and after any occurrence that could affect their safe use.
 - Recommend same for scaffolding including portable scaffolding.
- Shall be used only for their intended purpose.

Making a ladder safer:

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Safety –
Fall Protection

Fall Protection

Aerial Work Platforms (Lifts)


- May include Scissor Lifts, Boom Lifts, Man Lifts, Articulating Bucket Truck, etc.
- PPE required
 - Fall Arrest Harness
 - Hardhat
 - Hi-Vis Clothing
- Always have a spotter.
- Get proper training!
 - Local OSHA office, large rental firms or third-party safety companies may offer.

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 Safety – Hazardous Materials

- Microbial (Mold)
- Asbestos
- Lead
- Chemicals
- Environmental
- Combustible Dust

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 Safety – Hazardous Materials

Microbial







Identify potential hazards to protect you the worker, the company, and the occupants.
Know when NOT to start or continue a job without the proper protections in place.
Is it even cleanable?

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 Safety – Hazardous Materials

Asbestos



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Safety – Confined Space Entry

Confined Space Entry

EXAMPLES



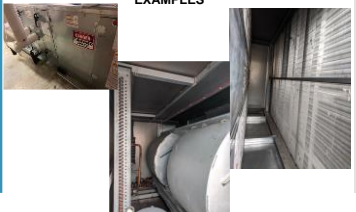
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Safety – Confined Space Entry

Confined Space Entry

EXAMPLES




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Safety – Confined Space Entry

Confined Space Entry

NIOSH HIERARCHY OF CONTROLS



| Control Level | Effectiveness | Description |
|-------------------------|-----------------|--------------------------------|
| Elimination | Most effective | Physically remove the hazard |
| Substitution | High | Replace the hazard |
| Engineering Controls | Medium-High | Isolate people from the hazard |
| Administrative Controls | Medium-Low | Change the way people work |
| PPE | Least effective | Protect the worker with PPE |

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