Slide 1

Ignite: Quick Overviews and In-Depth Breakouts on Key Topics on How to Grow Your Business Offerings

Slide 2

Fire Life Safety Program – Fire and Smoke Dampers

Slide 3

Presenter

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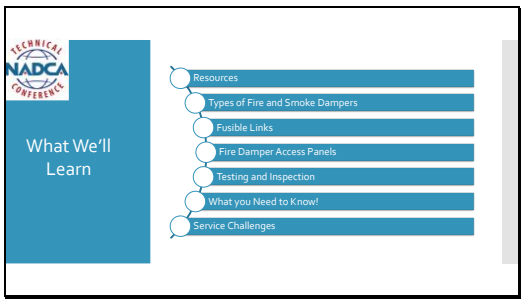

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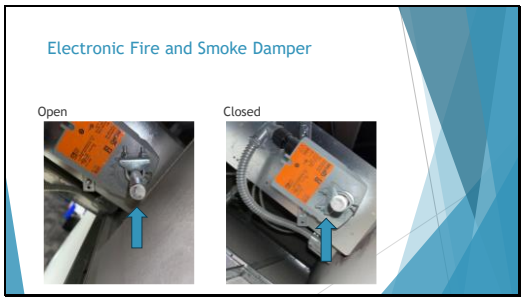

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Roller Doors

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Fusible Links

- **WHAT IS A FUSIBLE LINK?**
- **Wikipedia states:** A **mechanical fusible link** is a device consisting of two strips of metal soldered together with a fusible alloy that is designed to melt at a specific temperature, thus allowing the two pieces to separate.
- **The link will have the specified temperature engraved on it with typical temperature ranges from 165 - 212 Fahrenheit or 70 - 100 Celsius.**

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FUSIBLE LINKS

- **WHEN DO YOU REPLACE THEM?**
- If they are cracked/broken.
- They have been altered (grinded down, bent).
- Painted or coated.
- If they are melted and have been activated. (Please refer client to contact a mechanical contractor if the reason is unknown as to why they have melted.)
- They are missing.
- The Client/AHJ has requested in writing.

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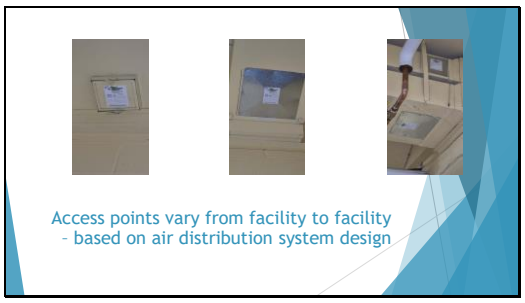

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Fire and Smoke Damper Door Testing and Inspections

- **What are fire and smoke dampers and where are they installed?**
- A fire damper is a passive fire protection product used in HVAC (heating, ventilation, air conditioning) ducts to prevent the spread of fire inside the ductwork. They can be used in commercial or residential properties.
- **Why are fire and smoke damper inspections required?**
- Fire and smoke dampers are essential to a facility's overall fire and life safety protection system. Unfortunately, dampers tend to fail during routine inspections frequently. With other fire protection features, dampers are often installed and forgotten about. Out of sight, out of mind. Fire and smoke can spread fast, and one of the quickest ways for a fire to travel throughout the entire building is through the ventilation system. Hence why fire, smoke and combination (fire and smoke) dampers are specifically designed and installed in the ductwork to help contain the fire to its original origin in order to prevent the fire from spreading through the ductwork.
- Dampers are typically in the ductwork of a facility. According to statistics, on average, nearly 22% of dampers fail during a routine fire and smoke damper inspection. Therefore, it is not uncommon to have a list of deficient dampers needing repairs after facility performance testing.

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Fire Damper Door Testing and Inspections: NFPA 80.

- **NFPA 80 (2025) - Standard for Fire Doors and Other Opening Protectives**
  - Section 20.3.4 Periodic Inspection and Testing
    - 20.3.4.1 Testing Frequency
      - a) 20.3.4.1.1 - Each damper shall be tested and inspected 1 year after acceptance testing
      - b) 20.3.4.1.2 - After the inspection and test required by 20.3.4.1.1, the test and inspection frequency for dampers shall comply with one of the following:
        - Every 4 years,
        - Every 6 years, in buildings containing a hospital.

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Smoke Damper Door Testing and Inspections: NFPA 105

- **NFPA 105 (2025) - Standard for Smoke Door Assemblies and Other Opening Protectives**
  - Section 7.5.2 Periodic Testing
    - 7.5.2.2 - Testing Frequency
      - a) 7.5.2.2.1 - Each damper shall be inspected and tested 1 year after the completion of acceptance testing.
      - b) 7.5.2.2.2 - After the inspection and test required by 7.5.2.2.1, the test and inspection frequency shall then be every 4 years, expect in buildings containing a hospital, where the frequency shall be every 6 years.

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What you need to know!

- 1. **Confirm Damper Inspection and Testing Due Dates**
- NFPA (National Fire Protection Association 80 and 105) requires facilities to have damper testing every 4 years, except healthcare facilities, where inspection is required every 6 years.
- Refer to location, state, regional, provincial and national standards that may exists as outlined in the previous slide.
- However, if the building has had a fire/smoke incident it would be recommended to inspect and test the dampers before recommissioning the building.
- If the building is of new construction fire dampers are to be inspected and tested and reports completed before turning the building over and then retested/inspected 1 year later.
- Knowing when your next inspection and testing is due can help your client avoid any citations, penalties or declined insurance policies.

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2. Locate the Damper Service Report from the last Inspection

As per Section 5.2.4 of NFPA 80:

The Damper inspection report shall list date, name of facility, address, person performing the service and their signature, location of the fire damper door, type, Verification of visual and functional operation and deficiencies found.

FIRE/SMOKE DAMPER DOOR INSPECTION AND/OR TESTING REPORT

Jobsite: Date: May 8, 2025

Jobsite: Work Order No. 12345

Performed: ☒ Annual NFC visual inspection/ OR ☐ NFPA 80 operational test

Technician: Choose an item.

#	Location	Temp Rating	Pass or Action	Comments
1	Ground Floor	165 (F)	Pass	Diffuser, 4 links
2	Ground Floor	165 (F)	Action	Diffuser, 4 links, spring loaded mechanism failed, recommend replacement
3	Ground Floor	165 (F)	Pass	Diffuser
4	Ground Floor	212 (F)	Action	Diffuser, spring loaded mechanism failed, recommend replacement
5	Ground Floor	165 (F)	Pass	Diffuser
6	Ground Floor	165 (F)	Pass	Diffuser
7	Ground Floor	165 (F)	Pass	Diffuser
8	Ground Floor	165 (F)	Pass	Diffuser
9	Ground Floor	212 (F)	Action	Diffuser, vein damaged while removing from the floor due to lifting not cut properly, recommend replacement
10	Ground Floor	212 (F)	Action	Diffuser, spring loaded mechanism failed, recommend replacement
11	Ground Floor	165 (F)	Action	Diffuser, spring loaded mechanism failed, recommend replacement
12	Ground Floor	212 (F)	Pass	Diffuser
13	Ground Floor	165 (F)	Pass	Diffuser
14	Ground Floor	165 (F)	Pass	Diffuser
15	Ground Floor	165 (F)	Pass	Diffuser
16	Ground Floor	165 (F)	Pass	Diffuser
17	Ground Floor	165 (F)	Pass	Diffuser
18	Ground Floor	165 (F)	Pass	Diffuser
19	Ground Floor	165 (F)	Pass	Diffuser
20	Ground Floor	165 (F)	Pass	Diffuser
21	Ground Floor	165 (F)	Pass	Diffuser
22	Ground Floor	165 (F)	Pass	Diffuser
23	Ground Floor	165 (F)	Pass	Diffuser
24	Ground Floor	165 (F)	Pass	Diffuser

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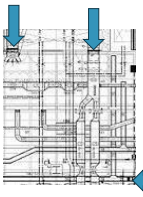

- 3. **Provide Facility Blueprints**
- Facility blueprints will help the inspection process go quickly without a hitch. Providing these blueprints to the inspector will allow for the job to be completed in a timely manner as it will assist in locating the dampers within the facility.
- If blueprints are not available, a floor plan would be beneficial for creating a fire damper working template but sometimes graph paper and physically walking the facility will be your only option.

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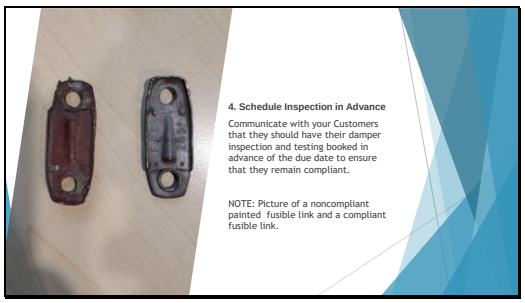

4. Schedule Inspection in Advance

Communicate with your Customers that they should have their damper inspection and testing booked in advance of the due date to ensure that they remain compliant.

NOTE: Picture of a noncompliant painted fusible link and a compliant fusible link.

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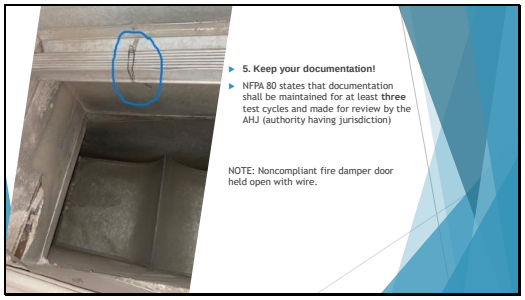

- **5. Keep your documentation!**
- NFPA 80 states that documentation shall be maintained for at least **three** test cycles and made for review by the AHJ (authority having jurisdiction)

NOTE: Noncompliant fire damper door held open with wire.

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Service Challenges

- Conduit /piping blocking fire damper access
- Inaccessible areas:
  - Ceiling void heights
  - No access
  - Improperly sized/non-existent access panels
  - Drywall ceilings - No access
- Small duct systems
- Fire Dampers installed incorrectly (upside down/backwards)
- No blueprints
- Facility personal with limited knowledge of the building

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Duct Access: NFPA 90

- **NFPA 90A (2024) - Standard for the Installation of Air-Conditioning and Ventilating Systems**
  - Section 6.5 Air Duct Access and Inspection
    - 6.5.1 - A service opening shall be provided in air ducts adjacent to each fire damper, smoke damper, combination fire-smoke damper, and any smoke detectors that need access for installation, cleaning, maintenance, inspection, and testing.
    - 6.5.1.1 - The opening shall be large enough to permit maintenance and resetting of the device

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Access Challenges with Solutions!

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Deficiencies: broken links, snapped spring mechanisms, broken louvres, rust.

NOTE: If a fire damper has failed it is important to take pictures and measurements so you can easily source pricing to repair without having to return to site a second time!

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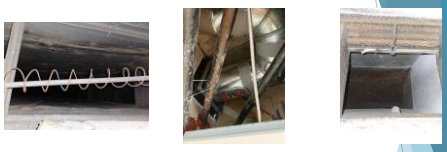

Deficiencies

Left – HVAC component protruding through fire damper opening
Middle – Fire damper inset over drywall ceiling and multiple piping obstructions preventing safe access to perform service
Right – severely corroded/rust fire damper

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Deficiencies

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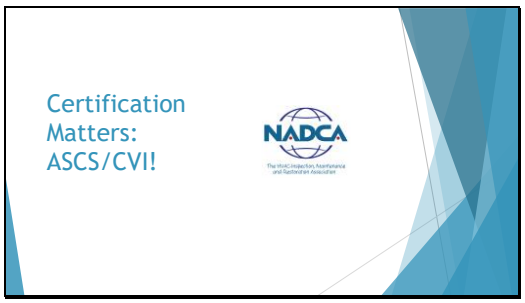

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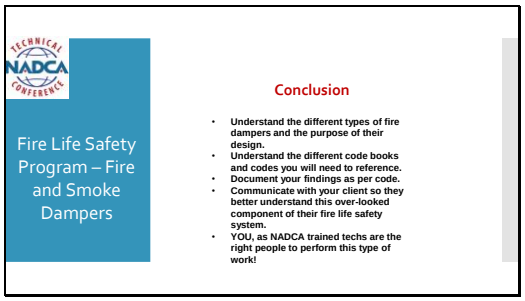

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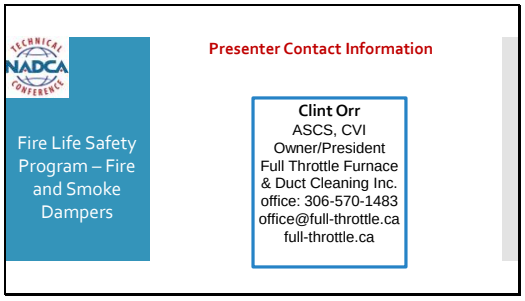

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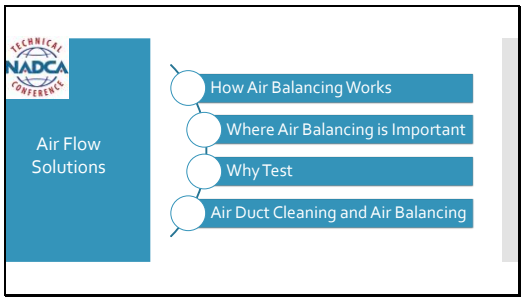

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Presenter

Colin Trudo

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What We'll Learn

- What is Overhead Structure Cleaning?
- Setting Expectations
- Safety Considerations
- How to Price a Job

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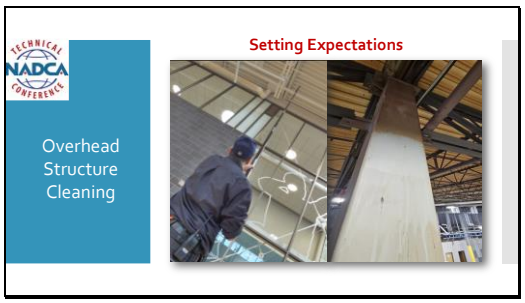
Overhead Structure Cleaning

What is Overhead Structure Cleaning?

Slide 43



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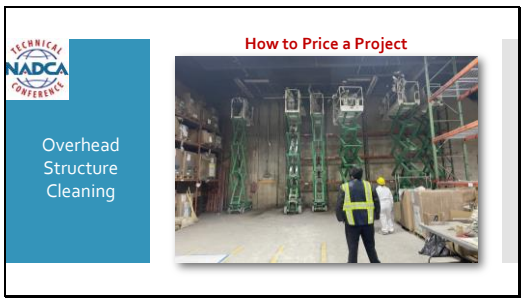

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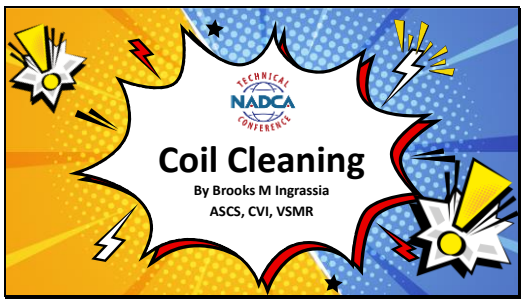

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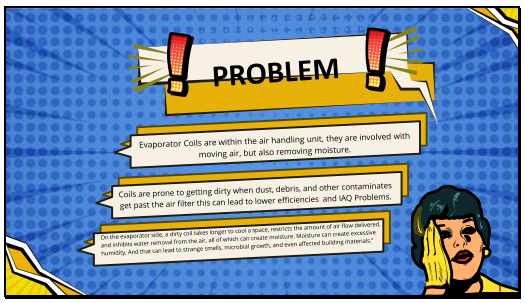

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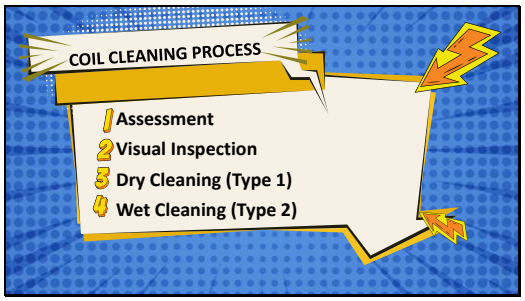

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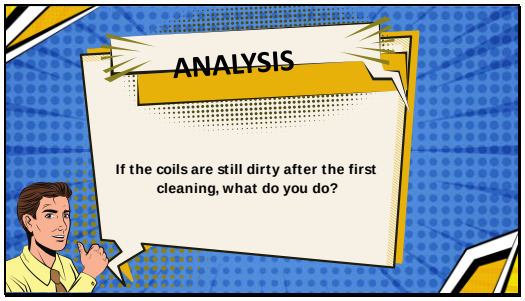

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- Area of a facility that had been repurposed for greater occupancy
- Units were continually struggling and not meeting temps
- Hired to clean the condenser coils
- Would go on to also replace prefilters, filters and clean Evap coils
- Often duct cleaners ignore the condenser coils because they are not in the airstream, they get dirty, you can upcharge to clean them

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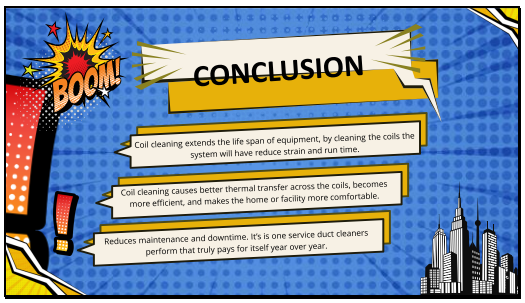

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Slide 61

Cleaning Open Air Plenums

Jim Castellano, ASCS, CVI

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Computer Sub Floor Plenum

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Mechanical Room Plenum

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Open Room Plenum—Above Ceiling Plenum

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Open Air Plenum Showing Return Registers

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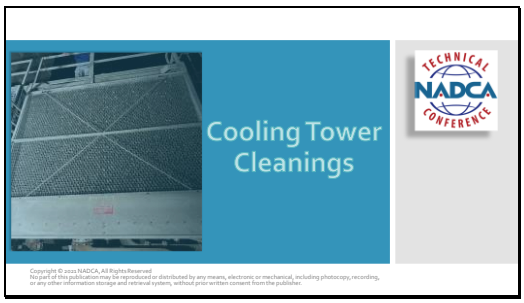

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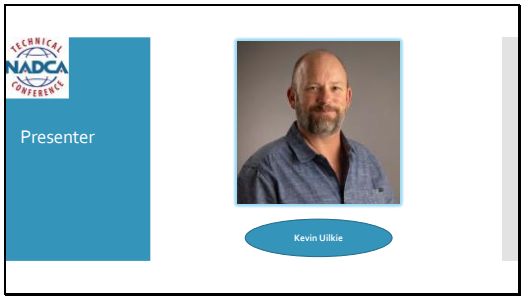

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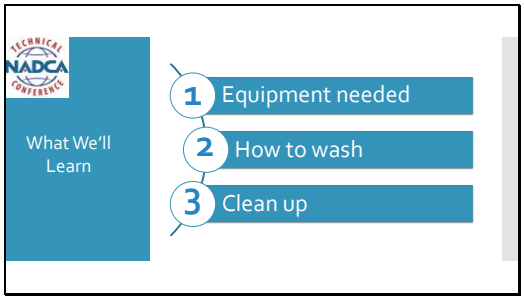

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Presenter

Jonathan Blue
ASCS / CECS

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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 instructors opinions and not necessarily the official position of the National Air Duct Cleaners Association.

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What We'll Learn

- Understanding Kitchen Exhaust
- Cleaning Process Overview
- Tools and Equipment
- Challenges

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Kitchen Exhaust Cleaning

Why Offer Kitchen Exhaust Cleaning?

- Natural Extension of Duct Cleaning Services
- High Demand in Commercial Kitchens
- Recurring Revenue

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Kitchen Exhaust Cleaning

Understanding Kitchen Exhaust Systems

- Exhaust Hood
- Grease Filters
- Ductwork
- Exhaust Fan

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Kitchen Exhaust Cleaning

How It's Different from HVAC Duct Cleaning

- Grease, not dust – Flammable and sticky
- Cleaning frequency is higher
- Regulated by NFPA 96
- Fire Marshal Reporting
- Requires more aggressive methods and containment

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Kitchen Exhaust Cleaning

Tools of the Trade

- Heavy – duty degreasers
- Scrapers, brushes, scrubbing pads
- Hot water pressure washers – Steamers
- PPE – Gloves, Eye Protection, respirators

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Kitchen Exhaust Cleaning

Cleaning Process Overview

- System Inspection – Before and After Photos
- Chemical Application – Foam or Spray
- Scraping and Pressure Washing
- Final Polish, Cleanup, and Hood Certification

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Kitchen Exhaust Cleaning

Access Challenges

- Grease in horizontal ductwork will need more access
- Additional fire rated access doors may be needed.
- Roof Fans need to be lifted – Hinge Kits
- Contain Water Runoff

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Kitchen Exhaust Cleaning

Summary

- Kitchen exhaust cleaning = fire prevention and Fire Code Compliance
- It requires new tools, methods, and regulations
- With training, it's a natural expansion for duct cleaners
- Certified Services are in high demand nationwide

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Kitchen Exhaust Cleaning

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Kitchen Exhaust Cleaning

Presenter Contact Information

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