



Dust Hazard Analysis (DHA): Key Steps for Compliance



A Dust Hazard Analysis (DHA) is required by NFPA 660 for any facility that manufactures, processes, or handles combustible dust. It identifies where combustible dust hazards exist and verifies that appropriate safeguards—such as explosion venting, isolation, and housekeeping—are in place.

1. Identify Combustible Dust Sources

- **Materials handled:** List all dust-producing materials and determine combustibility (Kst, Pmax, MIE, MIC). If combustibility is unknown, send a sample to a certified laboratory for testing.
- **Processes:** Map every step that generates or handles dust: cutting, grinding, mixing, conveying, etc.
- **Collection points:** Identify hoods, ducting, filters, and separators where dust may accumulate.

2. Evaluate Hazardous Conditions

- Determine where dust clouds or layers could form in sufficient concentration to ignite.
- Identify potential ignition sources: static, electrical, mechanical, or hot surfaces.
- Consider secondary explosions from settled dust.
- Evaluate confined areas where explosions could propagate.

3. Assess Existing Safeguards

- Verify explosion venting or chemical suppression systems (NFPA 68 / 69).
- Confirm explosion isolation between equipment and ducts.
- Check grounding, bonding and static control measures.
- Evaluate housekeeping, maintenance and hot-work programs.

4. Determine Risk and Gaps

- Compare actual conditions to NFPA 660 design and operational requirements.
- Document any deficiencies or missing protective measures.
- Prioritize hazards by likelihood and severity of potential incidents.

5. Recommend and Implement Corrective Actions

- Define specific actions: design upgrades, new devices, procedural changes, or training.
- Assign responsibilities and completion dates.
- Verify completion and document results.

6. Document and Maintain

- Maintain written DHA records, drawings, and test data.
- Update the DHA every five years or whenever major process changes occur.
- Keep inspection, maintenance, and incident logs current and accessible.

Note: NFPA 660 treats the DHA as a living document—not a one-time exercise. It should be part of your ongoing safety management system, tied directly to dust collection design and maintenance records.

Additional Resources



Visual Guide to Combustible Dust



Collecting Your Dust Sample



Dust Hazard Analysis Checklist



Need help verifying your system's compliance?

RoboVent's engineers can review your dust collection system design and provide guidance to meet NFPA 660 and DHA requirements.

Contact us to schedule a compliance consultation.