

Ensuring Safety & Compliance in Glass Furnace Rebuilds: Strategies for Risk Mitigation & Efficiency

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Agenda

- Glass furnace rebuilds & safety management
- True cost of an injury
- Case studies
- True costs of OSHA fines
- Proactive safety management & training
- Key takeaways
- □ Q&A





Understanding the Nature of Glass Furnace Rebuilds

- High-risk, complex operations
- Involves high temperatures, heavy machinery, volatile materials
- Requires precise planning and stringent safety controls



Why Safety Management is Critical

Protects personnel and equipment

Minimizes downtime and costly incidents Enhances project reputation & client trust

Ensures timely project delivery



True Cost of an Injury

Direct Costs

- Medical treatment
 - Hospital stays
 - Doctor visits
 - Surgeries
- Rehabilitation/therapy costs
- Workers' Compensation payments (lost wages)
- Legal Fees (if applicable)

Indirect Costs

- Lost productivity
- Time and cost of training a replacement
- Project delays or missed deadlines
- Damage to equipment, tools, or material
- Accident investigation and reporting time
- OSHA fines or regulatory penalties (if applicable)
- Increased insurance premiums
- Administrative costs
- Morale impact on crew
- Loss of reputation or future business



True Cost of an Injury

Indirect costs can be 2-20x higher than direct costs*

\$10,000 direct cost injury



\$50,000 - \$100,000 including indirect costs



Comprehensive Risk Management Best Practices

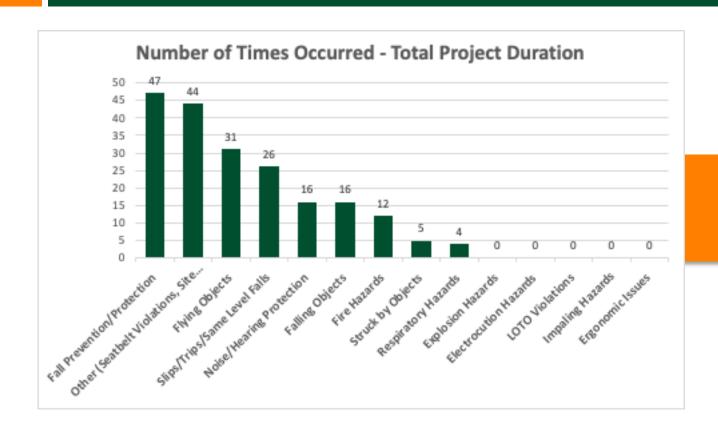
- Conduct thorough hazard assessments
- Identify potential threats before work begins
- Implement proactive safety controls
- Reduce likelihood of accidents and delays





Container Furnace Rebuild

68-75 Days (2024-2025)

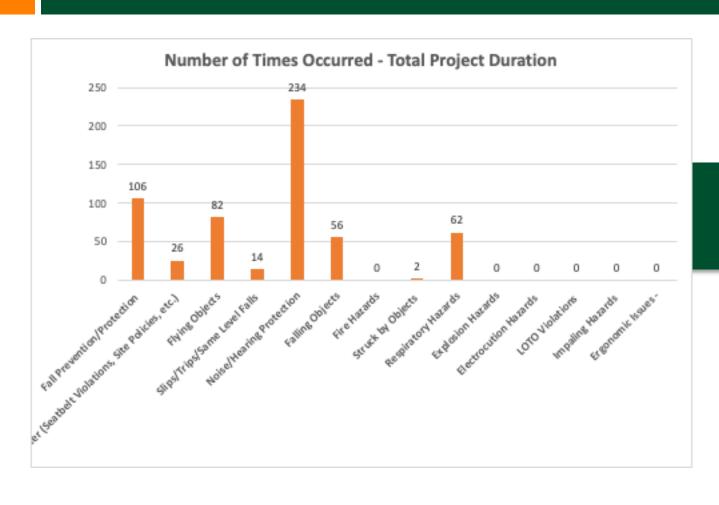


201 Hazards Identified and Corrected



Container Furnace Rebuild

68-75 Days (old)

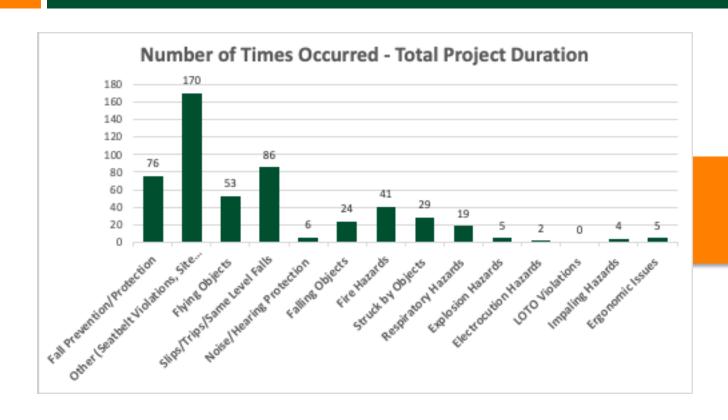


582 Hazards Identified and Corrected



Flat Glass Furnace Rebuild

123-126 Days (2024-2025)

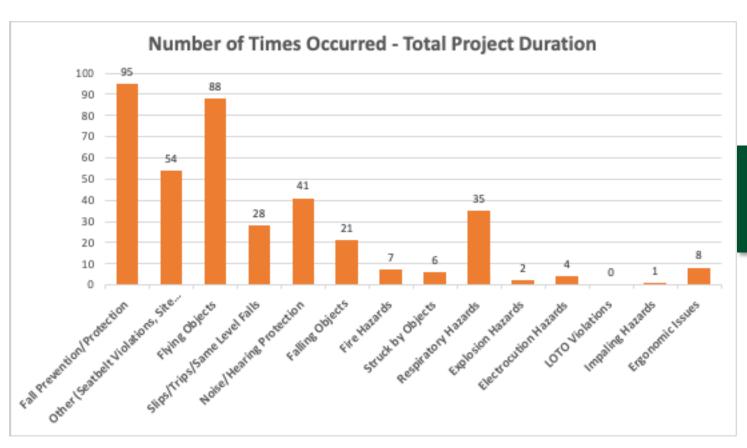


520 Hazards Identified and Corrected



Flat Glass Furnace Rebuild

123-126 Days (old)

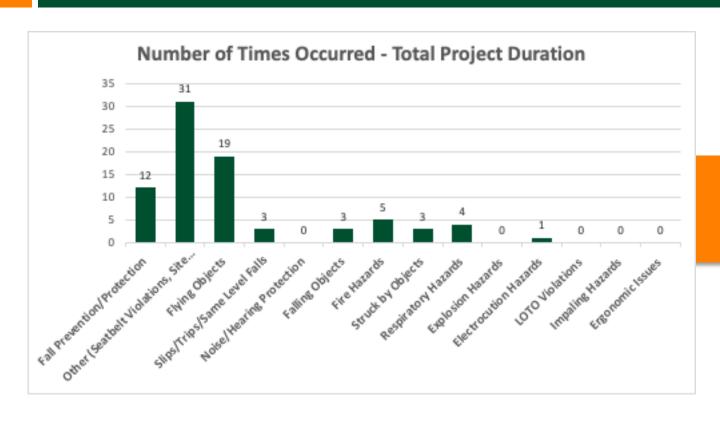


390 Hazards Identified and Corrected



Fiber Glass Furnace Rebuild

90-100 Days (2024-2025)

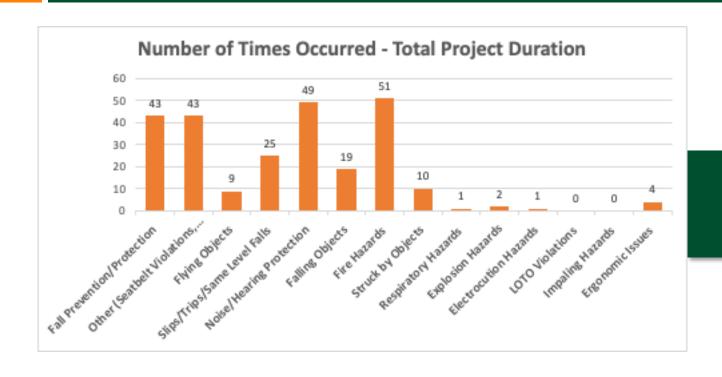


81 Hazards
Identified and
Corrected



Fiber Glass Furnace Rebuild

90-100 Days (old)



257 Hazards Identified and Corrected



Adhering to OSHA and Industry Standards



OSHA Compliance

Compliance with OSHA and local/international regulations



Risk Mitigation

Avoid legal penalties and work stoppages



Integration

Integrate compliance into every project phase



Preparedness

Maintain documentation and inspection readiness



TRUE COST OF OSHA FINES Direct Fines

Type	Fine per Violation
Serious Violation	Up to \$16,131
Willful or Repeated Violation	Up to \$161,323
Failure to Abate	Up to \$16,131 per day beyond abatement date



TRUE COST OF OSHA FINES

Indirect & Hidden Costs

Increased Insurance Premiums

 Workers' compensation and liability insurance costs may spike after a violation

Work Stoppage & Delays

 Investigation often halts work, causing productivity loss

Reputation Damage

 Safety violations can impact brand trust, especially for contractors bidding on new work



TRUE COST OF OSHA FINES

Indirect & Hidden Costs

Legal & Consultant Fees

 Attorneys, safety consultants, or compliance experts

Training & Equipment Costs

 Retraining staff, acquiring new PPE or equipment to get back in compliance

Administrative Time

 Managers and HR spend hours (or days) dealing with the inspection, paperwork, and follow-up



Long-Term Impact

- Employee morale plummets
- Difficulties hiring and retaining talent
- Repeat violations
 - Lead to harsher penalties and may trigger Severe Violator Enforcement Program (SVEP) scrutiny

A single \$15,000 fine could balloon into a \$50K+ event after downtime, legal, insurance and compliance expenses



Focus on Safety



Empowering the Workforce through Training

Tailored safety training programs

Educate personnel on hazard recognition and response

Promote a safety-first culture Boost morale and productivity



The Economics of Safety

Upfront safety investments vs. long-term cost savings

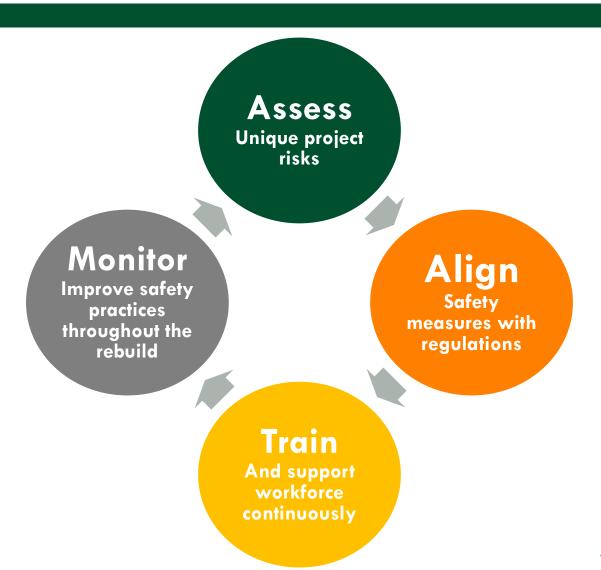
Reduce accident-related expenses and fines

Maintain project timelines and budgets

ROI from efficient and safe operations



Building a Proactive Safety Strategy





Key Takeaways

- Safety is essential for project success
- Regulatory compliance protects both workers and company
- Well-trained teams are more efficient and safer
- Smart safety planning leads to on-time, onbudget delivery



Let's Discuss





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