

# TARGETING THE DEADLY DOZEN

*The Ironworkers National Training Fund has developed a comprehensive training module that utilizes job site footage, student manuals and instructor PowerPoint photographs to illustrate common hazards, proper installation and work techniques. In many cases, incident reports have revealed the lack of instruction on specific hazards as a contributing factor.*

## Prevent Decking Incidents

**Prevent Unauthorized Access to Controlled Decking Zone**

**Ensure Lap-Splices are Connected and Sufficient Sheet Bearing at Ends**

**Install Perimeter Safety Cables and Prevent Open-Sided Floors**

**Guard/Cover Interior Access Opening**

**Secure Sheets to Structure to Prevent Accidental Displacement**

### *Primary Causes of Decking Incidents*

- *Walking and Working on Decking Sheets with Insufficient End Bearing on Structural Members and Sheets that have Not been Properly Lap Spliced Along the Leading Edge.*
- *Falls to the Building Exterior and Interior Due to the Lack of Safety Cables and Guardrails Systems.*
- *Failure to Guard or Cover Exposed Floor and Access Openings.*
- *Failure to Secure Deck Sheets to the Structure After Alignment.*
- *Unauthorized Access to Controlled Decking Zone by Other Workers.*

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**Targeting the Deadly Dozen Hazardous Activities that Lead to Fatalities and Disabling Injuries**

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## Prevent Column and Wall Collapse

**Rebar Columns and Walls  
Must be Adequately Guyed or Braced**

**Horizontal Columns Must be Fabricated  
with Internal Bracing to Prevent "Racking"**

**Column Components and Joint Connections  
Must Integrate Bracing, Template Hoops  
and Pick-Up Bars to Ensure Stability**

**Column Guying and Bracing Systems  
Must be Designed by a Qualified Person**

**Rebar Curtain Walls Must be  
Adequately Braced and Secured**

### *Primary Causes of Decking Incidents*

- *Structural Collapse of Vertical Columns Due to Inadequate or Lack of Guying and Bracing Systems.*
- *Racking of Horizontal Columns Due to Lack of Internal Bracing.*
- *Curtain Wall Collapse Due to Lack of Bracing or Securing to Formwork.*
- *Lack of Preplanning and Assignment of Responsibilities to Prevent Collapse Hazards.*



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## Prevent Anchor Bolt Failure and Column Collapse

**All Columns Must be Anchored by a Minimum of 4 Anchor Bolts**

**Columns Must Not be Erected until Written Notification of Sufficient Concrete Strength**

**The Controlling Contractor Must Provide Written Notification of Any Repair, Replacement or Modification of the Anchor Bolts**

**Anchor Bolts Must Not be Repaired, Replaced or Field-Modified Without the Approval of the Project Structural Engineer of Record**

**All Columns Must be Evaluated by a Competent Person to Determine Whether Guying or Bracing is Needed**

**Primary Causes of Anchor Bolt Failure and Column Collapse Incidents**

- *Structural Collapse Due to Using “Two-Bolt” Columns.*
- *Insufficient Concrete Strength and Failure to Receive Written Notification from the Controlling Contractor.*
- *Anchor Bolts that have been Incorrectly Repaired, Replaced or Field Modified Without the Approval of the Project Structural Engineer.*
- *Lack of Column Guying and Bracing to Maintain Structural Stability.*

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## Prevent Fall Hazards

**Recognize and Avoid  
Potential Fall Hazards  
in Your Work Area**

**Inspect and Use Fall Protection  
Equipment and Systems**

**Determine the Appropriate  
Anchorage Point**

**Receive Training at  
Your Local Training Facility**

### *Primary Causes of Decking Incidents*

- *Failure to Recognize Potential Fall Hazards in the Workplace.*
- *Misuse and Failure to Use Fall Protection Equipment.*
- *Use of Inadequate Fall Arrest Systems That Were Not Engineered.*
- *Lack of Training on the Inspection and Use Fall Protection Equipment.*

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## Preventing Steel Joist Incidents

**Field-Bolting and Welding Joists  
Joist Ends to Prevent Collapse**

**Recognize Requirements  
for Bridging and  
Diagonal Bolted Bridging**

**Special Erection Requirements  
for Erecting K, LH and  
DLH Series Joists**

**Special Requirements for  
Landing Deck Bundle on Joists**

### **Primary Causes of Decking Incidents**

- *Collapse Due to Lack of Field-Bolting or Welding Joist Ends.*
- *Collapse Due to Insufficient Bridging or Diagonal Bracing.*
- *Improper Erection of Long Span Joist.*
- *Collapse Due to Landing Deck Bundles on Unsecured Joist.*



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## Preventing Impalement Hazards

**Avoid Potential Impalement  
Hazards in Your Work Area**

**Inspect Protective Covers  
to Verify They are Designed  
to Prevent Impalement**

**Never Perform Work Over  
or Near Unprotected Dowels**

**Recognize Impalement  
Hazards From Other  
Projections on the Job Site**

### *Primary Causes of Decking Incidents*

- Working Above or Near Exposed Rebar Dowels.
- Failure to Provide or Maintain Protective Covers on the Job Site.
- Failure to Inspect and Verify Types of Protective Covers.
- Failure to Provide Instruction on Impalement Hazards.



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