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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-Spices 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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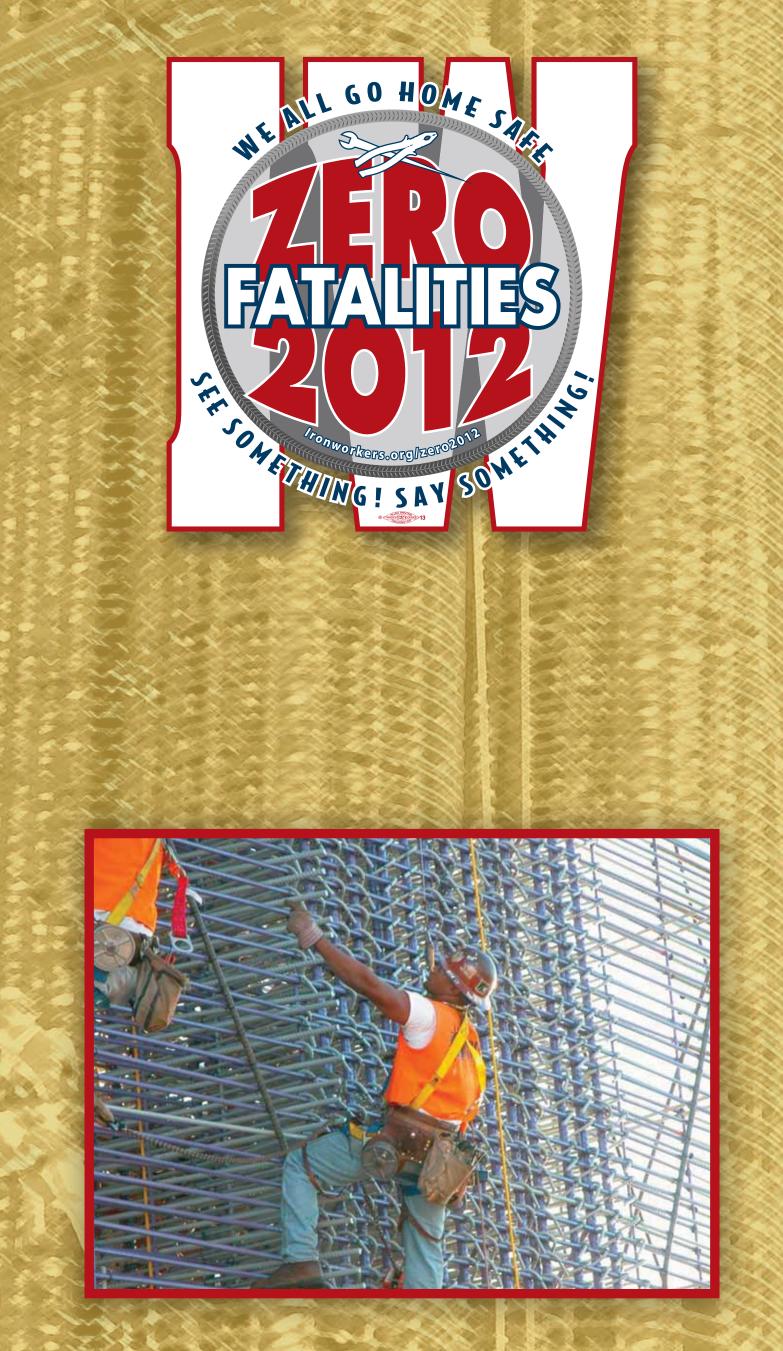
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## Prevent Golumn and Wall Gollapse

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

### Primary Causes of Decking Incidents

- Failure to Recognize Potential Fall Hazards in the Workplace.
- Misuse and Failure to Use Fall Protection Equipment.

**Your Local Training Facility** 

- 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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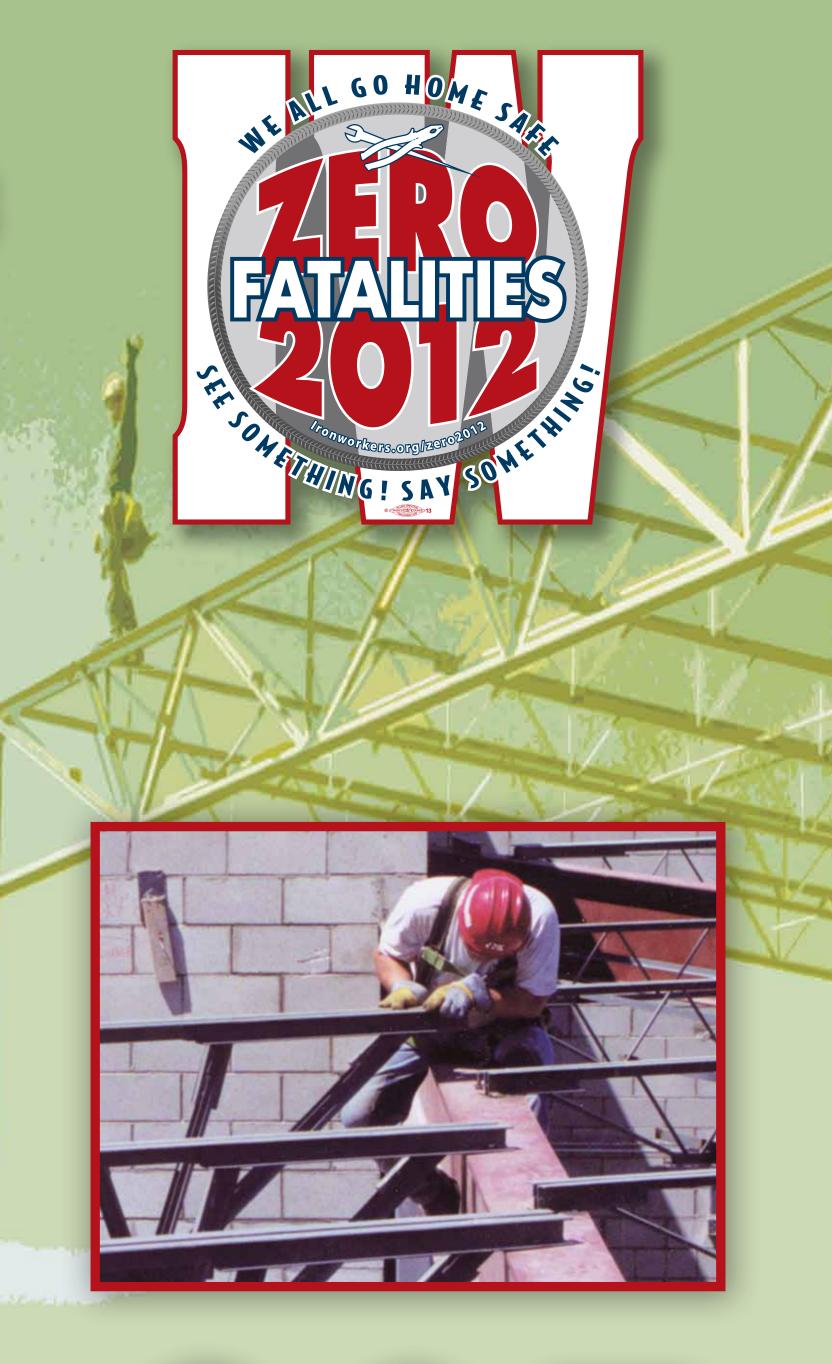
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### **Preventing Steel Joist Incidents** Field-Bolting and Welding Joists Joist Ends to Prevent Collapse



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



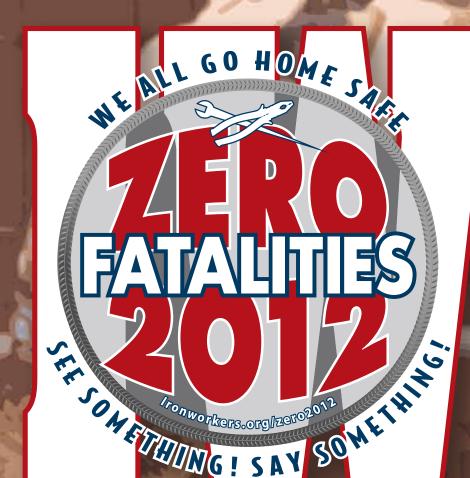
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## Preventing Impalement Hazards

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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