Moving from Risk Management to Risk Elimination

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Prevention through Design Workshop
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PtD in Practice - stories and solutions

- Threats Designed by Professionals
- Accepted “Killing Conditions”
- Focus on Efficiency not Safety
- The Power of Additional Provisions
ALBANY TIMES-UNION

OBITUARY

Hanson, John J. Sr., 82, of Castleton, NY
“....passed away suddenly Friday, October 7, 2011”

Williamstown, MA – A construction accident at the Sterling and Francine Clark Art Institute left a New York man dead, after he was run over by a piece of construction equipment.
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Designing for Failure

- Designed by professionals
- Owner risk – *that they paid for...*
- Lifetime Threats – If it was dangerous during construction
Designing for Failure

Designing for Failure
Designing for Failure – listen for “that’s not what we do here…”

Avoiding the “must trust” Options

*Design in the Prevention*
Our Professional Barriers
Educating Future Designers

“Armed Hazards”  David Macollum
“Armed Hazards”  David Macollum

Only 3-4% of skylights in the US will support the weight of a person…”  Nigel Ellis

Listen for “but we have always done it this way”
PTD - driven by litigation

$1.5 Million Award in Table Saw Injury Lawsuit

<table>
<thead>
<tr>
<th>WORKER – FINGER AMPUTATIONS BY TABLE SAW</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Cost to Business Region</td>
<td>$504,846.00</td>
</tr>
<tr>
<td>Total Profit for Project</td>
<td>$3,309.00</td>
</tr>
<tr>
<td>Cost of one SawStop© Table Saw</td>
<td>$1,779.00</td>
</tr>
<tr>
<td>Additional Sales Needed to Recover Injury Cost</td>
<td>$16.8 Million</td>
</tr>
</tbody>
</table>

ADPROV – Contractor must utilize the SawStop© table saw or similar technology.”


- All Powered Industrial Trucks (rough terrain) must be designed to allow operator unobstructed vision to the left and the right.
- In the event the contractor must work on a roof or similar exposure they are required to guard all existing skylights to prevent falls.
- If skylights are installed or replaced they must be designed to support a persons weight.
Prevention in Practice

From Telling to Understanding

Incident Summary:
An apprentice electrician sustained serious lacerations to the back of his middle and ring fingers when his hand struck metal stud track during a school renovation project. The laceration resulted in damage to tendons which has required surgery to repair.

“The EDGE™ keeps injuries down and my crews working. Injuries cost money and this is the safest drywall stud I’ve ever handled.”
-Nick Latino, Owner of Drywall Specialties, Inc. (New Orleans, LA)

“The rolled edge combined with milder steel makes The EDGE™ safer and easier to work with than any other product we’ve tried.”
-John Puriss, Vice President of Prince Carpentry, Inc. (Manhasset, NY)
Prevention in Practice
From Telling to Understanding

ADPROV – Exterior scaffolding will exceed the highest point of any roofline or final parapet/peak height by one level.

Eric Black
**Engineering in Prevention**

We must answer…what's in this for me?

This marks 416% increase since a 2009 survey.

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**Prevention through Material Design**

– modular receptacles
Prevention through Material Design – modular receptacles

General Contractor
- Safer installations
- Mistake-proof wiring
- Value-add to the owner
- Timelines are met
- Coordination with prefab

Electrical Contractor
- Labor productivity
- Ergonomic installs
- Reduced repetitive motion injuries and fewer screwdriver slips
- Change outs in a fraction of the time
- Ring out circuits prior to trim

Modular Receptacles (Legrand)

Our Next Steps
✓ We need to publically recognize design failures in the US – our line in the sand
✓ Focus on the next generation of designers
✓ Drive PtD incentives including insurers
✓ Listen for “…but the guys need the work”
✓ We must answer to industry…what’s in this for me and highlight the firms that found out
Thanks!

https://ptd.engineering.asu.edu/

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