HORIZONTAL BEAM PANEL SAW

Horizontal beam panel saws are used to cut panels into pieces and it can cut multiple panels at the same time. Multiple panels are stacked – either one panel at a time or the whole stack is pushed to the cut position.

These saws consist of:
- a panel handling area about waist high where whole panels are stacked for sawing
- a power-operated beam which clamps panels during the cut
- a circular saw which cuts the panels - there may be a smaller powered blade for scoring prior to cutting
- a programmable panel pusher mechanism that moves panels into position for cutting - large machines may have a rotation system to change the direction panels are presented to the saw.

HAZARDS:
- Heavy lifting
- Contact, impact or entrapment from moving parts or panels
- Entanglement from contact with blades
- Entanglement with automatic label applicator
- Noise
- Dust
- Slips, trips & falls
- Entanglement from unexpected movement (during maintenance, cleaning & repairs)

PPE:

TASK – STACK THE PANELS

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Harm</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy lifting</td>
<td>&gt; Strain injury</td>
<td>&gt; USE mechanical lifting aids when needed.</td>
</tr>
</tbody>
</table>
Contact, impact or entrapment from moving parts or panels

- Crush injuries
- Bruising
- Fractures

> SLOPE panels back at the top at least 5° to ensure stability.
> PROVIDE a clamp at the top, and a lip or protrusion at the support.

The panel moving mechanism or panels themselves can injure.

**TASK - PUSH THE PANELS TO CUT POSITION & MAKE THE CUT**

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<thead>
<tr>
<th>Hazard</th>
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<tbody>
<tr>
<td>Entanglement from contact with blades</td>
<td>Crush injuries</td>
<td>Fix guarding to prevent access until the blades stop moving.</td>
</tr>
<tr>
<td></td>
<td>Bruising</td>
<td>REPLACE guards if damaged.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DO NOT feed the workpiece into the blade or cut “freehand” in any way.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KEEP the workpiece stationary and clamped.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USE a sectional safety curtain in front of the beam to prevent access to the clamp and blade.</td>
</tr>
</tbody>
</table>

Blades may be exposed or reachable before they stop turning. Clamps are provided to remove the need for reaching close to the blade. Blades with a run down time of more than 10 seconds will be a hazard if access is possible before they stop turning.

Entanglement with automatic label applicator

- Crush injuries
- Bruising

> USE a sectional safety curtain in front of the beam to prevent access to the automatic label applicator.

Some horizontal beam panel saws may have an automatic label applicator which presents a potential trap as it applies labels.

**OTHER (NON-MECHANICAL) HAZARDS**

<table>
<thead>
<tr>
<th>Hazard</th>
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<tbody>
<tr>
<td>Noise</td>
<td>Hearing damage or loss</td>
<td>REDUCE noise levels by isolating machines or enclosing within noise barriers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ASSESS noise levels.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RUN a hearing conversation programme.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALWAYS WEAR hearing protection.</td>
</tr>
</tbody>
</table>

A safe noise level over an eight hour day is 85dB(A). A horizontal beam saw may exceed this noise intensity.

Dust

- Eye irritation or damage
- Breathing problems, lung damage or cancer
- Worsening of existing health problems

> PROVIDE adequate dust extraction. |
> ALWAYS USE respiratory protection. |
> ALWAYS WEAR eye protection.
Slips trips and falls

> Trapping
> Cuts
> Bruising

> KEEP up-to-date housekeeping procedures.
> KEEP the area around shears clear of slip and trip hazards.

**TASK – MAINTENANCE, CLEANING & REPAIRS**

**Hazard**
Entanglement from unexpected movement

**Harm**
> Cuts
> Bruising
> Crush injuries

**Controls**
> LOCK-OUT all power supplies before maintenance, cleaning and repairs, or adjusting blades and guards.
> KEEP written safety procedures, and arrange regular inspections by a competent person.
> REMOVE or LOCK-OUT saws that fail inspection, and DO NOT USE until repaired or replaced.

**VERTICAL PANEL SAW**

Vertical panel saws require less floor space than horizontal beam saws. Small vertical panel saws may be transported to building sites.

These saws consist of:
> a rotating head containing the saw which turns 90° to make vertical or horizontal cuts
> a moving beam to support the rotating head - some less complex saws leave the supporting beam fixed while the panel is moved by the operator for horizontal cuts
> means of securing vertical panels while they are cut.

The saw either cuts automatically or the operator draws the panel across.

**FIGURE 2: VERTICAL PANEL SAW**

<table>
<thead>
<tr>
<th>Top support</th>
<th>Rotating head with saw blade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical beam to support saw</td>
<td>Panel support</td>
</tr>
</tbody>
</table>

**HAZARDS:**
> Heavy lifting
> Contact, impact or entrapment from moving parts or panels
> Entanglement with blade
> Contact, impact or entrapment from moving parts/ejection of materials
> Noise
> Dust
> Slips, trips & falls
> Unexpected movement (during maintenance, cleaning & repairs)

**PPE:**

- Protective glasses
- Hard hat
- Respirator
- Gloves
- Safety shoes
- Hearing protection
**TASK – STACK THE PANELS**

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The panel moving mechanism or panels themselves can injure.

**TASK – MAKE THE CUT**

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<tr>
<td>Entanglement from contact with blade</td>
<td>&gt; Deep cuts or amputation</td>
<td>&gt; FIX guards (including a self-closing guard) to isolate the blade as much as possible.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; REPLACE guards if damaged.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; POSITION the saw so the operator cannot access the blade from behind.</td>
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<td>Contact, impact or entrapment from moving parts/ejection of materials</td>
<td>&gt; Crush injuries</td>
<td>&gt; FIT a riving knife to minimise the risk of material ejecting.</td>
</tr>
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<td>&gt; Bruising</td>
<td>&gt; Consider putting a clamp at the top, and provide a lip or overlap at the support.</td>
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Vertical panel may slip off its support. Saw support beams may move horizontally under power.

**OTHER (NON-MECHANICAL) HAZARDS**

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A safe noise level over an eight hour day is 85dB(A). A vertical panel saw may exceed this noise intensity.
Dust

- Eye irritation or damage
- Breathing problems, lung damage or cancer
- Worsening of existing health problems

> PROVIDE adequate dust extraction.
> ALWAYS WEAR eye protection.
> ALWAYS USE respiratory protection.

Slips trips and falls

- Trapping
- Cuts
- Bruising

> KEEP up-to-date housekeeping procedures.
> KEEP the area around shears clear of slip and trip hazards.

**TASK – MAINTENANCE, CLEANING & REPAIRS**

**Hazard**
- Contact, impact or entrapment from unexpected movement

**Harm**
- Bruising
- Crush injuries

**Controls**
- LOCK-OUT all power supplies before maintenance, cleaning and repairs, or adjusting blades and guards.
- KEEP written safety procedures, and arrange regular inspections by a competent person.
- REMOVE or LOCK-OUT saws that fail inspection, and DO NOT USE until repaired or replaced.
References, current standards and further information can be found on the Safe Use of Machinery project page at: www.worksafe.govt.nz