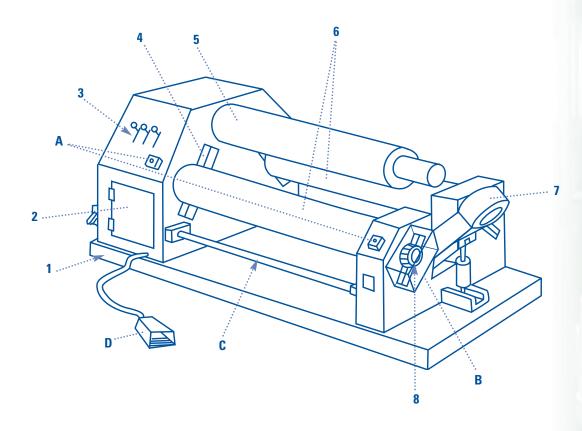
(Forming Machine)

**Roll Bender** 

Date:



### **Slip Roll Forming Machine Parts**

- 1 Chassis
- 2 Drive System Access Panel
- 3 Controls
- 4 Adjustment Mechanism
- 5 Fixed Upper Roller
- 6 Adjustable Lower Rollers
- 7 Swing Bearing
- 8 Track Runner Bearing

### **Safety Devices**

- A Emergency Stop Button
- **B** Guard
- C Emergency Stop Bar
- **D** Three-Position Control Pedal





Institut de recherche Robert-Sauvé en santé et en sécurité du travail www.irsst.qc.ca



**Industrial Accident Prevention Association** 

1-800-406-IAPA (4272) www.iapa.ca

### **LEGEND**

#### **Preventative Measures**

- ► Procedural Measures
- Orders/instructions

#### Priority Codes for applying risk measures:

- A. Immediate stoppage and resolution
- B. Resolution as soon as possible
- C. Resolution according to normal company procedures

The suggested preventative measures are based in part from the Workplace Health And Safety Regulations (RSST, S-2.1, r.19.01), from An Act Respecting Occupational Health and Safety (Québec LSST, S-2.1), INRS Safety Data Sheet 31; Metal Rolling and Forming Machines, 1986, as well as CSA Standards, ANSI B11.12-1996.

### **Mechanical Hazards**



Most likely injuries: Crushing, cuts, tractures, contusions.			1	<b>\</b>	V
Preventative measures Applicable Mot application	ble N/A	Notes	Desig.	Sched.	Prior.
Risk Factor: Being Pulled-In By The Sheet Metal, By The	Rollers Or	By The Track Runner Be	arings		
► Install feed tables with roller or ball bearings to allow placement of hands away from the pinch danger zone.					
► Install hold-down push-button controls.					
► Install a three-position control pedal. The roll bender stops when the foot is removed or when greater pressure is applied to the pedal.	l				
► Install a fixed guard around the track runner bearing.					
Position the workpiece while the rolls are at a standstill.					
• Ensure the workpiece is properly aligned before starting up the bender.					
●Use a guide.					
● Use a tool to hold the workpiece.					
● Remove hands from the workpiece as soon as it is engaged in the machine.					
● Make adjustments when the machine is at a standstill.					
● Wear snug-fitting clothes and gloves.					
● Do not wear any jewelry.					
● Tie up long hair and secure under a cap.					
● Keep the work area free and clear.					
► Install a clearly marked emergency stop button located on each side of the forming machine (left and right), and at each mobile control.					
► Install an emergency stop device on the whole length of the machine at the front and in the back, such as a kick panel, a cable or a knee-high or foot-level bar.					
► Reduce braking speed by using a holding brake, a clutch system or, the application of a direct current.					

# Mechanical Hazards (continued)

Most likely injuries: Crushing, cuts, fractures, contusions.

Preventative measures Appliquée 🗹 Non applicable	e N/A	Notes	Desig.	Sched.	Prior.
Most likely injuries: Crushing, cuts, fractures, contusions.					
► Install recessed buttons.					
► Install a protector on the top and on the sides of the control panel.					
► Install as many controls as there are workers simultaneously using the roll bending machine. All workers must maintain their control devices depressed to start the machine.					
► Install a by-pass device to make any unused control devices inoperative.					
Risk Factor: Accidental Start-Up Of The Roll Bending Mac	hine				
► Ensure that should the electrical supply to the roll bending machine be interrupted, the roll bending machine could not resume work automatically once the electrical power supply is restored.					
•Apply lock-out procedures during maintenance and repairs:					
<ul> <li>disconnect all sources of energy</li> <li>dissipate (purge) all residual energies (e.g.: oil pressure in the hydraulic system)</li> <li>lock-out all sources of energy</li> <li>validate to ensure start-up is no longer possible and that all power has been dissipated (purged).</li> </ul>					
Risk Factor: Handling Badly Burred Workpieces					
• De-burr the workpiece.					
• Wear cut-resistant gloves.					
Risk Factor: Contact With Drive Mechanisms (Gears, Pulle	ys, et	c.)			
• Ensure drive mechanism access panel guards are always in place.					
Risk Factor: Falling Sheets Of Metal					
• Wear CSA-approved safety footwear with steel-capped toes.					
Risk Factor: Workpiece Movement During Rolling Process					
► Support large diameter rolls to avoid settling of the workpiece.					
► Mark-off work area (yellow line on the floor, barriers, etc.)					
► Install a mobile command post which allows the work area to be visibile in front and behind the roll bending machine.					
► Install a mirror to see behind the roll bending machine.					
Notes:					

# Mechanical Hazards (continued)

Most likely injuries: Crushing, cuts, contusions.

Preventative measures	Appliquée 🗹	Non applicable N/A	Notes	Desig.	Sched.	Prior.
Risk Factor: Flying Metal Sheet	t and Metallic F	Projectiles				
Never exceed the roll bending mather ating plate. Do not allow the with a torch (unequal heating).	achine capacity s e heating of a me	stated on tal sheet				
• Ensure the sheet is fed in the dir is at least three times its thickne	ection where the	e length				
Risk Factor: Fall, Slipping						
Repair and clean floor: uneven su slippery floor, etc.	urfaces, holes,					
Notes:						

# **Ergonomic Hazards**

Most likely injuries: Musculo skeletal disorders, backaches, fractures, strains and sprains, etc.

Preventative measures Appliquée 🗹 Non applica	ble N/A	Notes	Desig.	Sched.	Prior.
Risk Factor: Handling Rolls Or Heavy And Bulky Workpie	ces				
► Supply mechanical handling devices (hoist, suction cups, etc.) suitable to the weight and dimensions of the workpiece.					
► Install equipment to aid the feeding of workpiece, such as roller conveyors, roller-ball table, trestles, elevating table, etc.					
• Ask for help from another worker when help is needed.					
Risk Factor: Straining Working Positions					
► Install elevating tables to assist access to workpieces.					
Risk Factor: Static Standing Work					
► Supply anti fatigue floor mats with rising edges.					

### **Electrical Hazards**

**Most likely injuries: Electrocution** 

Preventative measures	Appliquée 🗸	Non applicable N/A	Y	Desta	0-11	Dutan
			Notes	Desig.	Sched.	Prior.
Risk Factor: Contact With Pa	arts Normally Ur A	ccidentally Energ	izea			
► Install an isolating switch nea markings.	r the roll bender, w	ith clear				
<ul> <li>apply lock-out procedures dur</li> <li>disconnect all sources of ene</li> <li>lock-out all sources of energy</li> <li>validate to ensure start-up is</li> </ul>	rgy	d repairs:				
<ul> <li>Periodically verify the isolation the grounding circuit of the re</li> </ul>						
Notes:						

# **Chemical Hazards**

**Most likely injuries: Dermatitis.** 

Preventative measures	Appliquée 📝	Non applicable N	/A	Notes	Desig.	Sched.	Prior.
Risk Factor: Inhalation Or Ski							
● Consult the MSDS for the lubri							
			7				
Select lubricants that are the le	east harmful to ski	n.					
			•		•		
Notes:							
Completed by:			r f	This Self-Diagnosis form wesearch project in work rom IRSST, a workplace he nstitute named (Institut de	place he ealth and	alth and safety re	safety search

en santé et en sécurité du travail).