



EMPLOYER - PHYSICAL DEMANDS ANALYSIS

Pulp Mill Warehouse Operator

Job Title:	Pulp Mill Warehouse Operator	Video Link:	http://youtu.be/d4InPoeYgcw (YouTube) http://albertaforestproducts.ca/our-industry/health-safety/physical-demands-analyses-pda (Website)
Work Schedule:	10-12-hour shifts Regular breaks are self-directed and spaced throughout the workday: Usually two 15-minute coffee breaks and one 30-minute lunch break per shift.		
General Description and Job Function:	Responsible for the operation of the Strapping machine and clamp trucks to strap/load pulp bales onto waiting railcars. Also responsible for switching the chemical railcar, as required. <ul style="list-style-type: none"> ➤ Loading railcars/tractor-trailers with clamp trucks ➤ Re-fuelling clamp trucks ➤ Operating Strapper ➤ Switching Chemical Cars ➤ Clearing rail tracks/crossings of ice/wood debris 		
Equipment used to perform the job: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Clamp Trucks ➤ Switch Master ➤ Hammer ➤ Wire cutters ➤ Stencil 		
Recommended Personal Protective Equipment: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Eye Protection ➤ Face shield ➤ Hearing Protection ➤ Steel Toed Boots ➤ Dust mask ➤ Coveralls 		
Environmental Conditions:			
Inside/Outside:	Inside: 90% Outside: 10%		
Working Temperature:	May involve exposure to hot or cold weather conditions		
Walking Surfaces :	Concrete, metal grating, mud, wood debris, snow, ice		
Dust:	Mild		
Lighting:	Adequate overhead, indoor lighting in most areas		
Vapour/Fumes:	Propane		
Noise Levels:	>85dBA		
Vibration:	Mild: Operating clamp trucks Medium:- Sledgehammer use		
Moving Objects:	Railcars, mobile equipment		
Risks/Hazards: (may include, but not limited to)	<ul style="list-style-type: none"> ➤ Slipping, tripping, falling ➤ Skin punctures ➤ Pinch and nip ➤ Muscle strains and soreness ➤ Cuts and abrasions ➤ Prolonged sitting 		
Size of Work Space:	Varies. May have to maneuver into tight spots to complete duties		
Sensory Requirements:			
Hearing: Conversation or sounds	Vision: Near/Far, Colour, and Depth	Feeling: Tactile sensory discrimination	
Reading: English	Speech/Comprehension: English		
Other Work Factors:			
Travelling:	N/R	Working Alone:	N/R
Working Independently/In Group:	Required to work independently for the majority of the shift, may asked to assist a co-worker or request assistance when required		

Work Pace (self/machine directed):	Self: 20% (must continually monitor all areas of responsibility and intervene in a timely manner) Machine: 80%
Interaction with Others:	Required to work with co-workers in several areas inside/outside mill
Operation of Equipment: (may include, but not limited to)	Continuous: Clamp trucks Seldom: Switch Master

Assessment Criteria Used

Frequency Key		
Frequency	% of Workday	Hours of 12 Hour Workday
Not Required (N/R)	0%	0
Seldom (S)	0-5%	Not performed on a daily basis
Rare (R)	1-5%	<37 min/day
Occasional (O)	6-33%	37 min to 3 hours 58 min/day or 1 rep/30 min
Frequent (F)	34-66%	3 hours 59 min to 7 hours 55 min/day or 1 rep/2 min
Constant (C)	67-100%	7 hours 56 min to 12 hours/day or 1 rep/30 sec

Force Level (FL)	Weight Handled (WH)
Sedentary (SD)	0-10 lbs
Light (L)	Less than 20 lbs
Medium (M)	20-49 lbs
Heavy (H)	50-99 lbs
Very Heavy (VH)	100+ lbs

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Manual Handling Tasks									
Lift:									
Floor to Waist		SD	0-10	X					
	Chemical car wheel-chocks, tools	L	<20			X			
	Propane tank	M	20-49			X			
	Reject pulp bales	H	50-99			X			
		VH	100+	X					
Waist Level		SD	0-10	X					
		L	<20	X					
	Propane tank	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Waist to Chest		SD	0-10	X					
		L	<20	X					
	Propane tank, propane nozzle	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Waist to Overhead	N/R			X					
Front Carry		SD	0-10	X					
	Chemical car wheel-chocks, tools	L	<20			X			
	Propane tank	M	20-49			X			
		H	50-99	X					
		VH	100+	X					

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY						
		FL	WH	N/R	S	R	O	F	C	
Side Carry Right Hand		SD	0-10	X						
	Chemical car wheel-chocks, tools	L	<20			X				
	Propane tank	M	20-49			X				
		H	50-99	X						
		VH	100+	X						
	Left Hand		SD	0-10	X					
		Chemical car wheel-chocks, tools	L	<20			X			
		Propane tank	M	20-49			X			
			H	50-99	X					
			VH	100+	X					
Pushing (tools/objects) Static		SD	0-10	X						
		L	<20	X						
	Cutting bale wire with wire cutters, opening/closing railcar doors, switching rail lines (winter)	M	20-49			X				
		H	50-99	X						
		VH	100+	X						
	Dynamic		SD	0-10	X					
			L	<20	X					
		Cutting bale wire with wire cutters, opening/closing railcar doors, switching rail lines (summer), connecting/disconnecting railcars	M	20-49				X		
		Opening/closing railcar doors, switching rail lines (winter), moving reject bales	H	50-99				X		
			VH	100+	X					
Pulling (tools/objects) Static		SD	0-10	X						
		L	<20	X						
	Strapping wire jams, opening/closing railcar doors	M	20-49			X				
	Opening/closing railcar doors, switching rail lines (winter)	H	50-99			X				
		VH	100+	X						
	Dynamic		SD	0-10	X					
		Cutting bale wire with wire cutters, threading new strapping wire into machine	L	<20				X		
		Opening/closing railcar doors, switching rail lines (summer), connecting/disconnecting railcars	M	20-49				X		
		Opening/closing railcar doors, switching rail lines (winter), moving reject bales	H	50-99				X		
			VH	100+	X					
Grip Strength/Coordination										
Repetitive Use of Hands Bilateral		SD	0-10	X						
	Changing Strapper wire, operating clamp truck, operating Strapper, stenciling	L	<20				X			
		M	20-49	X						
		H	50-99	X						

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY						
		FL	WH	N/R	S	R	O	F	C	
Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Operating clamp truck, operating Strapper	L	<20					X		
		M	20-49	X						
		H	50-99	X						
Non-Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Operating clamp truck, operating Strapper	L	<20					X		
		M	20-49	X						
		H	50-99	X						
Power Grip Bilateral		VH	100+	X						
		SD	0-10	X						
	Chemical car wheel-chocks, opening/closing railcar doors	L	<20				X			
	Propane tank, throwing rail line switches (summer), opening/closing railcar doors	M	20-49				X			
	Throwing rail line switches (winter), opening/closing railcar doors, connecting/disconnecting railcars	H	50-99				X			
Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Using hammer on jammed railcar locks, opening/closing railcar doors, connecting/disconnecting railcars	L	<20				X			
	Propane tanks, opening/closing railcar doors, connecting/disconnecting railcars	M	20-49				X			
		H	50-99	X						
Non-Dominant Hand		VH	100+	X						
		SD	0-10	X						
	Using hammer on jammed railcar locks, opening/closing railcar doors, connecting/disconnecting railcars	L	<20			X				
	Propane tanks, opening/closing railcar doors, connecting/disconnecting railcars	M	20-49			X				
		H	50-99	X						
Fine Hand Dexterity Bilateral		VH	100+	X						
		SD	0-10	X						
	Operating clamp truck, Switch Master, Strapper machine, stencilling						X			
	Dominant hand							X		
	Non-Dominant Hand							X		
Manual Handling Bilateral		VH	100+	X						
		SD	0-10	X						
	Chemical car wheel-chocks	L	<20			X				
	Propane tank	M	20-49			X				
	Reject pulp bales	H	50-99			X				
		VH	100+	X						
	Dominant hand		SD	0-10	X					
		Chemical car wheel-chocks	L	<20			X			
		Propane tank	M	20-49			X			

Critical Job Demands Weight/force (lb)	Comments <i>Examples listed are for illustrative purposes (i.e. weight generalities)</i>	MEASURE		FREQUENCY OF WORKDAY					
		FL	WH	N/R	S	R	O	F	C
Non-Dominant Hand		H	50-99	X					
		VH	100+	X					
		SD	0-10	X					
	Turning valves, chipping ash	L	<20			X			
	Propane tank	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Tool Usage									
Both Hands		SD	0-10	X					
	Wire cutters, stencil	L	<20			X			
	Wire cutters	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Dominant hand		SD	0-10	X					
	Hammer	L	<20			X			
	Hammer	M	20-49			X			
		H	50-99	X					
		VH	100+	X					
Non-Dominant Hand		SD	0-10	X					
	Hammer	L	<20			X			
	Hammer	M	20-49			X			
		H	50-99	X					
		VH	100+	X					

Critical Job Demands Weight/force (lb)	Comments <i>(Examples listed are for illustrative purposes)</i>	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Positional Mobility							
Sitting/Standing/Driving							
Sitting	Operating clamp truck					X	
Standing	Inspecting/connecting/disconnecting railcars, throwing rail line switches, operating Switch Master, operating Strapper, opening/closing railcar doors					X	
Driving (Car and Truck)	N/R	X					
Walking							
Level Surfaces	Inspecting/connecting/disconnecting railcars, throwing rail line switches, operating Switch Master, operating Strapper, opening/closing railcar doors					X	
Rough Surfaces	Outside worksite terrain					X	
Slopes	Outside worksite terrain		X				
Climbing							
Stair	Accessing work areas			X			
Ladder	Accessing work areas		X				
Other (stools/equipment/etc.)	Onto railcars			X			
Jumping	N/R	X					
Running	N/R	X					
Balancing	Outside worksite terrain, railcars			X			
Bending							

Critical Job Demands Weight/force (lb)	Comments <i>(Examples listed are for illustrative purposes)</i>	FREQUENCY OF WORKDAY					
		N/R	S	R	O	F	C
Static	Inspecting/connecting/disconnecting railcars, throwing rail line switches, opening/closing railcar doors, changing Strapper wire, placing/removing wheel-chocks				X		
Variable	Inspecting/connecting/disconnecting railcars, throwing rail line switches, opening/closing railcar doors, changing Strapper wire, operating clamp truck, placing/removing wheel-chocks						X
Trunk Rotation							
Static Twisting	Inspecting/connecting/disconnecting railcars, throwing rail line switches, opening/closing railcar doors, changing Strapper wire, placing/removing wheel-chocks				X		
Variable Twisting	Inspecting/connecting/disconnecting railcars, throwing rail line switches, opening/closing railcar doors, changing Strapper wire, operating clamp truck, placing/removing wheel-chocks						X
Crouching Squatting							
Crouching	Inspecting railcars, changing Strapper wire, placing/removing wheel-chocks			X			
Repetitive Squatting	N/R	X					
Kneeling/Crawling							
Kneeling	Inspecting railcars, changing Strapper wire, placing/removing wheel-chocks				X		
Crawling	Inspecting railcars, changing Strapper wire, placing/removing wheel-chocks		X				
Reaching							
Above Shoulder Level	Changing Strapper wire		X				
Below Shoulder Level	Operating mobile equipment and Strapper, loading railcars						X
Neck Postures/Movements	All neck positions required (180°, up, down, side to side)			X			
Throwing	N/R	X					
Foot Action	N/R	X					
Forceful/Jerky Movements	Moving reject bales, clearing wire jams			X			

Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
A. Understanding and Memory						
Remember locations and routine procedures						X
Understand and remember short and simple instructions						X
Understand and remember detailed instructions		X				
B. Sustained Concentration & Persistence						
Carry out short and simple instructions						X
Carry out detailed instructions		X				
Maintain attention and concentration for extended periods						X
Perform activities within a schedule						X
Sustain an ordinary routine without supervision						X
Make simple decisions						X
Solve simple straightforward problems						X
Solve complex problems		X				
C. Social Interaction						

Psychosocial Demands:	REQUIREMENTS					
	N/R	S	R	O	F	C
Interact with the general public		X				
Ask questions or request assistance				X		
Accept instructions and feedback				X		
Get along well with others without distracting them				X		
Get along well with others without being distracted by them				X		
D. Adaptation						
Respond to changes in the environment or tasks						X
Aware of normal hazards and take appropriate precautions						X
Travel in unfamiliar places or use public transportation	X					
Set realistic goals or make plans independently of others						X
Juggle tasks and prioritize					X	
E. Responsibility & Accountability	Yes			No		
Does the work involve occasional pressure to meet deadlines?	X					
Does the work involve significant pressures?				X		
F. Language Requirements	Yes			No		
Is English required for safety purposes?	X					
Is English required for professional purposes?	X					

Injury Prevention Recommendations	
1.	Practice correct ergonomic sitting techniques throughout the shift and take a standing stretch break every 45 minutes to reduce risk of back injuries from prolonged sitting posture
2.	Stretch-regularly used muscles throughout the shift
3.	Neck, back, upper and lower extremity warm-up exercises recommended before undertaking manual handling tasks to reduce the chance of soft tissue injuries
4.	To help prevent low back strain/sprain from incorrect manual handling techniques – incorporate proper manual handling techniques at all times; utilize dolly, cart, hoist or forklift for all items over 50 lbs or of awkward shape whenever possible; maintain physical conditioning to a Medium-Heavy manual handling level
5.	To help prevent lower extremity joint/muscle pain due to general de- conditioning, poor cushioning in footwear and spending extended periods weight bearing on concrete surfaces – ensure proper fitting footwear with adequate cushioning; take regular stretch breaks hourly
6.	To prevent knee injuries, knee pads should be utilized when kneeling on hard or rough surfaces

Technical data provided by: Jason Shepherd Physical Therapy