



154 Meadowlark Health Centre  
156 Street & 87 Avenue  
Edmonton, Alberta T5R 5W9  
Tel (780) 429-4761  
Fax (780) 425-4274  
Toll Free 1-800-493-5446

## Physical Demands Analysis

### Commercial Glazier

Prepared for:  
Alberta Construction Association

<b>Job Title:</b>	Commercial Glazier	<b>Assessment Location:</b>	Edmonton, AB	<b>Data Collection Date:</b>	December 17, 2020
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<b>Completed By:</b>	Joanna Ellingson, BKin	<b>Submitted on:</b>	April 6, 2021
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<b>Disclaimer:</b>	The Physical Demands noted in this report may vary depending on company and location. Please contact the company directly to confirm this physical demands analysis is an accurate representation of the specific job title for the specific location.
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<b>Work Schedule:</b>	<b>Shift Duration:</b> 5 days/week, 8 hours/day <b>Break Schedule:</b> Total of 1 hour break per day / 2-15 minute breaks, 1-30 minute break <b>Shift Rotation:</b> Rarely required (days/evenings/nights) <b>On call is required:</b> Yes – 24/7 required for emergency repairs <b>Overtime required:</b> No; but may be available depending on work volume and project deadlines
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<b>Education / Experience:</b>	<b>Education required:</b> Not applicable <b>Hours required for position:</b> N/A <b>Tickets that may be required (not limited to):</b> Elevated Work Platform (EWP) machinery use, First Aid, WHMIS, Construction Safety Training Systems (CSTS) and Basic Safety Orientation (BSO).
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<b>Labour Provider:</b>	N/A
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<b>Job Overview:</b>	As a commercial glazer the worker is required to install glass or complete repairs for new or pre-existing buildings.		
	% of shift	Job Task	Task Description
	5%	Tailgate meeting	<ul style="list-style-type: none"><li>Reviewing and discussing projects/jobs for the day and upcoming shifts.</li><li>This can be completed at the shop or on the site.</li></ul>
	Up to 5%	Travel to site	<ul style="list-style-type: none"><li>Travel to the designated site outlined in the tailgate meeting.</li></ul>
	15%	Preparing site/openings	<ul style="list-style-type: none"><li>Retrieving equipment, tools and material from work vehicle to work area on site.</li><li>Applying a waterproof membrane to the openings that commercial glazier is designated to work on.</li></ul>
	15%	Installing clips	<ul style="list-style-type: none"><li>Leveling out, making marks into different areas and installing the clips to the designated spaces.</li><li>This is typically completed by 1-2 crew members.</li></ul>

	15%	Standing and securing frame	<ul style="list-style-type: none"> <li>Placing frame into the opening and ensuring the glass is level and straight (plum).</li> </ul>
	20%	Securing to clips	<ul style="list-style-type: none"> <li>Using screws to secure the glass to the clips that were installed previously.</li> </ul>
	15%	Glazing	<ul style="list-style-type: none"> <li>Setting frame with spray foam/caulking after installation of glass.</li> </ul>
	5%	Cleaning site	<ul style="list-style-type: none"> <li>Cleaning and organizing equipment, tools and materials as well as the work area.</li> </ul>
	Up to 5%	Travel from site	<ul style="list-style-type: none"> <li>Travel from the designated site to the shop to return equipment.</li> </ul>

<b>Equipment/ Tools:</b>	<ul style="list-style-type: none"> <li>Hand/power tools (drills-3 lbs., level-2 lbs., hammer-4 lbs., etc.)</li> <li>Chop saw</li> <li>10' ladders with extensions</li> <li>Scaffolding equipment</li> <li>Scissor lifts</li> <li>Boom lifts</li> <li>Spray foam</li> <li>Caulking</li> <li>Clips</li> <li>Glass (up to 125 lbs.)</li> <li>Frames</li> <li>Caps (for aesthetics)</li> <li>Suction cups (to assist with glass)</li> </ul>
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<b>Exposures / Environment:</b>	<ul style="list-style-type: none"> <li>Outdoor elements (heat, cold, wind, rain, snow)</li> <li>Noise exposure</li> <li>Chemical exposure (spray foam, caulking)</li> </ul>
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<b>Personal Protective Equipment Required:</b>	<ul style="list-style-type: none"> <li>Hard hat</li> <li>Steel toed boots</li> <li>Gloves</li> <li>Safety glasses</li> <li>Safety vest or high visibility stripes</li> <li>Long sleeves and pants</li> </ul>
<b>Personal Protective Equipment as Required:</b>	<ul style="list-style-type: none"> <li>Fall arrest</li> <li>Kneeling pads</li> <li>Hearing protection</li> </ul>

NOC STRENGTH LEVEL KEY	
Strength Level	Definition
Limited (Lim)	Up to 5 kg (11 pounds)
Light (L)	5 kg to 10 kg (11 – 22 pounds)
Medium (M)	10 kg to 20 kg (22 – 44 pounds)
Heavy (H)	Greater than 20 kg (44 pounds plus)

*\*Strength Level Key based on the National Occupational Classification*

FREQUENCY KEY		
Frequency	% of Workday	Hours – Based on 8 hour Workday
Not Required (N/R)	0%	0
Rarely (R)	1 – 5%	<25 min/day
Occasionally (O)	6 – 33%	25 min to 2 hours 40 min/day
Frequently (F)	34 – 66%	2 hours 41 min to 5 hours 17 min/day
Constantly (C)	67 – 100%	5 hours 18 min to 8 hours/day

*\*Frequency Key based on WCB Alberta Recommendations*

Job Demand	Frequency / NOC Strength Level					Details/ Measurements
	N/R	R	O	F	C	
Material Handling:						
Floor to Waist Level Lifting			H*			Lifting materials and equipment including frames, clips, glass (up to 125 lbs.), hand/power tools (up to 4 lbs.), chop saw, scaffolding equipment, ladder, etc. during loading/unloading and throughout shift as necessary.
Knee to Waist Level Lifting			H*			Lifting materials and equipment including frames, clips, glass (up to 125 lbs.), hand/power tools (up to 4 lbs.), chop saw, scaffolding equipment, ladder, etc. into work vehicle during loading/unloading and throughout shift as necessary.
Waist to Waist Level Lifting			H*			Lifting materials and equipment including frames, clips, glass (up to 125 lbs.), hand/power tools (up to 4 lbs.), chop saw, scaffolding equipment, ladder, etc. from work vehicle to frame opening, work trailer, etc.
Waist to Chest Level Lifting	X					Not required.
Waist to Shoulder Level Lifting	X					Not required.
Waist to Overhead Level Lifting		H*				Dependent on job; installing or repairing glass above a door (up to 50 lbs.).

<b>Front Carry</b>			H*			Carrying materials and equipment including frames, clips, glass (up to 125 lbs.), chop saw, scaffolding equipment, ladder, etc. from work vehicle to frame opening, work trailer, etc.
<b>Right / Left-handed Carry (Dominant Hand)</b>			H*			Carrying materials and equipment including glass (up to 125 lbs.), clips, and hand/power tools (up to 4 lbs.) throughout site.
<b>Shoulder Carry</b>		H*				Carrying frames throughout site.
<b>Static Pushing/Pulling (Force)</b>			Light NOC Level			Holding frames and glass in the opening while it is being secured by a crew member.
<b>Dynamic Pushing/Pulling (Force)</b>			Light NOC Level			Pushing frames and glass in the opening during installation phase (21.0 lbs. of push force).

\*For manual handling tasks above 50 lbs., it is recommended that the worker uses either a 2 person lift or assistive equipment (e.g. scissor lift, forklift, etc.).

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping				X		Gripping wheel during travel, hand/power tools, frames, clips, glass (with suction cups), chop saw, ladders, scaffolding equipment, spray foam, caulking, caps, etc.
Pinch Gripping			X			Securing glass to clips in frame using screws and drills, carrying glass using pinch grip (dependent on glass).
Upper Extremity Coordination				X		Operating wheel in vehile, hand/power tools, handling frames, clips, glass (with suction cups), chop saw, ladders, scaffolding equipment, spray foam, caulking, caps, etc.
Reaching Forward				X		Reaching while installing clips, frames and glass to opening, placing membrane and spray foam/caulking onto opening, during site preparation and clean up.
Overhead Shoulder Level Reaching				X		While installing clips, standing and securing frame, placing membrane and spray foam/caulking onto opening, during site preparation and clean up.
Below Shoulder Level Reaching				X		Reaching while installing clips, frames and glass to opening, placing membrane and spray foam/caulking onto opening, during site preparation and clean up.
Throwing	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)				X		During glazing tasks, placing glass and framing into opening.
Trunk Rotation (Twisting)			X			During glazing tasks, placing glass and framing into opening.
Kneeling		X				During glazing tasks (dependent on workers preference).
Crawling		X				During glazing tasks (dependent on workers preference).
Crouching		X				During glazing tasks (dependent on workers preference).
Squatting		X				During glazing tasks (dependent on workers preference).
Neck Flexion					X	Checking surroundings, during site preparation and clean up, traveling to/from site, applying membrane and spray foam/caulking, installing clips, standing and securing frame, glazing tasks.
Neck Extension				X		Checking surroundings, during site preparation and clean up, applying membrane and spray foam/caulking on higher levels of opening, installing clips, standing and securing frame, glazing tasks.
Neck Rotation				X		Checking surroundings, during site preparation and clean up, traveling to/from site, applying membrane and spray foam/caulking, installing clips, standing and securing frame, glazing tasks.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Static Work:						
Sitting			X			Driving to and from site, during breaks.
Static Standing			X			Standing and securing frame, waiting for crew to secure glass into clips.
Balancing				X	X	Balancing glass while carrying from work vehicle trailer to opening, while on ladder, throughout site (outdoors-dependent on site), applying membrane.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
<b>Ambulation:</b>						
<b>Walking: Level Surfaces</b>			X	X		Indoors on site, outdoors for developed sites.
<b>Walking: Uneven Surfaces</b>				X		Outdoors on undeveloped sites.
<b>Walking: Slopes</b>		X				Dependent on site.
<b>Jumping</b>	X					Not required.
<b>Running</b>	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
<b>Climbing:</b>						
<b>Stairs</b>		X	X			To access various levels of site (dependent on site).
<b>Ladder</b>			X			To access higher levels of openings/frame as necessary.
<b>Other</b>		X	X			Accessing boom lift, scissor lift, scaffolding equipment.



**PHOTOS OF TASKS AND WORK ENVIRONMENT**

**Figure 1:** The worker to the right is elevated on scaffolding equipment applying a membrane, while the workers on the left are carrying a frame to an opening.



**Figure 2:** Two workers lifting a frame from the work trailer in order to install into the opening.



**Figure 3:** Holding the frame steady while a coworker adjusts the frame to lean onto the work trailer.



**Figure 4:** Using a shoulder carry method to carry the frame to the opening.



**Figure 5:** Forward bending while installing the clips.



If you have any questions, and/or would like to discuss this assessment and report further, I can be reached at (780) 429-4761.

Sincerely,

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**Joanna Ellingson, BKin**  
**Kinesiologist**



**SITE SPECIFIC JOB DEMAND ADDITIONS:**

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Site Specific Job Demand:						

### Validation Agreement

<b>Job Title:</b>	Commercial Glazer
<b>Data Collection Date:</b>	December 17, 2020

We the undersigned have reviewed the Physical Demands Analysis for this position and agree that the physical demands documented in this report are representative of the true demands of the tasks associated with the job title as assessed on the date listed above.

<b>Completed by:</b>	Joanna Ellingson, BKin	Lifemark Clinician Name and Credentials
<b>Approved by:</b>		Management Representative
<b>Approved by:</b>		Worker Representative
<b>Approved by:</b>		Labour Provider Representative