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Physical Demands Analysis

Gas Fitter

Prepared for:
Alberta Construction Association

Job Title:	Gas Fitter	Assessment Location:	Innisfail, AB	Data Collection Date:	September 30, 2020
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Completed By:	Joanna Taets Von Amerongen	Submitted on:	October 15, 2020
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Disclaimer:	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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Work Schedule:	Shift Duration: 5 days/week, 10 hours/day; may vary depending on volume Break Schedule: Total of 1 hour break per day / 2-15 minute breaks with 1-30 minute lunch break. Shift Rotation: Not applicable On call is required: No Overtime required: Yes; dependent on volume and weather
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Education / Experience:	Education required: 4 year apprenticeship program specializing in gas fitting. Hours required for position: Approximately 6,000 hours (1,500 hours/year). Tickets that may be required (not limited to): Fall protection, Elevated Work Platform (EWP), First Aid, WHMIS, Confined Space (optional), Aerial Lift Operation, Construction Safety Training Systems (CSTS) and Basic Safety Orientation (BSO).
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Labour Provider:	N/A
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Job Overview:	As a gas fitter, the worker is required to complete installation and maintenance on commercial gas lines.		
	% of shift	Job Task	Task Description
	6%	Loading materials at shop	<ul style="list-style-type: none">Retrieving all required materials, tools and equipment at the shop for the site and the shift onto work truck.
	Up to 12%	Driving to site and unloading	<ul style="list-style-type: none">Driving to the site for the shift in and surrounding areas using work truck.Unloading all required materials, tools and equipment on site.
	1%	Hazard Assessment	<ul style="list-style-type: none">Reviewing hazards on the site, documenting as required.
	Up to 63%	Gas Fitting	<ul style="list-style-type: none">Completing measurements, threading, wrenching and painting.

	6%	Clean up and loading materials from site	<ul style="list-style-type: none"> Completing site clean up including loading all required materials, tools and equipment from site onto work truck.
	Up to 12%	Driving to shop to unload materials	<ul style="list-style-type: none"> Driving to the shop to unload all materials, tools and equipment with a work truck.

Equipment/ Tools:	<ul style="list-style-type: none"> Pipe wrench (11 lbs.) – various sizes Tape measurer Level Thread machine (80 lbs.) Thread machine tools (up to 7 lbs.) Thread machine bucket including shavings, tools, etc (50 lbs.) Thread sealant Pipe – 4" 20 foot pipe (34 lbs.) Impact drill (2 lbs.) Paint/paint brush (1 lbs.) Pipe stand (19 lbs.) Ladder (24 lbs.) Roof top blocks (up to 7 lbs.) Lift to access roof
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Exposures / Environment:	<ul style="list-style-type: none"> Heat Wind Cold Cutting oil Paint fumes Thread sealant fumes Natural gas
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Personal Protective Equipment Required:	<ul style="list-style-type: none"> Hard hat Steel toed boots Gloves Safety glasses Safety vest or high visibility stripes 6" sleeves and long pants Kneeling pads (optional)
Personal Protective Equipment as Required:	<ul style="list-style-type: none"> Fall arrest

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 thread machine (80 lbs.) and thread machine tools/bucket (50 lbs.) during loading and unloading, lifting pipe (34 lbs.) as required, paint, thread sealant, etc.
Knee to Waist Level Lifting			H			Lifting thread machine (80 lbs.) and thread machine tools/bucket (50 lbs.) during loading and unloading, lifting pipe (34 lbs.) as required, paint, thread sealant, etc.
Waist to Waist Level Lifting			H			Lifting pipe (up to 34 lbs.) and equipment (up to 80 lbs.) from truck during loading and unloading, spinning pipe during threading (34 lbs.).
Waist to Chest Level Lifting	X					Not required
Waist to Shoulder Level Lifting			M			Installing pipe (up to 34 lbs.) into ceiling or higher levels, lifting threading machine (80 lbs.) onto truck, lifting various tools to install pipe (paint (1 lbs.), pipe wrench (11 lbs.), etc.).
Waist to Overhead Level Lifting			M			Installing pipe (up to 34 lbs.) into ceiling or higher levels, lifting pipe (34 lbs.) and ladder (24 lbs.) from roof rack of truck, lifting various tools to install pipe (paint (1 lbs.), pipe wrench (11 lbs.), etc.).
Front Carry			H			Carrying box of pipes – fittings (up to 60 lbs.) for install.

Right / Left-handed Carry (Dominant Hand)			Lim			Carrying roof top blocks (up to 7 lbs.).
Shoulder Carry			M			Carrying pipe (up to 34 lbs.).
Static Pushing/Pulling (Force)				Heavy NOC Level		Using wrench to install and tighten pipe (finishing), cutting metal ring with threading machine.
Dynamic Pushing/Pulling (Force)				Heavy NOC Level		Using wrench to install and tighten pipe (early phase), pushing/pulling dye for threading machine, etc.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Upper Extremity Work:						
Hand Gripping					X	Loading and unloading materials/equipment, gripping pipe, pipe wrench, adjusting dye for threading machine.
Pinch Gripping			X			Applying thread sealant, paint, using level.
Upper Extremity Coordination					X	Loading and unloading materials/equipment, installing pipe, using pipe wrench, adjusting dye for threading machine, applying thread sealant and paint, measuring.
Reaching Forward					X	Loading and unloading materials/equipment, installing pipe, using pipe wrench, adjusting dye for threading machine, applying thread sealant and paint, measuring.
Overhead Shoulder Level Reaching			X	X		Measuring and installing pipe, painting pipe at higher levels (ceiling). Frequency depending on site.
Below Shoulder Level Reaching				X	X	Completing threading, wrenching and painting tasks. Frequency depending on site.
Throwing	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Positional Work:						
Trunk Flexion (Bending)			X	X		During measuring tasks, installing, wrenching and painting pipes, using threading machine. Frequency depending on site.
Trunk Rotation (Twisting)			X			Using threading machine, checking pipe placement and painting pipe.
Kneeling			X	X		Installing, wrenching and painting pipe. Frequency depending on site.
Crawling			X			Installing, wrenching and painting pipe.

Crouching			X	X		To access gas pipes, installing, wrenching and painting pipe. Frequency depending on site.
Squatting		X				Accessing smaller rooms on site.
Neck Flexion				X	X	During installation, wrenching and painting pipe, checking surroundings on site, using threading machine. Frequency depending on site.
Neck Extension			X	X		Measuring and installing pipe, painting pipe at higher levels (ceiling), checking surroundings, using the lift to transport pipe. Frequency depending on site.
Neck Rotation				X		Loading and unloading, threading, checking pipe placement and surroundings.

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	X		Using threading machine, installing pipe while using ladder (ceiling). Frequency depending on site.
Balancing				X		On roof, using ladders.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Ambulation:						
Walking: Level Surfaces			X	X		On site (interior and exterior). Frequency depending on site.
Walking: Uneven Surfaces			X	X		On roof, throughout site. Frequency depending on site.
Walking: Slopes		X	X			Throughout site. Frequency depending on site.
Jumping	X					Not required.
Running	X					Not required.

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Climbing:						
Stairs			X			To access roof.
Ladder			X	X		To access ceiling on site. Frequency depending on site.
Other			X	X		Climbing to bed of truck to retrieve materials and tools, climbing onto lift to transport pipe onto roof. Frequency depending on site.

PHOTOS OF TASKS AND WORK ENVIRONMENT

Figure 1: Carrying pipe on roof for installation.



Figure 2: Checking placement of pipe in order to install fitting.

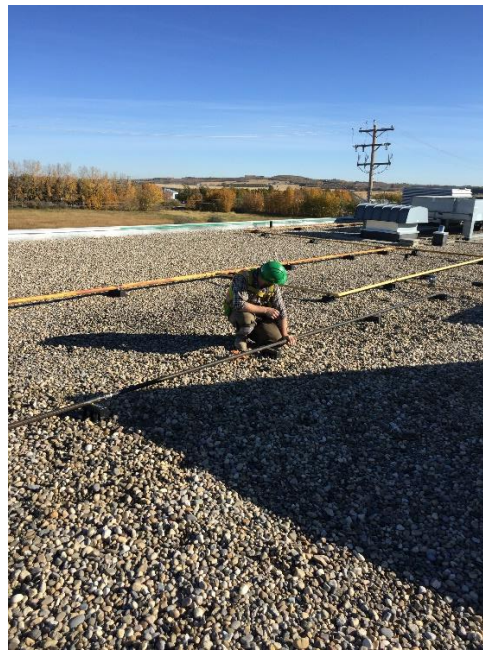


Figure 3: Crouching and kneeling while painting and wrenching pipe during installation.



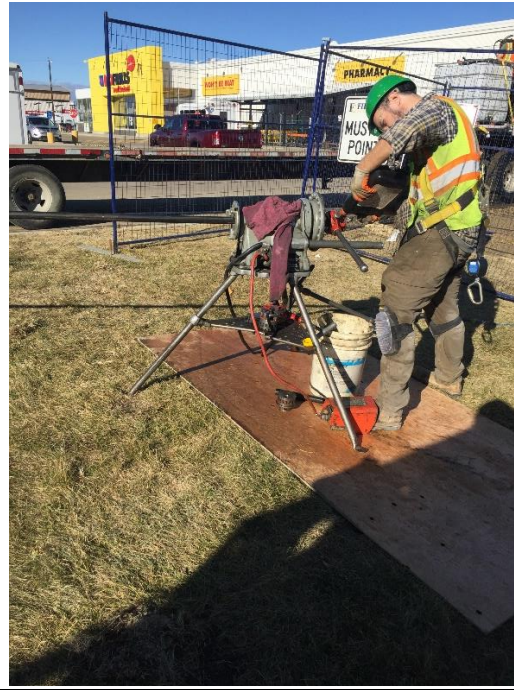
Figure 4: Kneeling and trunk flexion while painting and wrenching pipe during installation.



Figure 5: Lift used to transport pipe onto roof.



Figure 6: Using threading machine.



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,

Joanna Taets Von Amerongen, BKin

SITE SPECIFIC JOB DEMAND ADDITIONS:

Job Demand	Frequency					Details/Measurements
	N/R	R	O	F	C	
Site Specific Job Demand:						
Foot Pedal			X	X		While using threading machine. Frequency depending on size and volume on site.

Validation Agreement

Job Title:	Gas Fitter
Data Collection Date:	September 30, 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.

Completed by:	Joanna Taets Von Amerongen, BKin	Lifemark Clinician Name
Approved by:	Herman Bruin	Management Representative
Approved by:		Worker Representative
Approved by:		Labour Provider Representative