



## Job Demand Analysis – Breakout Carpenter

Physical Demand Characteristics (PDC) Table

PHYSICAL DEMAND LEVEL	FREQUENCY				
	NEVER (None of the Work Day)	RARE (<5% of the Work Day)	OCCASIONAL (0-33% of the Work Day)	FREQUENT (34-66% of the Work Day)	CONSTANT (67-100% of the Work Day)
<b>S = Sedentary</b>	N/A	1-10 lbs.	1-10 lbs.	Negligible	Negligible
<b>L = Light</b>	N/A	11–20 lbs.	11–20 lbs.	1-10 lbs.	Negligible
<b>M = Medium</b>	N/A	21-50 lbs.	21-50 lbs.	11-25 lbs.	1-10 lbs.
<b>H = Heavy</b>	N/A	51-100 lbs.	51-100 lbs.	26-50 lbs.	11-20 lbs.
<b>VH = Very Heavy</b>	N/A	Over 100 lbs.	Over 100 lbs.	Over 50 lbs.	Over 20 lbs.

<b>Job Position Number</b>	<b>Job Title</b>
000256	Breakout Carpenter
<b>Work Schedule</b>	Monday – Friday, Up to 40 hours/week
<b>Overall Physical Demand Level</b>	Medium

### Critical Cognitive Job Demands

Cognitive Demands	Frequency (Based on PDC Table)	Task Description and Comments
Attention (sustained, selective, alternating, divided)	Constant	Carpenters must have a high degree of attention to detail when creating and assembling products. This is to ensure that joints fit properly and that there are no gaps between products. Additionally, sustained attention is required when working with equipment, machinery, and tools, for safety reasons.
Cognitive flexibility (flexible thinking)	Frequent	Carpenters use cognitive flexibility when assessing issues regarding wooden structures and fixtures within a school, and determining the best solution on how to fix the issue. Additionally, cognitive flexibility is used when assembling new projects and using certain types of joiners that are not fully straightforward.
Computer skills	Occasional	Carpenters use computer skills when accessing all of their work tasks on the mobile app Vannin. They are also required to use computer skills when operating the CNC machine and when using Archibus. On a rare basis, they may use the program SketchUp.

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Deadline pressures (time pressures)	<b>Occasional</b>	During the summer, Carpenters have deadline pressures to complete job tasks before the new school year. Throughout the school year, Carpenters only have deadline pressures during emergency situations.
Hearing	<b>Constant</b>	Carpenters must be able to hear to communicate with other workers. For safety reasons, hearing is also important for being aware of one's surroundings in the shop.
Information processing	<b>Frequent</b>	Carpenters use information processing skills when accessing work orders and determining the best way to resolve to the issue. When creating products for work orders, Carpenters use information processing skills to decide what materials and methods should be used. Information processing is also used when interpreting blueprints.
Memory (working, procedural, declarative, verbal, auditory, visual)	<b>Constant</b>	Carpenters must have a working memory to remember all of the different work orders that they are working on. This is largely due to the fact that Carpenters work closely with other trades (such as painters) and need to wait for other trades to finish their portion of the task so that Carpenters can install the finished piece (ex. a Carpenter creates a cabinet and sends it to the Painter to put a finish on it, the Painter paints it and send it back, and then the Carpenter installs it). Additionally, Carpenters must be able to remember procedures and regulations on how to do things.
Multi-tasking	<b>Occasional</b>	Carpenters multi-task when working on projects where they are required to frequently move between different types of equipment. They also multi-task when working on one job and being called to work on another.
Numerical skills	<b>Occasional</b>	Carpenters use numerical skills when taking measurements and calculating the size of material needed. They must be able to calculate area (for rectangles, circles, etc) and use arithmetic to determine size of products and materials.
Planning/organizing	<b>Occasional</b>	Carpenters use planning/organizing skills when creating cut-lists (lists for how much material they need to cut) and planning out how to make products. Since they are actively working with numerous work tasks at the same time, they must be organized. Additionally, Breakout Carpenters may be tasked with delegating tasks for other workers and coordinating assembly of products.
Problem solving	<b>Occasional</b>	Carpenters use problem solving skills resolving issues with material cuts. They also use problem solving skills when working with different styles and materials and having to make sure that everything joins together and is structurally sound.
Reading literacy	<b>Rare</b>	Carpenters use reading literacy when reading various documents, plans, work orders, and blueprints.
Safety/judgment	<b>Constant</b>	Carpenters use safety/judgement when creating products in the shop and installing or repairing products on site. Safety is a priority at all times. Breakout Carpenters may be tasked with repairing equipment in the shop and ensuring equipment is safe to use.
Verbal communication	<b>Occasional</b>	Carpenters use verbal communication when talking to other staff members.
Vision	<b>Constant</b>	Carpenters must have near vision to see the equipment that they work with and the products that they are fixing. They are also required to have far vision to monitor the status of the shop and to be aware of their surroundings.

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Writing literacy	<b>Rare</b>	Carpenters use writing literacy when writing material lists.
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### Critical Physical Job Demands

Physical Demands	Frequency (Based on PDC Table)	Weight (lb.)	Task Description and Comments
Climbing – ladders	<b>Rare</b>	n/a	Carpenters climb ladders when installing cabinets or wood panelling that is high off the ground. While this is typically a rare occurrence, Carpenters may have tasks that require them to move up and down a ladder frequently.
Climbing – stairs	<b>Rare</b>	n/a	Carpenters climb stairs when moving around schools. Frequency depends on the layout of the school.
Crawling	<b>Rare</b>	n/a	When installing products (cabinets, bases for various things) that are on the ground or low to the ground, Carpenters may be required to crawl.
Crouching/squatting	<b>Rare</b>	n/a	Carpenters crouch/squat when working on the underside of various products (cabinets, countertops) in the shop. They also crouch/squat when installing or fixing products that are low to the ground or on the ground. Crouching/squatting also occurs when working inside of a product, when workers have to get low and maneuver to see what they are doing.
Kneeling or half kneeling	<b>Rare</b>	n/a	Carpenters kneel when working on the underside of various products (cabinets, countertops). Additionally, they may kneel when installing or fixing products that are low to the ground or on the ground. Kneeling also occurs when working inside of a product, when workers have to get low and maneuver to see what they are doing.
Sitting	<b>Rare</b>	n/a	Carpenters sit when driving between locations. On a very rare basis, Carpenters may sit when writing out material lists.
Standing	<b>Constant</b>	n/a	Carpenters stand when completing the vast majority of their tasks. For instance, they are standing when using equipment, creating products, and installing most products.
Stooping — forward bending while standing	<b>Frequent</b>	n/a	Carpenters stoop when fixing or installing products that are low to the ground or low to the ground. In the shop, most of the products they are working on are waist level, however, they are frequently required to bend when working on parts inside of the product (like the inside corners of a cabinet). They also bend forward when working on long or deep projects (like a deep countertop) that they need to reach for. Bending forward also occurs when operating equipment like table saws or sanding machines.
Twisting	<b>Occasional</b>	n/a	Carpenters twist when working inside of cabinets and maneuvering to reach corners inside of the cabinet. Additionally, they also twist when working on cabinets while reaching for tools beside them.
Walking	<b>Occasional</b>	n/a	Carpenters walk when moving around the school or shop.
Finger dexterity	<b>Constant</b>	n/a	Finger dexterity is crucial when creating things in the shop and installing/repairing things on site. Tasks using finger dexterity include handling small screws, and putting fasteners into complicated joints. Finger dexterity is also important for being able to feel around when workers aren't able to see what they are

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			working on. Breakout Carpenters may be required to use finger dexterity when replacing knives, cutters, and saw blades as required.
Grip – Repeated	<b>Occasional</b>	n/a	Carpenters use repeated grip movements when handling various tools (drills, nail guns, etc).
Grip - Sustained	<b>Frequent</b>	n/a	Carpenters use sustained grip movements when grabbing various materials and gripping tools.
Manual dexterity	<b>Constant</b>	n/a	Carpenters use manual dexterity when using equipment in the shop and creating products (cabinets, countertops). They also use manual dexterity when installing or repairing products on site. Breakout Carpenters may be required to use manual dexterity to repair equipment in the shop.
Pinch – Repeated	<b>Occasional</b>	n/a	Carpenters use repeated pinch movements when handling small screws.
Pinch - Sustained	<b>Rare</b>	n/a	Carpenters use sustained pinch movements when picking up thin pieces of material. Additionally, sustained pinching is important for installing cabinets, as some cabinets cannot be gripped fully. In these cases, Carpenters may need to pinch the sides or the bottom of the product to hold it into place. Pinching movements may also be used when pulling out drawers that workers aren't able to get a full grip of. Breakout Carpenters may be required to use sustained pinch when replacing knives, cutters, and saw blades as required.
Reaching above shoulder	<b>Occasional</b>	n/a	Carpenters reach above the shoulder when grabbing various materials from high shelves in the shop. Additionally, reaching above the shoulder occurs when installing upper cabinets that are mounted against the wall. These cabinets are 54 inches off the ground, and reach a final height of 78 inches off the ground.
Reaching below shoulder	<b>Constant</b>	n/a	Carpenters reach below the shoulder when completing the vast majority of their tasks. Reaching below the shoulder happens when creating things in the shop and installing various products (low cabinets, chairs, benches, etc) while on site.
Carry	<b>Frequent</b>	Up to 50	While Carpenters are carrying on a frequent basis, they are typically only moving materials and products short distances (< 2 metres). In the shop, Carpenters carry various materials (up to 100 lbs, carried with two people) from a shelf to a cart, or between tables. Carpenters also carry when installing products (up to 50 lbs for one person) on site. Note that while plywood weighs 70 lbs and various other sheets of material can weigh up to 100 lbs, workers are not expected to carry any items above 50 lbs alone, and are expected to get help when carrying and installing heavier pieces (for safety reasons).
Lift floor to waist	<b>Occasional</b>	Up to 50	Carpenters lift floor to waist when moving various materials (up to 50 lbs, typically closer to 20 lbs) from carts to tables. When installing products (up to 100 lbs, lifted with two people) on site, Carpenters will also lift floor to waist to pick up the product and move it around. Note that while material and various products can weigh up to 100 lbs, workers are not expected to lift these items alone, and are expected to get help when lifting these heavier pieces (for safety reasons).
Lift waist to waist	<b>Occasional</b>	Up to 50	Carpenters lift waist to waist when moving various materials (lumber, plywood, etc – up to 50 lbs for one person) and products (up to 50 lbs for one person) between tables. Note that while material and various products can weigh up to 100 lbs, workers are not expected to lift these items alone, and are expected to get help when lifting these heavier pieces (for safety reasons).

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Lift waist to shoulder	<b>Rare</b>	Up to 50	Carpenters lift waist to shoulder when installing products like upper cabinets (up to 100 lbs). Note that while cabinets can weigh 100 lbs each, workers are not expected to lift anything above 50 lbs alone, and would have the help of another worker to lift the cabinet.
Pull	<b>Occasional</b>	Variable + on wheels	Carpenters use pulling movements when using carts to move material. The weight of the cart depends on the worker and how heavy they want to load the cart, but the cart is ultimately on wheels – making the load lighter. When installing cabinets and other products on site, Carpenters may use pulling movements to move products into different positions. In the shop, pulling movements are also used when installing drawers and testing to see if they fit.
Push	<b>Frequent</b>	Variable + on wheels	Carpenters use pushing movements when using carts to move material. The weight of the cart depends on the worker and how heavy they want to load the cart, but the cart is ultimately on wheels – making the load lighter. Pushing movements are also used when pushing materials through a table saw, and when pushing products to move them into different positions on site. In the shop, pushing movements are also used when installing drawers and testing to see if they fit.
Driving	<b>Rare</b>	n/a	Carpenters must be able to drive between different sites to install their products. They are typically visiting sites 1-2 times a week.

### Personal Protective Equipment (PPE), Tools and Equipment Used for the Job

For PPE, Carpenters use gloves, safety glasses, steel toe boots, and hearing protection. Equipment and tools include but are not limited to table saws, veneer presses, drill presses, stroke sanders, edge banders, the CNC machine, and various hand tools (hammer, screwdriver, etc).
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### Environmental Factors of the Job

Carpenters work both in a regulated inside climate and outside, and are exposed to a wide variety environmental factors. They are exposed to discomforts such as noise and non-toxic dust, as well as hazards like equipment, machinery, and tools.
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### Psychosocial Factors of Job

Psychosocial Demands	<u>Frequency</u> (Based on PDC Table)	Task Description and Comments
Ability to control work tasks / work pace	<b>Occasional</b>	On a day-to-day basis, Carpenters have the ability to control both their work pace and work tasks, as they can choose which work orders they want to complete. Ultimately however, Carpenters are working based on the needs of schools and other CBE buildings, and are required to increase their work pace when emergency situations arise.
Ability to speak publically/present	<b>Never</b>	Carpenters are not required to speak publically.
Degree of self-supervision required	<b>Constant</b>	Carpenters are required to have a high degree of self supervision as they are often working independently on tasks.
Degree of supervision exercised	<b>Rare</b>	Breakout Carpenters may be asked to supervise new workers as they typically have more seniority than regular Shop Carpenters.

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Exposure to confrontational situations	<b>Rare</b>	Carpenters may be exposed to confrontational situations when visiting sites and working in close proximity to students.
Exposure to emotional situations	<b>Rare</b>	Carpenters may be exposed to emotional situations when visiting sites and working in close proximity to students.
Exposure to environmental distractions	<b>Frequent</b>	Carpenters work in a regulated inside climate or outside. They are exposed to various discomforts and hazards.
Need to work co-operatively with others	<b>Occasional</b>	Carpenters work co-operatively with other Carpenters in the shop and on site. Additionally, they may be required to work with other trades when installing products on site.
Responsibility and accountability required	<b>Constant</b>	Carpenters are responsible for the construction, repair, and maintenance of wood, plastic laminate, metal, and concrete components of schools' structure and infrastructure. Components can include things like cabinets, countertops, wall panels, and wooden display cases. On an as required basis, Carpenters will be responsible for the duties of a Foreman.

### Additional Comments

Breakout Carpenters have the exact same job duties as a Journeyman Carpenter (Mill Shop), but have a little more cognitive and physical strain as they help with maintaining equipment and delegating tasks. Note that different Breakout Carpenters have different roles, but overall, they all have one or two jobs tasks that are above that of a normal Journeyman Carpenter.