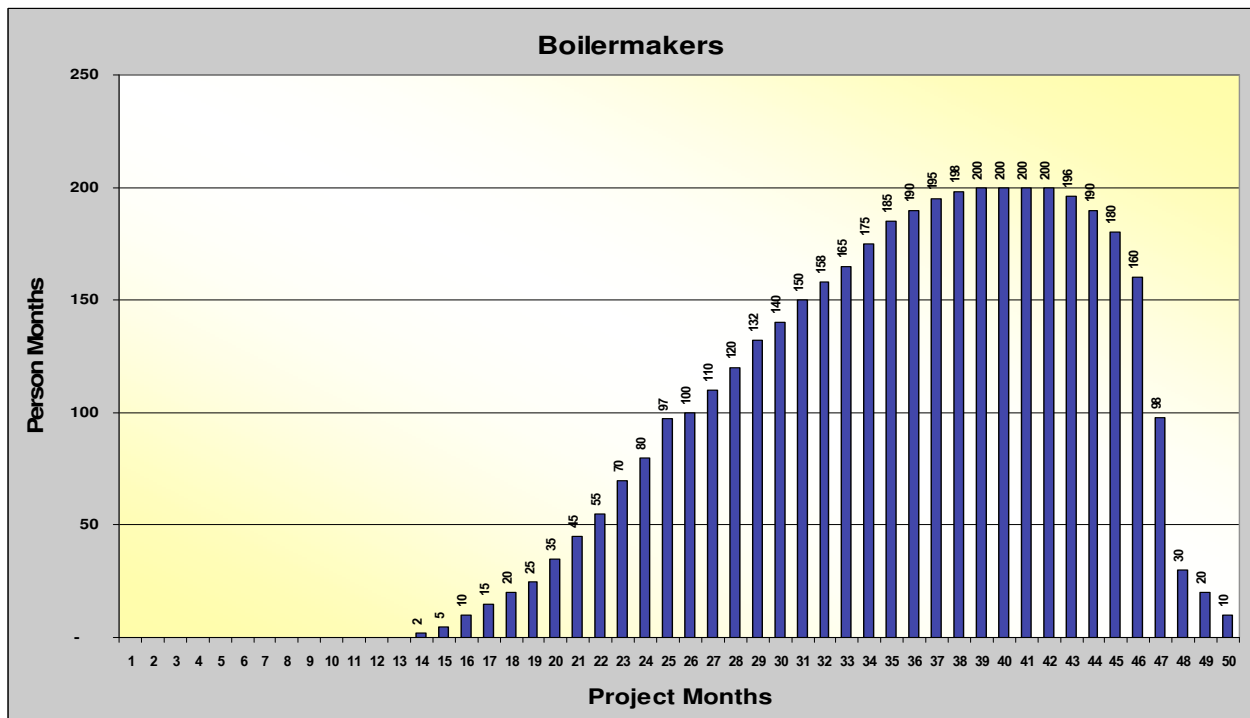


Plant Washington

Construction Job Description

Boilermakers

- Assembles, analyzes defects in, and repairs boilers, pressure vessels, tanks, and vats in field, following blueprints and using hand tools and portable power tools and equipment.
- Locates and marks reference points for columns or plates on foundation, using master straightedge, squares, transit, and measuring tape, and applying knowledge of geometry.
- Attaches rigging or signals crane operator to lift parts to specified position.
- Aligns structures or plate sections to assemble boiler frame, tanks, or vats, using plumb bobs, levels, wedges, dogs, or turnbuckles.
- Hammers, flame-cuts, files, or grinds irregular edges of sections or structural parts to facilitate fitting edges together.
- Bolts or arc-welds structures and sections together.
- Positions drums and headers into supports and bolts or welds supports to frame.
- Aligns water tubes, and connects and expands ends to drums and headers, using tube expander.
- Bells, beads with power hammer, or welds tube ends to ensure leak proof joints.
- Bolts or welds casing sections, uptakes, stacks, baffles, and such fabricated parts as chutes, air heaters, fan stands, feeding tube, catwalks, ladders, coal hoppers, and safety hatch to frame, using wrench. Installs manholes, handholes, valves, gauges, and feedwater connection in drums to complete assembly of water tube boilers.
- Assists in testing assembled vessels by pumping water or gas under specified pressure into vessel and observing instruments for evidence of leakage.
- Repairs boilers or tanks in field by unbolting or flame cutting defective sections or tubes, straightening plates, using torch or jacks, installing new tubes, fitting and welding new sections and replacing worn lugs on bolts.
- Estimated Number of Jobs = Up to 200

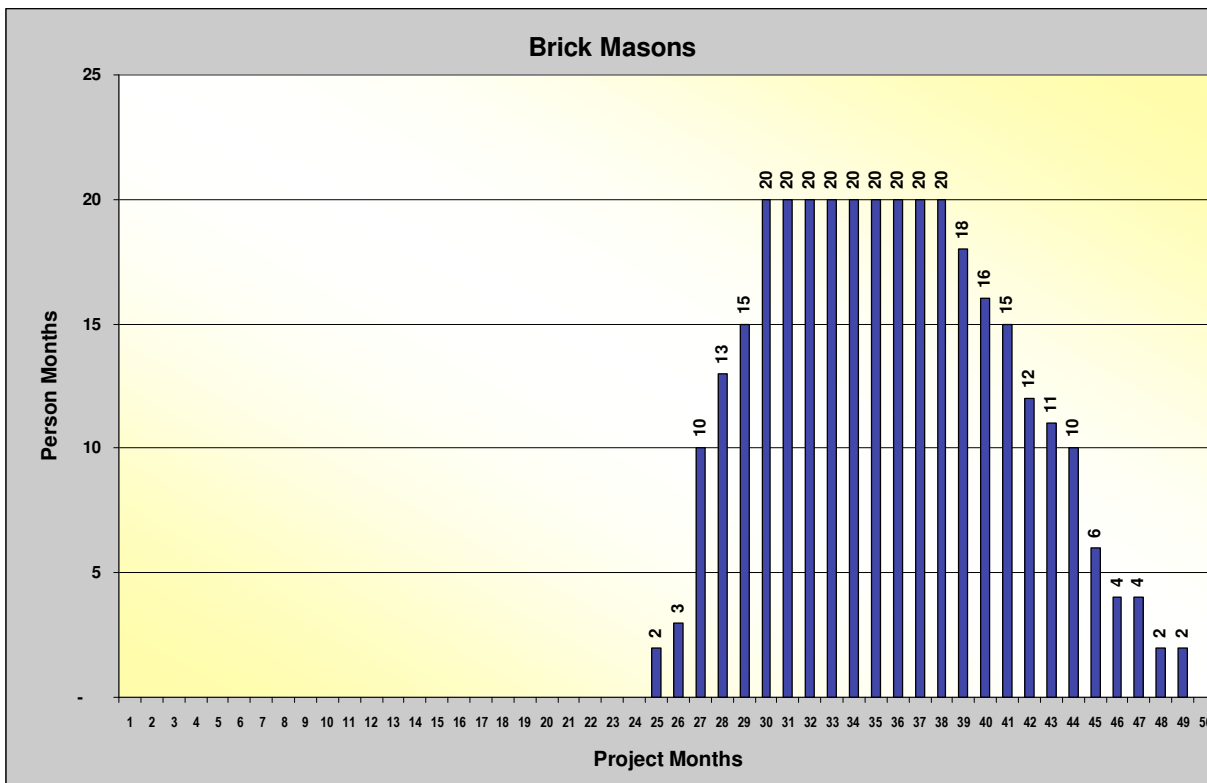


Plant Washington

Construction Job Description

Brick Masons

- Lays firebrick and refractory tile to build, rebuild, reline, or patch high-temperature or heating equipment, for example boilers, ovens, furnaces, converters, cupolas, ladles, and soaking pits, according to job orders and blueprints.
- Lays out work, using chalk lines, plumb bobs, tapes, squares, and levels.
- Calculates angles and courses for building walls, arches, columns, corners, and bottoms.
- Removes burned or damaged brick and cleans surface of setting, using sledgehammer, pry bar, pneumatic chipping gun, scraper, and wire brush.
- Cuts brick to size, using brick hammer or powered abrasive saw.
- Spreads fire-clay mortar over brick with trowel and lays brick in place.
- Spreads or sprays refractories over exposed bricks to protect bricks against deterioration by heat, using trowel or spray gun.
- Positions or bends special frame or hanger over casings to lay arches.
- Cuts, notches, or drills openings to provide outlets, pyrometer mountings, brackets, and heating elements, using hand tools.
- Patches or replaces firebrick linings of ladles and furnace tap holes.
- Constructs refractory forms for controlling quantity and flow of molten materials from furnace to rolling machines.
- May also replace bolts, brackets, and heating elements, repair coke oven doors, weld cracks or holes in shell, or perform other repairs.
- May also pack insulation into shells and frames to insulate heating equipment, for example furnaces, boilers, and ovens.
- Estimated Number of Jobs = Up to 20

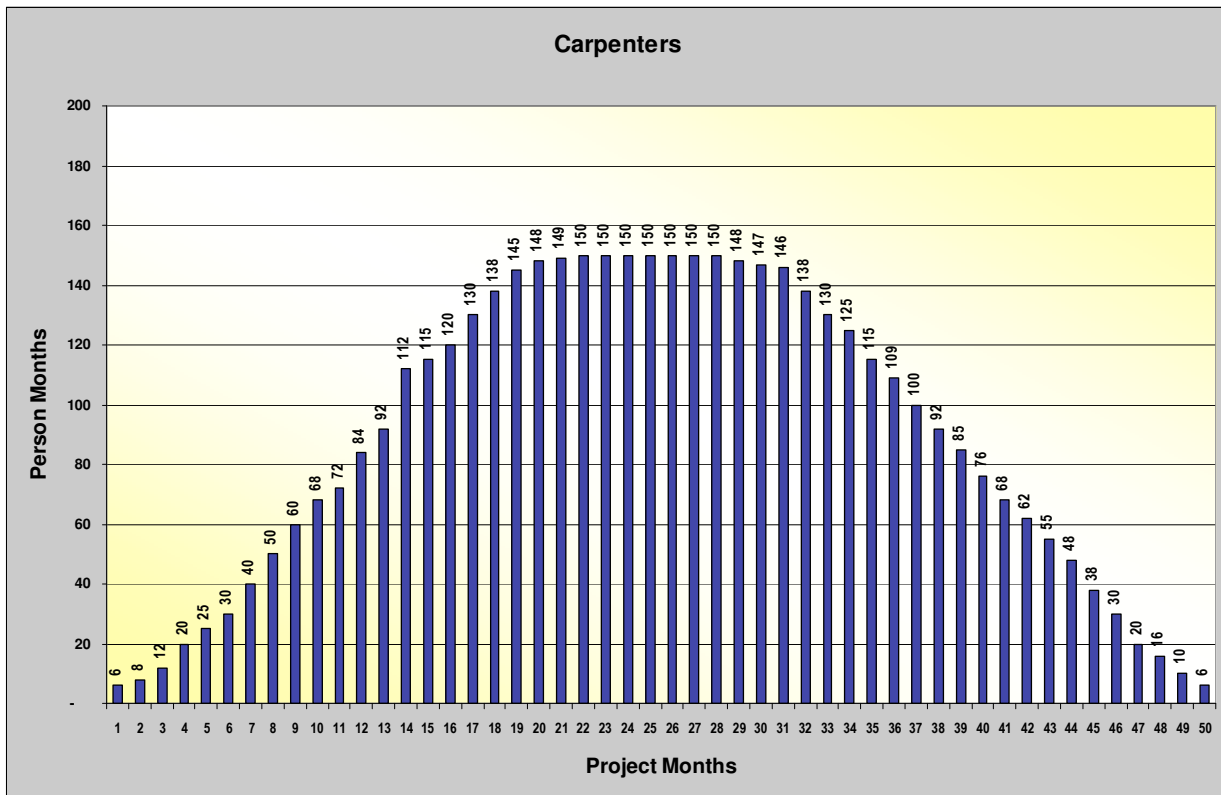


Plant Washington

Construction Job Description

Carpenters

- Constructs, erects, installs, and repairs structures and fixtures of wood, plywood, and wallboard, using carpenter's hand tools and power tools, and conforming to local building codes.
- Studies blueprints, sketches, or building plans for information pertaining to type of material required, for example lumber or fiberboard, and dimensions of structure or fixture to be fabricated.
- Selects specified type of lumber or other materials.
- Prepares layout, using rule, framing square, and calipers.
- Marks cutting and assembly lines on materials, using pencil, chalk, and marking gauge.
- Shapes materials to prescribed measurements, using saws, chisels, and planes.
- Assembles cut and shaped materials and fastens them together with nails, dowel pins, or glue.
- Verifies trueness of structure with plumb bob and carpenter's level.
- Erects framework for structures and lays subflooring.
- Builds stairs and lays out and installs partitions and cabinetwork.
- Covers subfloor with building paper to keep out moisture and lays hardwood, parquet, and wood-strip-block floors by nailing floors to subfloor or cementing them to mastic or asphalt base.
- Applies shock-absorbing, sound-deadening, and decorative paneling to ceilings and walls.
- Fits and installs prefabricated window frames, doors, doorframes, weather stripping, interior and exterior trim, and finish hardware, for example locks, letter drops, and kick plates.
- Constructs forms and chutes for pouring concrete.
- Erects scaffolding and ladders for assembling structures above ground level.
- Estimated Number of Jobs = Up to 150

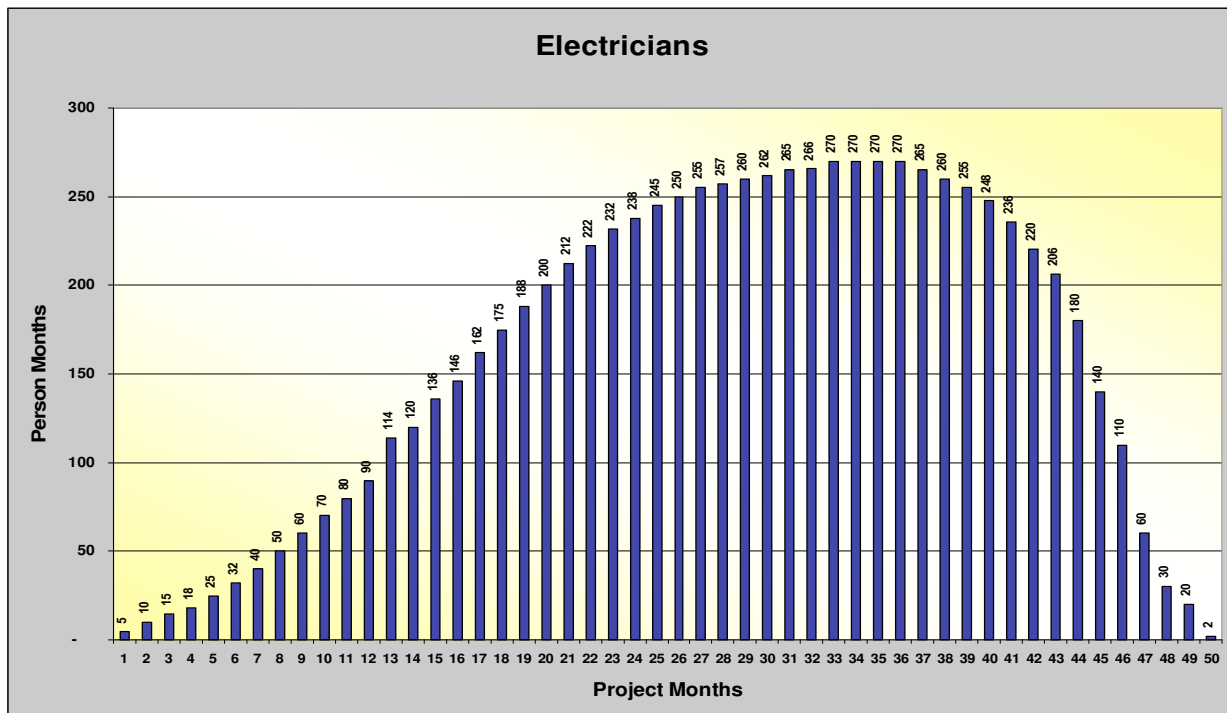


Plant Washington

Construction Job Description

Electricians

- Plans layout, installs, and repairs wiring, electrical fixtures, apparatus, and control equipment.
- Plans new or modified installations to minimize waste of materials, provide access for future maintenance, and avoid unsightly, hazardous, and unreliable wiring, consistent with specifications and local electrical codes.
- Prepares sketches showing location of wiring and equipment, or follows diagrams or blueprints, ensuring that concealed wiring is installed before completion of future walls, ceilings, and flooring.
- Measures, cuts, bends, threads, assembles, and installs electrical conduit, using tools, for example hacksaw, pipe threader, and conduit bender.
- Pulls wiring through conduit, assisted by electrician helper.
- Splices wires by stripping insulation from terminal leads, using knife or pliers, twisting or soldering wires together, and applying tape or terminal caps.
- Connects wiring to lighting fixtures and power equipment, using hand tools.
- Installs control and distribution apparatus, for example switches, relays, and circuit-breaker panels, fastening in place with screws or bolts, using hand tools and power tools.
- Connects power cables to equipment, for example electric range or motor, and installs grounding leads.
- Tests continuity of circuit to ensure electrical compatibility and safety of components, using testing instruments, for example ohmmeter, battery and buzzer, and oscilloscope.
- Observes functioning of installed equipment or system to detect hazards and need for adjustments, relocation, or replacement.
- May also repair faulty equipment or systems.
- May also be required to hold license.
- May also cut and weld steel structural members, using flame-cutting and welding equipment.
- Estimated Number of Jobs = Up to 270

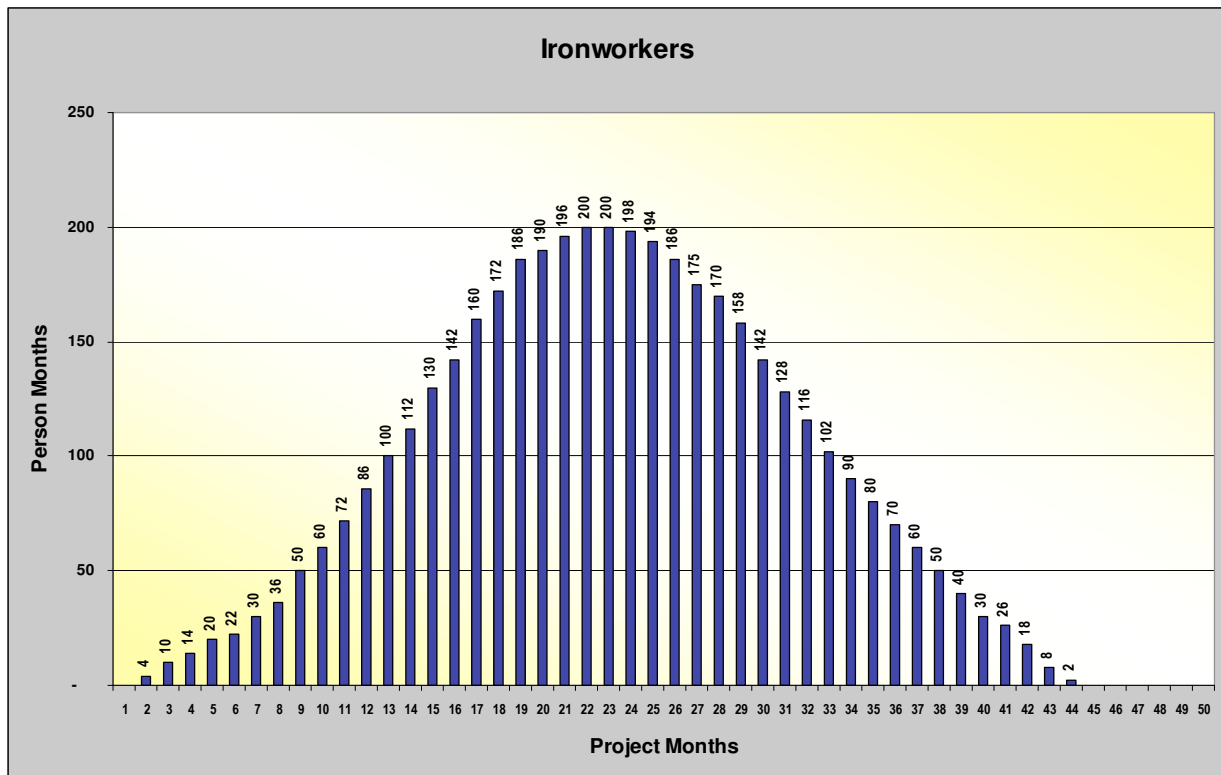


Plant Washington

Construction Job Description

Ironworkers

- Fabricates and assembles structural metal products, for example framework or shells for machinery, ovens, tanks, stacks, and metal parts for buildings and bridges according to job order, verbal instructions, and blueprints.
- Develops layout and plans sequence of operations, applying knowledge of trigonometry, stock allowances for thickness, machine and welding shrinkage, and physical properties of metal.
- Locates and marks bending and cutting lines onto workpiece.
- Sets up and operates fabricating machines, for example brakes, rolls, shears, flame cutters, and drill presses.
- Hammers, chips, and grinds workpiece to cut, bend, and straighten metal.
- Preheats workpieces, using hand torch or furnace.
- Positions, aligns, fits, and welds together parts.
- Designs and constructs templates and fixtures.
- Verifies conformance of workpiece to specifications, using square, ruler, and measuring tape.
- May also set up and operate machine tools associated with fabricating shops, for example radial drill press, end mill, and edge planer.
- Estimated Number of Jobs = Up to 200

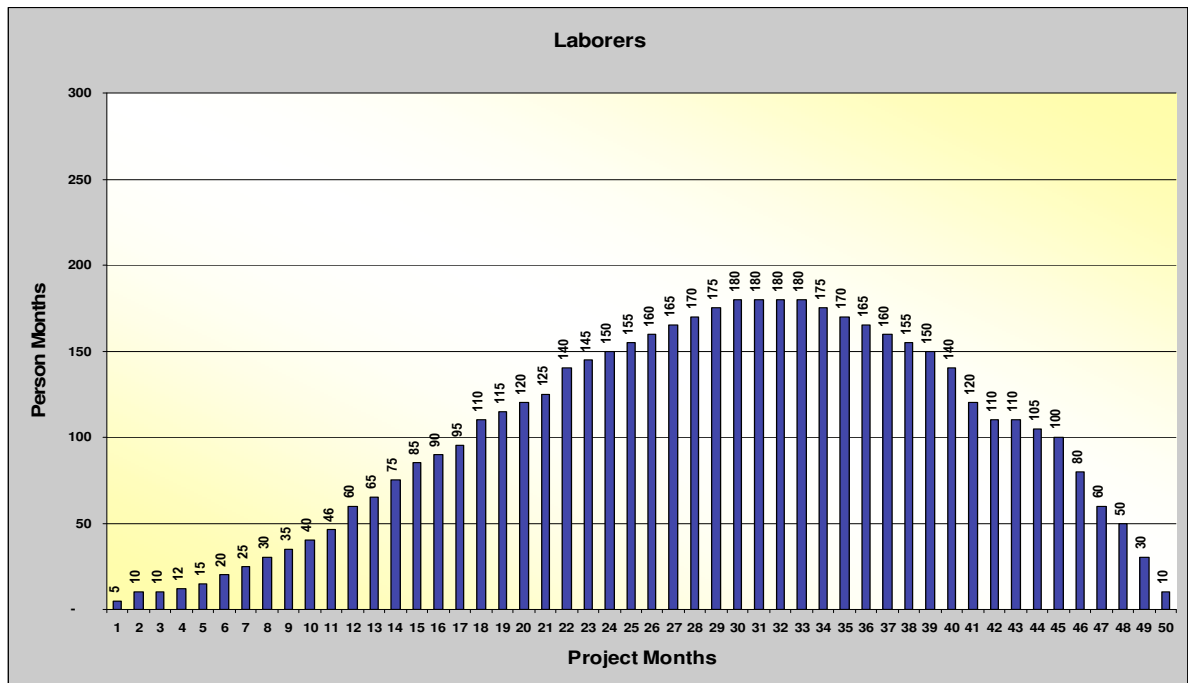


Plant Washington

Construction Job Description

Laborers

- Performs any combination of following duties on construction projects, usually working in utility capacity, by transferring from one task to another where demands require worker with varied experience and ability to work without close supervision.
- Measures distances from grade stakes, drives stakes, and stretches tight line.
- Bolts, nails, align, and blocks up under forms.
- Signals operators of construction equipment to facilitate alignment, movement, and adjustment of machinery to conform to grade specifications.
- Levels earth to fine grade specifications, using pick and shovel.
- Mixes concrete, using portable mixer.
- Smoothes and finishes freshly poured cement or concrete, using float, trowel, or screed.
- Positions, joins, align, and seals pipe sections.
- Erects scaffolding, shoring, and braces.
- Mops, brushes, or spreads paints or bituminous compounds over surfaces for protection.
- Sprays materials for example water, sand, steam, vinyl, paint, or stucco through hose to clean, coat, or seal surfaces.
- Applies caulking compounds by hand or with caulking gun to seal crevices.
- Grinds, sands, or polishes surfaces, for example concrete, marble, terrazzo, or wood flooring, using abrasive tools or machines.
- Performs variety of tasks involving dexterous use of hands and tools, for example demolishing buildings, sawing lumber, dismantling forms, removing projections from concrete, mounting pipe hangers, and cutting and attaching insulating material.
- Work is usually performed with other workers.
- Estimated Number of Jobs = Up to 180

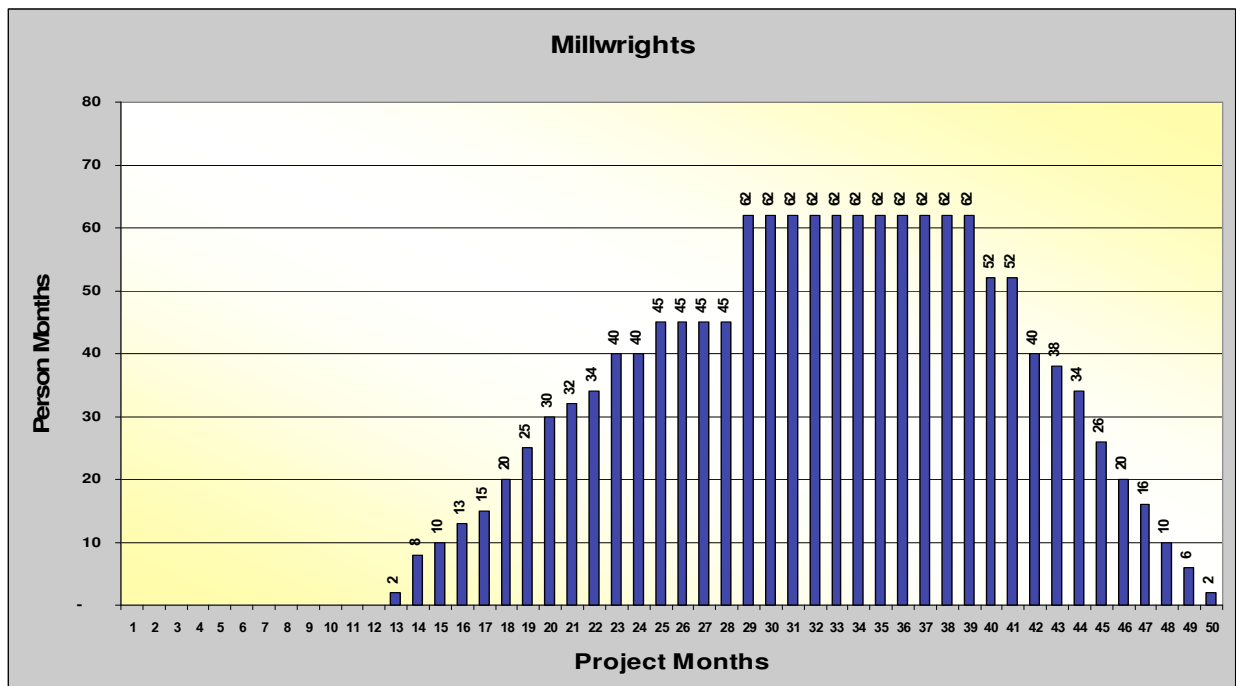


Plant Washington

Construction Job Description

Millwrights / Machinists

- Sets up and operates conventional, special-purpose, and numerical control machines and machining centers to fabricate metallic and nonmetallic parts, and fits and assembles machined parts into complete units, applying knowledge of machine shop theory and procedures, shop mathematics, machinability of materials, and layout techniques:
- Studies blueprints, sketches, drawings, manuals, specifications, or sample part to determine dimensions and tolerances of finished workpiece, sequence of operations, and setup requirements.
- Measures, marks, and scribes dimensions and reference points on material or workpiece as guides for subsequent machining.
- Selects, aligns, and secures holding fixtures, cutting tools, attachments, accessories, and materials on machines, for example mills, lathes, jig borers, grinders, and shapers.
- Calculates and sets controls to regulate machining factors, for example speed, feed, coolant flow, and depth and angle of cut, or enters commands to retrieve, input, or edit computerized machine control media.
- Starts and observes machine operation to detect malfunctions or out-of-tolerance machining, and adjusts machine controls or control media as required.
- Verifies conformance of finished workpiece to specifications, using precision measuring instruments.
- Sets up and operates machine on trial run to verify accuracy of machine settings or programmed control data.
- Fits and assembles parts into complete assembly, using jigs, fixtures, surface plate, surface table, hand tools, and power tools.
- Verifies dimensions and alignment of assembly, using measuring instruments, for example micrometers, height gauges, and gauge blocks.
- Estimated Number of Jobs = Up to 62

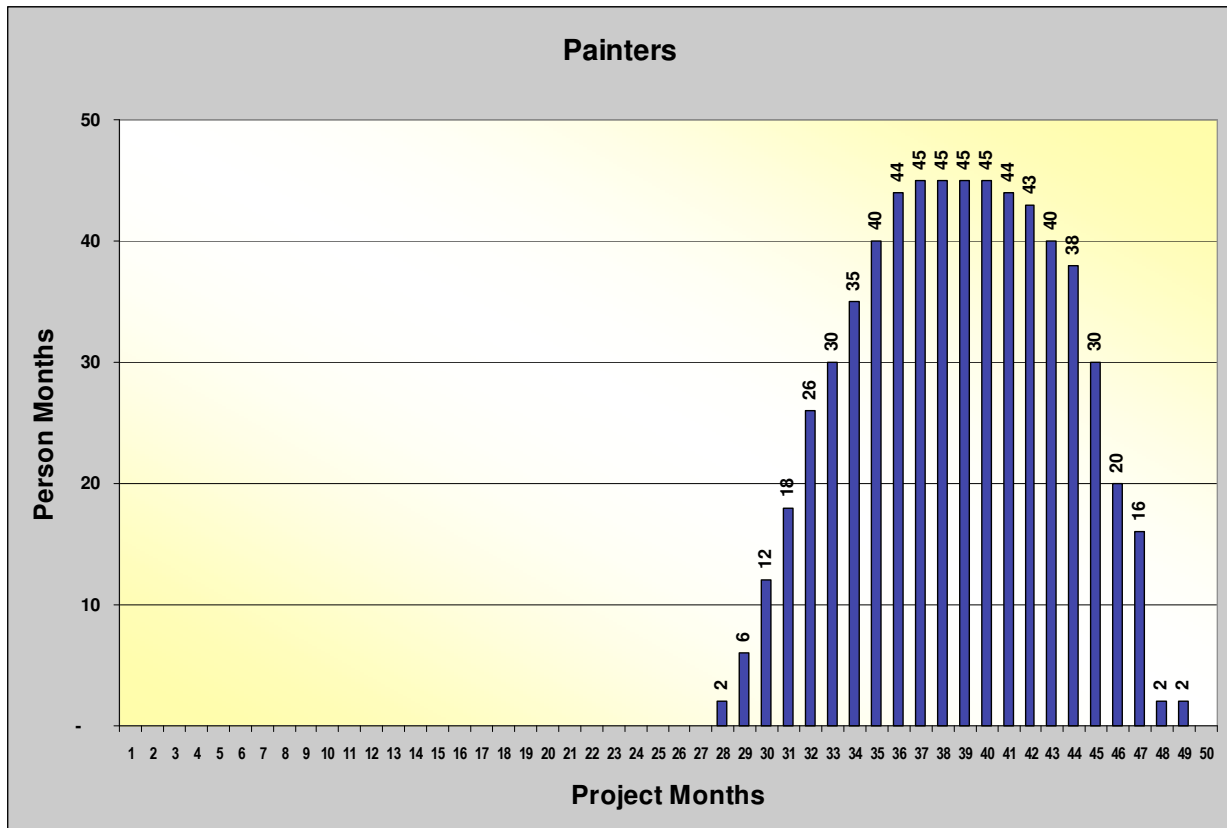


Plant Washington

Construction Job Description

Painters

- Hand brushes paint, lacquer, rust proofing agent, or other coating onto metal, wood stock, or fabricated items, using brush:
- Places workpiece on bench, stanchion, or floor.
- Cleans surfaces, using hand scraper, wire brush, sandpaper, or turpentine.
- Pours desired amount of thinner into paint.
- Paints articles, using brush.
- Cleans brushes and floor, using solvent or soap and water.
- May also transfer items to and from work area, using hoist or hand truck.
- Estimated Number of Jobs = Up to 45

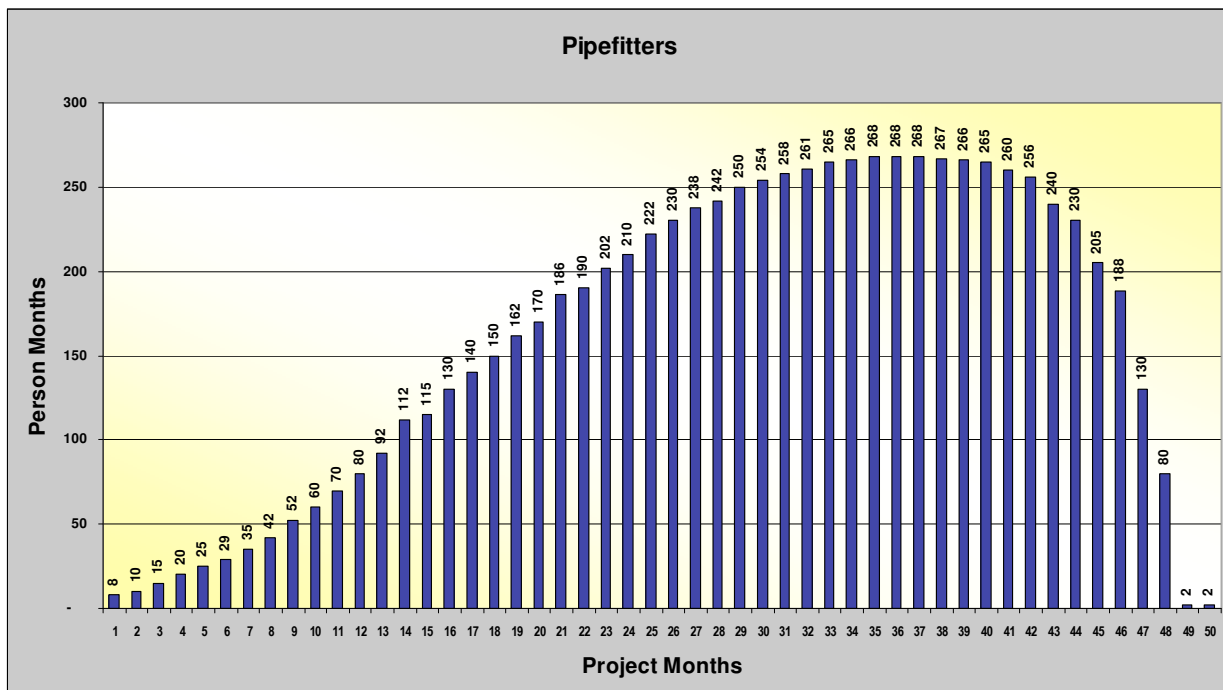


Plant Washington

Construction Job Description

Pipefitters

- Welds together metal components of products, for example pipelines, automobiles, boilers, ships, aircraft, and mobile homes, as specified by layout, blueprints, diagram, work order, welding procedures, or oral instructions, using electric arc-welding equipment.
- Obtains specified electrode and inserts electrode into portable holder or threads consumable electrode wire through portable welding gun.
- Connects cables from welding unit to obtain amperage, voltage, slope, and pulse, as specified by welding engineer.
- Starts power supply to produce electric current.
- Strikes (forms) arc which generates heat to melt and deposit metal from electrode to workpiece and join edges of workpiece.
- Manually guides electrode or gun along weld line, maintaining length of arc and speed of movement to form specified depth of fusion and bead, as judged from color of metal, sound of weld, and size of molten puddle.
- Welds in flat, horizontal, vertical, or overhead positions.
- Examines weld for bead size and other specifications.
- May also manually apply filler rod to supply weld metal.
- May also clean or degrease weld joint or workpiece, using wire brush, portable grinder, or chemical bath.
- May also repair broken or cracked parts and fill holes.
- May also prepare broken parts for welding by grooving or scarfing surfaces.
- May also chip off excess weld, slag, and spatter, using hand scraper or power chipper.
- May also preheat workpiece, using hand torch or heating furnace.
- May also position and clamp workpieces together or assemble them in jig or fixture.
- May also tack assemblies together.
- May also cut metal plates or structural shapes.
- Estimated Number of Jobs = Up to 268

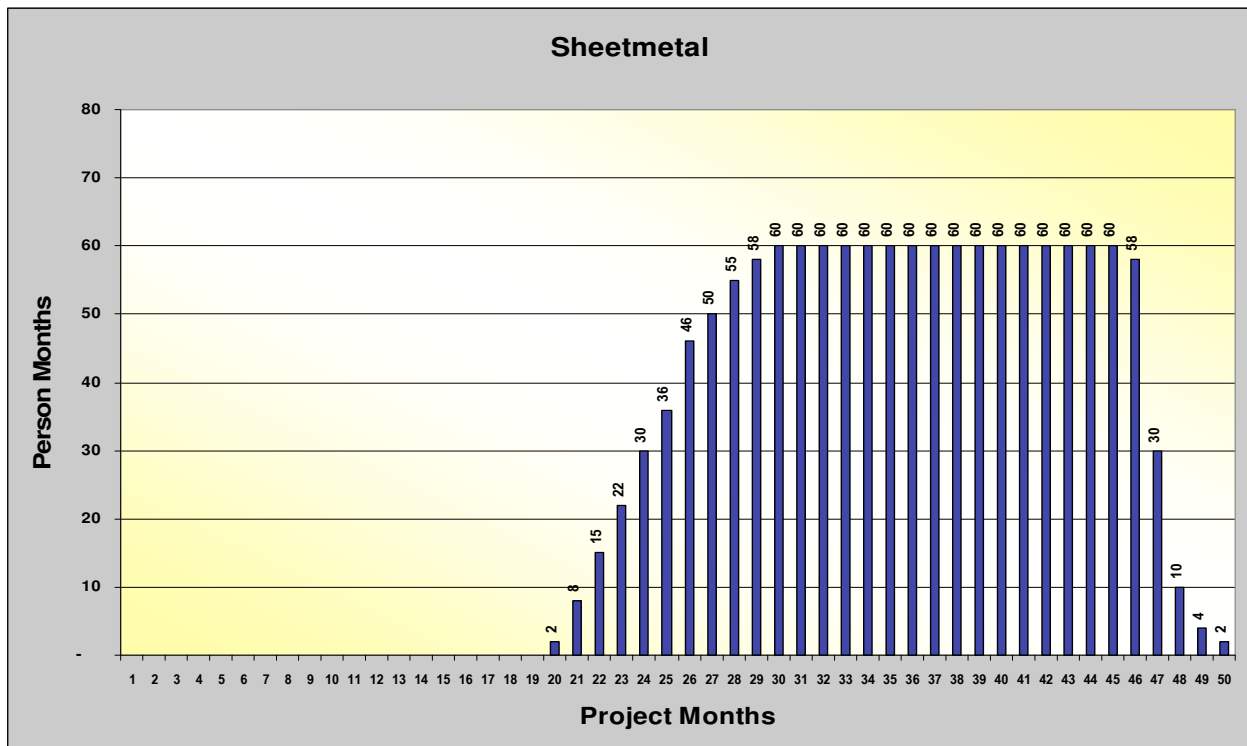


Plant Washington

Construction Job Description

Sheetmetal Workers

- Plans, lays out, fabricates, assembles, installs, and repairs sheet metal parts, equipment, and products, utilizing knowledge of working characteristics of metallic and nonmetallic materials, machining, and layout techniques, using hand tools, power tools, machines, and equipment.
- Reads and interprets blueprints, sketches, or product specifications to determine sequence and methods of fabricating, assembling, and installing sheet metal products.
- Selects gauge and type of sheet metal, for example galvanized iron, copper, steel, or aluminum, or nonmetallic material, for example plastics or fiberglass, according to product specifications.
- Lays out and marks dimensions and reference lines on material, using scribes, dividers, squares, and rulers, applying knowledge of shop mathematics and layout techniques to develop and trace patterns of product or parts or using templates.
- Sets up and operates fabricating machines, for example shears, brakes, presses, forming rolls, and routers, to cut, bend, block and form, or straighten materials.
- Shapes metal material over anvil, block, or other form, using hand tools.
- Trims, files, grinds, deburrs, buffs, and smooths surfaces, using hand tools and portable power tools.
- Welds, solders, bolts, rivets, screws, clips, caulks, or bonds component parts to assemble products, using hand tools, power tools, and equipment. Installs assemblies in supportive framework according to blueprints, using hand tools, power tools, and lifting and handling devices.
- Inspects assemblies and installation for conformance to specifications, using measuring instruments, for example calipers, scales, dial indicators, gauges, and micrometers.
- Repairs and maintains sheet metal products.
- May also operate computer-aided-drafting (CAD) equipment to develop scale drawings of product or system.
- May also operate laser-beam cutter or plasma arc cutter to cut patterns from sheet metal.
- Estimated Number of Jobs = up to 60

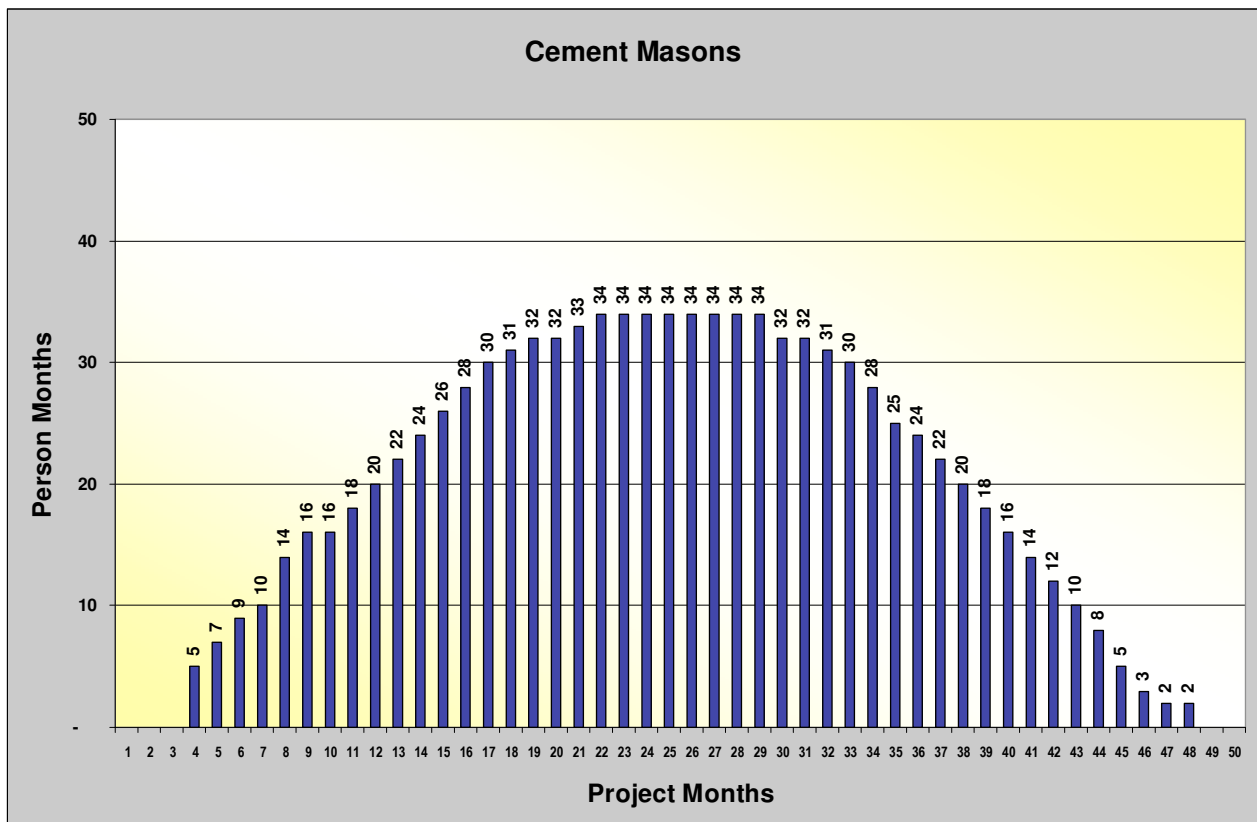


Plant Washington

Construction Job Description

Cement Masons / Finishers

- Cement masons smooth and finish poured concrete.
- They help make concrete beams, columns, and panels.
- Cement masons are needed wherever a finished surface of concrete is poured.
- They also apply latex and epoxy to floors.
- Cement masons can create colored surfaces by applying tinted cement.
- Masons use wood or plastic forms to shape the concrete and hold it until it is set.
- The masons check the forms into which the concrete is to be poured to be sure they have been placed at the right depth and angle.
- Under the mason's supervision, laborers pour and spread the concrete.
- They level the concrete, using tools such as floats and screeds to smooth high spots and fill depressions.
- Sometimes they use machines that vibrate the concrete to remove air pockets.
- The masons then go over the cement with a trowel to create its final texture.
- A power-operated trowel can be used on open areas, but corners and edges must be finished by hand.
- Cement masons must also smooth any rough surfaces that remain when the pouring forms have been removed.
- They usually have to prepare the rough surface with a hammer and chisel and rub any high spots with a brick to smooth them.
- Estimated Number of Jobs = 34



Plant Washington

Construction Job Description

Operating Engineers

Grader Operator

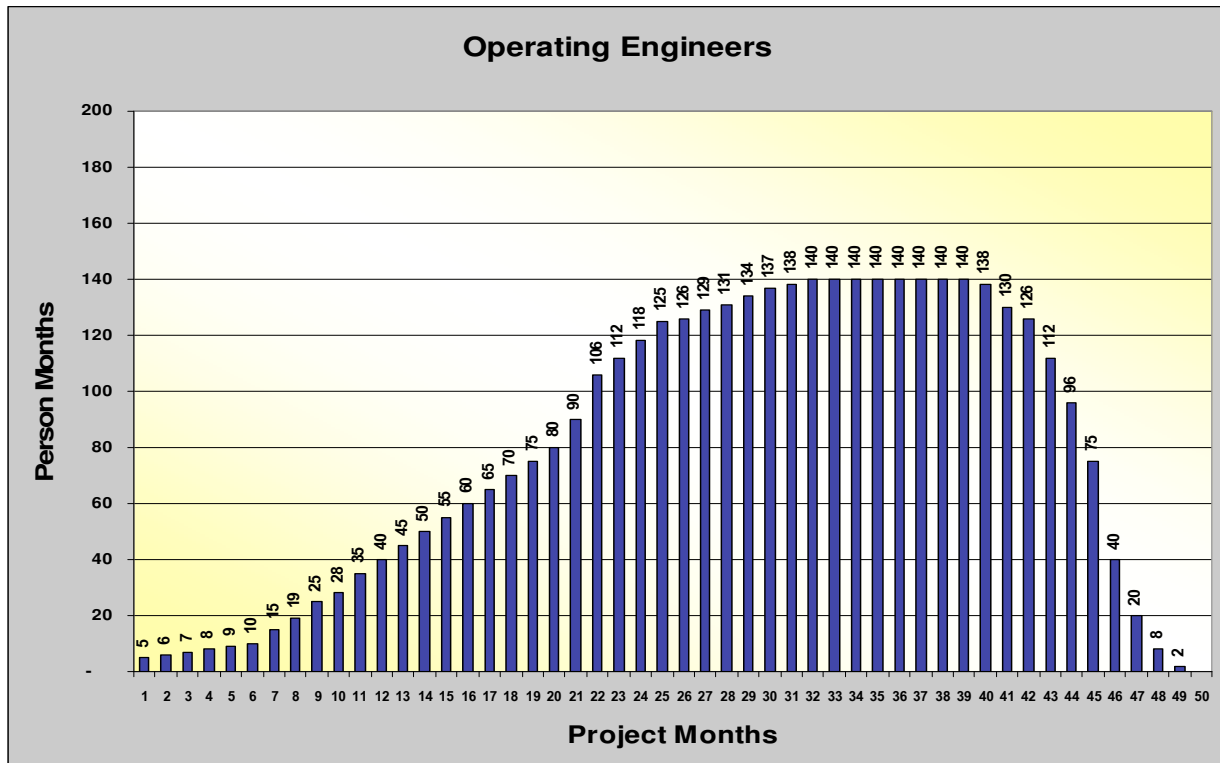
- AKA: Blade-grader operator, motor-patrol operator, power-grader operator, road grader, road-hogger operator
- Operates self-propelled grader to spread and level dirt, gravel, and stone, to grade specifications in construction and maintenance of earthwork structures, for example highways, streets, airports, dikes, and temporary roads:

Bulldozer Operator

- Operates tractor equipped with concave blade attached across front to gouge out, level, and distribute earth and to push trees and rocks from land preparatory to constructing roads and buildings or planting crops, or in mining, quarrying, and lumbering operations.

Asphalt Paving Machine Operator

- AKA: Asphalt-spreader operator, bituminous-paving-machine operator, blacktop-paver operator, blacktop spreader, mechanical-spreader operator, paving-machine operator, asphalt or bituminous.
- Operates machine that spreads and levels hot-mix bituminous paving material on subgrade of highways and streets.
- Estimated Number of Jobs = Up to 140

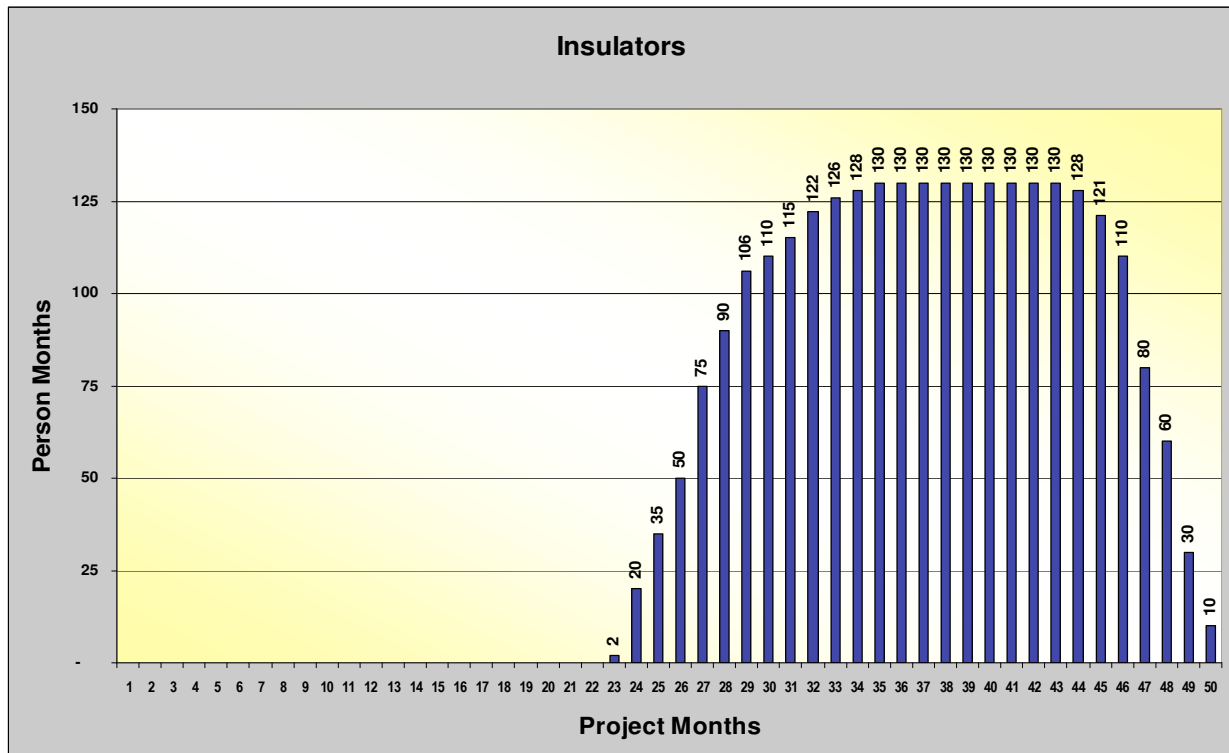


Plant Washington

Construction Job Description

Insulators

- Covers boilers, pipes, tanks, and refrigeration units, with insulating materials to reduce loss or absorption of heat, prevent moisture condensation, and to deaden sound:
- Insulation workers cement, staple, wire, tape, or spray insulation.
- When covering a steam pipe, for example, insulation workers measure and cut sections of insulation to the proper length, stretch it open along a cut that runs the length of the material, and slip it over the pipe.
- They fasten the insulation with adhesive, staples, tape, or wire bands.
- Sometimes, they wrap a cover of aluminum, plastic, or canvas over the insulation and cement or band the cover in place.
- Insulation workers may screw on sheet metal around insulated pipes to protect the insulation from weather conditions or physical abuse.
- When covering a wall or other flat surface, workers may use a hose to spray foam insulation onto a wire mesh that provides a rough surface to which the foam can cling and that adds strength to the finished surface.
- Use power saws to cut insulating materials, welding machines to join sheet metal or secure clamps, and compressors to blow or spray insulation.
- Trowels mastic or brushes cement on cloth to obtain smooth finish and covers piping with cloth.
- Fits insulation around insulating boilers, evaporators, and turbines.
- Fabricates detachable insulation for valves or similar fitting by measuring connections, preparing patterns, cutting asbestos cloth, stuffing cloth with amosite (plastic pipe covering), and sewing cover together on power sewing machine.
- Wires detachable covers on valves or fittings, using hand tools.
- Installs fiberglass or spun glass on ventilating systems to deaden sound and prevent vibration.
- Estimated Number of Jobs = 130



Plant Washington
Construction Job Description

Roofers

- Covers roofs with roofing materials other than sheet metal, for example, composition shingles or sheets, wood shingles, or asphalt and gravel, to waterproof roofs.
- Cuts roofing paper to size, using knife, and nails or staples it to roof in overlapping strips to form base for roofing materials.
- Aligns roofing material with edge of roof, and overlaps successive layers, gauging distance of overlap with chalk line, gauge on shingling hatchet, or by lines on shingles.
- Fastens composition shingles or sheets to roof with asphalt, cement, or nails.
- Punches holes in slate, tile, terra cotta, or wooden shingles, using punch and hammer.
- Cuts strips of flashing and fits them into angles formed by walls, vents, and intersecting roof surfaces.
- When applying asphalt or tar and gravel to roof, mops or pours hot asphalt or tar onto roof base.
- Applies alternate layers of hot asphalt or tar and roofing paper until roof covering is as specified.
- Applies gravel or pebbles over top layer, using rake or stiff-bristled broom.
- May also construct and attach prefabricated roof sections to rafters.
- May also attach shingles to exterior walls and apply roofing paper and tar to shower pans, decks, and promenades to waterproof surfaces.

Plant Washington
Construction Job Description

Machine Assemblers

- Assembles machinery, for example crushers and vibrators, according to blueprints and shop orders, for processing materials, for example coal, clay, chemicals, and rock.
- Positions parts in frame of machine, using hoist, and bolts stationary parts in place, using impact wrench and hand tools.
- Removes burrs and rough spots from parts with hand file and portable pneumatic grinder.
- Aligns bearings with shafts in machine.
- Inserts shims and turns setscrews to set clearance between parts and verifies clearance, using scale and fixed gauges.
- Fastens lift chain around machine and directs overhead crane operator in moving machine to storage area.