

Federal Wage System Job Grading Standard for Fabric Working, 3105

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WORK COVERED

This standard covers nonsupervisory work involved in making, modifying, altering, and repairing clothing and/or equipment or other items such as awnings, tents, containments, gun covers, sleeping bags, parachutes, belts, carrying cases, flags, bed linens, protective clothing, work clothes, dress clothes, suits, coats, uniforms, and other articles made of fabric. Fabrics include wool, cotton, linen, canvas, nylon, polyester, rayon, acetate, acrylic, olefin, saran, metallic fabrics, fabrics made of rubber yarns or plastic filaments, leather, felt, fiberglass, vinyl, asbestos, and other similar materials.

Fabric work involves taking measurements, making patterns and layouts, marking, cutting, fitting, and sewing or cementing parts together, using hand or power tools and equipment and knowledge of fabrics and construction methods.

WORK NOT COVERED

This standard does not cover the following work:

- Upholstering furniture, seats, rooms, offices, aircraft, automobiles, ships, boats, and other equipment (See [Job Grading Standard for Upholstering, 3106](#));
- Operating sewing machines to sew or repair fabric articles when the work does not include measuring, marking, cutting, and fitting materials (See [Job Grading Standard for Sewing Machine Operating, 3111](#));
- Packing or repacking parachutes (see [Job Grading Standard for Parachute Packing, 7010](#));
- Molding, making, repairing, and testing rubber equipment such as life rafts, life vests, fuel cells, flotation equipment, and pressure seals (See [Pliable Materials Work Family, 4300](#));
- Making, modifying, and/or repairing protective and safety equipment such as hoods, goggles, permeable and impermeable clothing, boots, and filters when the work does not require a predominant knowledge of fabric work (See [Protective and Safety Equipment Fabricating and Repairing Series, 4816](#));
- Repairing and replacing canvas or leather driving belts when the primary purpose of the job is to do work involved in installing, moving, and repairing heavy machinery and equipment (See [Job Grading Standard for Industrial Equipment Mechanic, 5352](#));
- Setting up, operating, and maintaining machines and equipment such as conveyors, stripping machines, rolling machines, automatic spreading machines, automatic or manual die cutting machines, etc. (See [Industrial Equipment Operating Family, 5400](#));

- Receiving, inspecting, storing, and issuing personal flight clothing and equipment such as survival gear, parachutes, and helmets to flight crews (See [Aircraft Survival Flight Equipment Repairing Series, 4818](#));
- Receiving, storing, and issuing uniforms and other clothing to military personnel when the work does not include fitting, measuring, and marking garments to indicate required alterations (See [Job Grading Standard for Store Working, 6914](#));
- Making, installing, testing, repairing, and modifying aircraft escape and recovery components and systems such as canopies, canopy removers, ejection seats, automatic lap belt opening devices, and shoulder harness reels when the work does not require a predominant knowledge of fabric work (See [Job Grading Standard for Aircraft Ordnance Mechanic, 6652](#)).

TITLES

Jobs covered by this standard are to be titled *Fabric Worker*.

Jobs engaged in making and/or fitting and altering men's and women's tailored garments are to be titled *Fabric Worker (Tailoring)*.

GRADE LEVELS

This standard does not describe all possible grades for this occupation. Some jobs may differ substantially from the levels of skill, knowledge, and other work requirements of the grades described in the standard. Such jobs may be graded above or below these grades based on sound job grading methods.

HELPER AND INTERMEDIATE JOBS

Helper jobs are graded by the [Job Grading Standard for Trades Helper Jobs](#). The grade 7 level in this standard does not apply to fabric work jobs that are part of a planned program of training and development of skills for advancement to a higher grade. Such trainee jobs are covered by the standard for [Intermediate Jobs](#). (Grade 9 in this standard is to be used as the journeyman grade in applying the Intermediate Job Grading Table.)

NOTES TO USERS

This standard is directly applicable only to fabric work. Many fabric workers, however, perform other work in conjunction with their fabric working duties, such as reupholstering seat cushions, packing parachutes, and repairing and testing life rafts and survival kits. When such nonfabric-working duties are performed on a full-time basis, or when they are the highest level

and grade controlling work of the position involved, appropriate standards such as those listed above in the WORK NOT COVERED paragraph should be used for job grading purposes. Mixed jobs should be graded in accordance with the instructions for mixed jobs in the [Introduction to the Federal Wage System Job Grading System](#). When the fabric work of a mixed job is at the same grade level as the other work performed, such a job should be titled and coded as Fabric Worker if the fabric work is most important in terms of the total job, the purposes of the job, or the career ladder in which it is located.

Positions specializing in certain skilled operations such as marking and cutting are included in this occupation but are not specifically described. Such positions are to be graded by comparison with the criteria in this standard.

FABRIC WORKER, GRADE 1

General: Grade 1 fabric workers do simple tasks that are easily learned, such as turning belts or sleeves right side out; marking locations for hems on shirt fronts, using small patterns; stamping the size on belts; matching linings to coats by size; trimming loose threads from edges or seams of clothing and other items, using trimming machines; separating garment parts (such as skirt fronts, backs, and waistbands) into bundles; or other similar assembly line operations.

Skill and Knowledge: Grade 1 fabric workers have the ability to follow oral instructions and do work that is repetitive. They are able to recognize components of clothing and other fabric items and match ticket numbers, e.g., bundle numbers, ply numbers, and size. They are able to use simple tools and equipment such as turning aids, small patterns, chalk pencils, and trimming machines. Some hand-eye coordination is necessary to position patterns on material properly and to work quickly to meet production standards.

Responsibility: Fabric workers at this level receive specific instructions about how to do the work and do it the same way each time (tasks may be rotated periodically). Obviously, damaged items are brought to the attention of the supervisor. Work is checked to see that production and quality standards are met.

Physical Effort: Grade 1 fabric workers usually stand or sit for long periods at worktables. They continually use arms, fingers, and hands in positioning materials and marking construction lines. They constantly handle pieces of fabric or articles of clothing weighing up to 5 kilograms (10 pounds) and occasionally items weighing over 5 kilograms, e.g., bundles of cut parts. Some jobs require considerable walking and stooping, and frequent lifting and moving of items weighing up to 14 kilograms (30 pounds).

Working Conditions: Fabric workers at grade 1 usually work in shops or other enclosed areas that are adequately lighted, ventilated, and heated. They are subject to punctures, cuts, and other minor injuries from pins and sharp instruments. They often are exposed to noise from sewing machines.

FABRIC WORKER, GRADE 2

General: In comparison with the simple, repetitive work at grade 1, grade 2 fabric workers do tasks with several steps or a sequence of tasks requiring some knowledge or skill, e.g., sorting and bundling parts and accessories needed to make complete garments according to size and cut number; marking parts to indicate locations for pockets, buttonholes, buttons, or other trimmings; aligning and pinning garment pieces (such as coat front, pocket, and facing pieces) together for sewing; trimming ravelings, loose threads, and basting stitches from seams or edges of articles, using scissors; installing grommets or metal fasteners on marked locations; or assembling finished items into bundles for shipping by color, quantity, size, and style.

Skill and Knowledge: Grade 2 fabric workers have the ability to follow oral and written instructions. They are able to recognize parts and materials, read garment tickets, and match ticket numbers. They use a knowledge of sewing operations to assemble bundles of parts for sewing or move bundles from one operator to another. They are able to use equipment and measuring devices such as scissors, shears, pins, grommet machines, rulers, and small patterns to accomplish more difficult tasks than grade 1 workers, e.g., positioning patterns for marking so as to compensate for cutting errors or crooked edges, or trimming ravelings and threads without imaging parts.

Responsibility: Grade 2 workers receive specific instructions about what to do and when to do it. They use some judgment in seeing that all components in a bundle match by ticket number, insuring that garment parts are distributed in the right order so they come together at the right time for sewing operations, or seeing that parts are correctly aligned. The supervisor takes care of problems and checks to see that quality standards and production quotas are met.

Physical Effort: Physical effort at this level is the same as that described at [grade 1](#).

Working Conditions: Working conditions at this level are the same as those described at [grade 1](#).

FABRIC WORKER, GRADE 3

General: Compared with grade 2 workers who do several routine tasks, grade 3 fabric workers perform a combination of tasks involving basic operations in making or repairing clothing and other items, e.g., ticketing components of clothing to identify shade, ply, and size; measuring and marking locations for simple applique designs on flags and guidons; trimming and clipping excess material from seam edges and corners which have sharp points, corners, curves, or irregular shapes; doing simple hand stitching on inside parts of garments (such as felling shoulder and side seams of coat linings and tacking facings at the bottom of coats); examining clothing or items of equipment for obvious defects and marking the areas that need repair; or patching, darning, and mending work clothes and utility items by hand and machine.

Skill and Knowledge: Grade 3 fabric workers know more about construction and repair techniques than grade 2 workers doing simple matching, marking, trimming, and pin-basting. For example, workers at this level know what parts of garments go together (such as sleeves and linings or pockets and facings) for sewing operations. They know how to take measurements to mark edges of parts or points of assembly according to instructions. They use skill to trim material to conform with specified seam allowances or to hand-baste, tack, or fell straight or slightly curved seams. They know how to mark items to indicate different types of repair, how to cut out damaged areas, and how to use basic hand repair stitches to mend tears, small holes, frayed edges, and opened seams, or prepare damaged areas for machine work. Workers at this level are able to use tools and equipment such as ticketing machines, scissors, shears, pins, needles, thimbles, sewing machines, irons, rulers, and patterns. They are able to set up, adjust, and clean their equipment. They know how to work with various fabrics (such as cotton, polyester, and similar fabrics that are easy to handle), tapes, threads, beeswax, buttons, and fasteners. They are able to match threads and material for patches in color and texture.

Responsibility: Grade 3 fabric workers follow clear-cut oral and written instructions, simple prints or drawings, and stitching guides such as notches or chalk marks. Although there are set procedures, judgment is needed in deciding what repairs to make or what sewing or marking techniques to use. The supervisor gives instructions on new or unfamiliar methods and materials. Work is checked for quality and to see that instructions are followed.

Physical Effort: Physical effort is the same as that described at [grade 1](#).

Working Conditions: Working conditions are the same as those described at [grade 1](#).

FABRIC WORKER, GRADE 4

General: In comparison with duties at grade 3 which involve basic operations, grade 4 fabric workers perform work that involves special techniques or complete processes, e.g., performing hand felling operations to finish linings of coats and overcoats (such as felling sleeve linings to armholes); marking and cutting garments for alteration, following fitter's pins or instructions; or making and repairing items such as sheets, pillow cases, blankets, tablecloths, towels, hospital gowns, straps, and other items which have simple straight construction lines.

Skill and Knowledge: Grade 4 fabric workers are able to use more complicated methods than grade 3 workers. They can select patterns according to size and style and match colors and fabric. They are able to measure and cut material into specified lengths and width. They use skill to lay out simple patterns with the grain of the goods, pin patterns or mark outlines on fabrics, and cut out parts around pattern edges or along marked lines. They can assemble and sew parts together and attach fasteners and fittings such as snaps, zippers, eyelets, drawstrings, and cords. Workers who prepare clothing for alteration or repair are able to measure, mark, and cut garments, rip stitches from darts and seams, and remove old or damaged parts or sections of material. Hand sewers know how to sew curved edges and distribute fullness.

Fabric workers at this grade know how to use measuring devices such as rulers, yardsticks, and patterns to measure fabric and mark off the position of pleats, fasteners, and buttonholes. They are able to use shears, ripping aids, needles, and sewing machines to mark garment parts, cut materials, open seams, and hem and sew seams. They work mostly with cotton, rayon, polyester, acrylic, acetate, nylon, and worsted fabrics or blends that are fairly easy to cut out and sew accurately.

Responsibility: Grade 4 fabric workers perform work on the basis of written and oral instructions, repair tags, alteration tickets, job orders, patterns, and fitter's pins or markings that are clear and complete. Workers are responsible for meeting standards of neatness and accuracy. The supervisor explains new procedures and checks work for quality and compliance with instructions.

Physical Effort: Physical effort is the same as that described at [grade 1](#).

Working Conditions: Working conditions are the same as those described at [grade 1](#).

FABRIC WORKER, GRADE 5

General: Grade 5 fabric workers perform duties that involve more complex and varied construction techniques than those at grade 4, e.g., performing complicated hand basting and tacking operations on tailored garments; pinning or basting flag parts together in intricate designs preparatory to sewing; measuring, fitting, and marking garments for minor alterations such as hemming or adjusting waistlines and sleeve lengths; or making and repairing articles such as curtains, pajamas, cooks' and bakers' whites, tool bags, harnesses, shelter halves, canteen covers, field packs, pistol belts, and other items that have fairly simple construction features and need little fitting.

Skill and Knowledge: Grade 5 fabric workers know more about how fabric items are made than lower-grade workers. They are able to use a variety of construction and repair methods. They have the ability to determine the dimensions of parts from patterns or samples. They can use simple arithmetic to figure yardage of fabric needed. They are able to spread material and lay out patterns so that replacement parts will match the print or weave of other parts of the article. They use skill to cut out parts to exact dimensions, trim and shape edges or parts preparatory to sewing, and cut excess material from seam edges. They are able to mark parts for assembly by cutting notches in the edges or using chalk to indicate construction lines; assemble and join sections of material together by sewing, gluing, or sealing seams, corners, bindings, and reinforcements; and install and secure items with ropes, adhesives, and other fastenings. They can splice, insert, and hem rope in fabric edges to relieve strain, and wrap and sew parts of rope that are subject to chafing. Grade 5 fabric workers are able to use prescribed procedures to examine and mark articles for repair or salvage. They use skill to patch, darn, reweave, and reinforce weak spots, tears, holes, worn areas, frayed sections, and opened seams. They are able to replace damaged or missing parts such as web-strap handles, reinforcing strips, buckles, pockets, pocket flaps, collars, cuffs, and waistbands with salvaged parts or with new parts made from patterns, samples, or damaged parts used as patterns. Alteration workers are able to fit

garments on wearers, mark areas requiring alteration, and make alterations such as shortening or lengthening sleeves and legs, raising or lowering collars, shortening or lengthening hems, and expanding or narrowing waist and chest (unlined garments) without changing the basic shape of the article. Hand sewers are able to do all but the most complex stitching, e.g., basting undercollars, finish-basting shoulder linings, basting and tacking shoulder pads in place, and setting sleeve heads. These techniques require more skill than is needed at lower grades because appearance and/or sturdiness are more important in finished items at this level.

Grade 5 fabric workers are skilled in using a variety of hand and power tools such as wire brushes, irons, ripping aids, stilettos, drills, chisels, mallets, and die sets to prepare fabric surfaces for cement patches, press seams and edges, take out basting stitches, punch eyelets, and install grommets and fasteners.

They are able to use measuring tapes, hem markers, yardsticks, patterns, and similar devices to measure garment pieces such as sleeves and pants, mark hem lengths, measure fabric, and mark off locations for hardware and metal fittings. They can use scissors, shears, knives, and shivers to cut fabric and leather. They use skill to operate regular and heavy-duty sewing machines, sonic sealers, and soldering irons to sew or seal seams or fabric edges, join sections of material, and apply patches.

Fabric workers at this level are familiar with a variety of common materials and components such as wool, nylon, cotton, broadcloth, canvas, buttons, grommets, snap fasteners, ropes, eyelets, clips, and other hardware. They use a knowledge of the major properties of different materials, such as strength, elasticity, and tendency to fray, to match fabrics for replacement parts and produce satisfactory results when cutting and sewing. They know what types of seams and stitching to use to support various material weights, when and on what to use cements and sealants for joining pieces of material or sealing seams, how to remove spots and stains from various articles with cleaning fluids and solvents, and how to apply waterproofing and other compounds or preservatives to canvas, leather, and other items.

Responsibility: Grade 5 fabric workers perform work on the basis of written or oral instructions, prints, technical manuals, work orders, and alteration and repair tags that specify the job to be done and materials to be used. They follow accepted methods, procedures, and techniques to complete assigned tasks. The supervisor checks work during progress and provides guidance on any problems encountered. Completed work is checked to see that it meets requirements.

Physical Effort: Grade 5 fabric workers usually stand at worktables to measure, mark, and cut materials. They sit for long periods while operating sewing machines or doing hand sewing. They do a considerable amount of stooping, bending, and kneeling, and continually use arms, hands, and fingers in pulling and positioning materials, sewing, and using tools such as shears and electric knives. Fabric workers may occasionally work in cramped areas, on ladders and scaffolds, and overhead. They frequently lift and carry items that weigh up to 14 kilograms (30 pounds); some workers at this level handle items that are consistently heavier and bulkier. They frequently lift and carry items that weigh up to 23 kilograms (50 pounds) and occasionally lift heavier items with assistance.

Working Conditions: Fabric workers usually work in shops or other enclosed areas that are adequately lighted, ventilated, and heated. They are subject to cuts, bruises, punctures, scratches, and other minor injuries or irritation from handling sharp tools and materials treated with special finishes. Dust and lint from fabrics and fumes and odors from glues, preservatives, and cleaners sometimes are present. Fabric workers often are subject to noise from sewing machines. They may work on ladders and scaffolds when hanging or installing completed items. They sometimes work outside. They may wear or use protective devices such as safety shoes and glasses, respirators, and machine guards.

FABRIC WORKER, GRADE 7

General: Grade 7 fabric workers make, modify, repair, and make replacement parts for standard-type articles such as parachutes, truck tarpaulins, machinery and equipment covers, awnings, tents, flight clothes, and other items of moderate complexity. Tailoring workers fit garments on wearers, measure pieces, mark garments to indicate required alterations, and alter or repair coats, jackets, and other tailored items. The items handled by grade 7 workers are more difficult to construct and repair than those at grade 5 because they have several layers of material, more complicated or bulky shapes, more parts, or more complex pieces. They require more precise shaping and finishing because of considerations such as appearance in better quality clothing, or strength/safety in survival equipment.

Skill and Knowledge: Grade 7 fabric workers are able to use more difficult construction techniques than grade 5 workers. They are able to interpret drawings and easily understood blueprints. They can determine the amount of fabric needed from patterns or samples, or by following dimensions in instructions and allowing for shrinkage and stitching. They are able to take measurements for parts where necessary and make simple patterns. They know how to use arithmetic and fractions to calculate pattern measurements (e.g., cover measurements plus allowances for seams and pleats). They use skill to lay out patterns with a number of pieces that must be matched; cut out parts from single or multiple layers of material; and make adjustments to assembled articles to assure desired fit.

Grade 7 fabric workers are able to make major repairs such as replacing parachute canopy sections, risers, and suspension lines, or tent parts such as stovepipe openings and window framework assemblies. Tailoring workers can determine necessary alterations and make extensive alterations and repairs such as matching lapels, expanding or narrowing chests, or replacing sleeves in tailored garments.

Grade 7 fabric workers are able to use the same tools and equipment as grade 5 workers to accomplish more difficult cutting and sewing tasks. They are able to use a wider variety of measurer' devices such as flexible measuring tapes, straight and curved rulers, protractors, compasses, dividers, squares, patterns, and templates, to take measurements and lay out dimensions. They also know how to work with more types of materials than grade 5 workers, including most regularly used fabrics and materials such as wool, nylon, canvas, webbing, leather, vinyl, fiberglass, rubberized cloth, various threads, tapes, lines, and hardware.

Responsibility: Grade 7 fabric workers perform work on the basis of written or oral instructions, blueprints, sketches, technical orders and manuals, and work orders that clearly show what is to be done. They select the methods, tools, and materials commonly used to do the assigned work or described in the instructions. They are responsible for making articles to work order specifications, obtaining good appearance and durability, and insuring economical use of material.

The supervisor checks work during progress and provides assistance where guides are not available. Completed work is checked to see that it meets requirements.

Physical Effort: Physical effort required at this level is the same as that described at [grade 5](#).

Working Conditions: Working conditions at this level are the same as those described at [grade 5](#).

FABRIC WORKER, GRADE 9

General: In comparison with grade 7 workers who make more standardized items, grade 9 fabric workers make and repair articles that are difficult to plan, lay out, construct, and fit because of figure irregularities, uncommon shapes and sizes, unusual designs, or intricately constructed parts, such as radiation containment tents, nose dock enclosure curtains, canopies, protective suits, and similar items. Tailors make suits, coats, and other dress clothes to fit wearers' measurements. Grade 9 workers also make sample articles such as garments or parachutes, following experimental items, sketches, and designers' specifications.

Skill and Knowledge: Grade 9 fabric workers have a broader knowledge of construction processes than grade 7 workers. They are able to plan work when detailed specifications are not available and take measurements for articles of various shapes and sizes. They apply a knowledge of shop mathematics, including fractions, equations, and plane measurements, to make more difficult calculations than grade 7 workers, such as computing dimensions and laying out circles, angles, curves, and irregular shapes. They can make working sketches containing data on dimensions, location and size of openings to be made in the fabric, and position of design details such as pleats or pockets. They are able to make complicated cutting layouts that involve many pattern pieces, fabrics with directional prints, or other difficulties. They are able to draw individual patterns or alter or adjust standard patterns to fit special measurements and incorporate design features such as passouts or glovesleeves (tailors use skill and a knowledge of body proportions to modify master patterns to fit various sizes). They can determine points of strain, e.g., at stretchy edges, pocket corners, chapes, or handles, and add extra stitches, tape, or weather flaps, or secure rope or cable, to strengthen or prevent stretching or tearing. They are skilled in fitting items to spaces or locations with unique parameters, unusual shapes, or obstructions such as piping systems. These techniques require more precise design layout, shaping, and finishing than is necessary at grade 7.

Grade 9 fabric workers are enable to use the same tools and measuring devices as grade 7 workers to accomplish more exacting operations such as measuring and fitting in confined spaces or altering patterns to solve individual fitting problems.

Grade 9 fabric workers are able to work with a wider variety of fabrics and materials than grade 7 workers, including newly developed materials. They apply a thorough knowledge of all types of common fibers, blends, fabrics, and finishes, including a knowledge of performance and handling characteristics such as dimensional stability, abrasion resistance, and heat sensitivity, to select materials to meet particular needs. They have the ability to substitute materials when the precise type or weight desired is not available.

Responsibility: Grade 9 fabric workers work from written or oral instructions, blueprints, sketches, specifications, and work orders. These are often general and incomplete. Fabric workers discuss requirements with engineers, designers, customers, and others to learn the size, shape, special features, and purpose of completed items or structures. They plan and lay out their own work. They make patterns or templates where necessary. They select methods, materials, and tools most appropriate for the assigned project, e.g., type of cloth, thread, fittings, rope, trim, color, and operational steps for assembling and sewing individual pieces. They insure that completed articles meet requirements for correct dimensions and tolerances, good appearance, and durability. Completed work is spot checked by the supervisor for quality and accuracy.

Physical Effort: Physical effort required at this level is the same as that described at [grade 5](#).

Working Conditions: Working conditions at this level are the same as those described at [grade 5](#).