

Detailed Guide to Clothing Construction Standards

For use by 4-H Clothing Leaders and those preparing to evaluate clothing

Philosophy

- In 4-H, the person is more important than the product. The reason garments are evaluated is to help young people learn all they can about what they have done. Keep foremost in your mind the age and amount of experience of the individual as you evaluate.
- A few specific comments are more helpful than many vague observations. For example, say "This facing rolls to the right side of the neckline; try understitching and clip seam allowances." Don't say "This facing is wrong."
- There are many ways to achieve a desired effect. One should not rule out unfamiliar methods if the results obtained are satisfactory.
- Don't depend on "rules." Sound reasoning is often better as a guide. If there is a question about a technique used, consult the youngster or pattern guide sheet to determine why that specific method was selected.
- Evaluate actual results, rather than what might have been done. For example, in judging a hand-made article, evaluate the general effect and the quality of work rather than saying that the article should have been made by machine.
- Distinguish between choice of technique and quality of workmanship when making comments. For example, if a suitable hemming stitch has been used carelessly, your comment might be "This stitch was a good choice, but it shows too much on the right side. Learn to pick up fewer yarns from the fabric with your needle."
- Answers to the following questions may help in making sound decisions quickly and easily:
 - What is the general effect or appearance?
 - What is the over-all quality of workmanship?
 - Are the techniques used suitable for style and fabric?
 - Are the pattern and fabric compatible and appropriate for intended use?
 - Where is improvement needed?
 - Is there an appropriate degree of difficulty for the years of experience indicated?

Preface

This guide provides information on the standards of clothing construction that can be observed in the process of evaluating a garment. It is not "how to do it," but rather what it should look like when it is done. For specific information on particular construction techniques, the following resources are helpful guides:

Fact sheets on fabrics, notions, and techniques - prepared by textiles and clothing faculty at Cornell - available from each county extension office.

Complete Guide to Sewing - Reader's Digest

Let Yourself Sew - Simplicity

Ready, Set, Sew - Butterick

Sewing Book - Coats and Clark

Sewing Book - McCall's

Simplicity Sewing Book - Simplicity


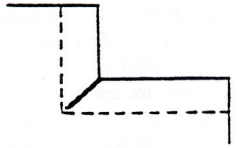

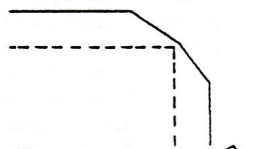
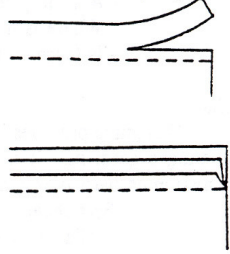
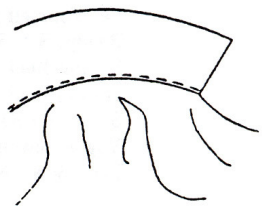
Vogue Sewing Book - Vogue

Let's Sew - Nancy's Notions - 4-H Office

In these references you will find many different ways of achieving the same end result. For example, there are many methods of making a bound buttonhole, finishing a seam and stitching a hem. The technique used is not as important as the end result, which should be effective, attractive and neat.

Defining the Terms

The following terms appear in this guide. Many are similar, others may be unfamiliar. These brief definitions may be helpful.

Term	Where Done	Definition	Purpose	
Clip	Inside Curve	To cut perpendicular through seam allowance at regular intervals, close to but not through line of stitching.	Allow seam allowance to lie flat.	
Wedge (or Notch)	Outside Curve	To snip out small wedge-shaped bits of fabric in the seam allowance, close to but not through the line of stitching.	Eliminate bulk	
Trim	Outside Corner	To cut off the corner of the seam allowance, close to but not through the point of the corner formed by the line of stitching	Eliminate bulk	
Trim	Seam	To cut a seam allowance to a narrower width.	Eliminate bulk	
Grade	Seams	To cut seam allowances in graduated widths.	Eliminate bulk, eliminate ridge from showing on right side.	
Understitch Facings		To trim the facing seam allowance, grade the facing and garment seams if needed, press both toward the facing, and stitch both seam allowances and the facing close to the seamline on the facing.	Prevent facing from rolling to right side.	
Sear	Seam Edge	To slightly melt the cut edge of a nylon or polyester fabric that ravel badly such as taffeta, ripstop or chambray by running it through a candle flame or heating the edge with a soldering iron.	Prevent raveling	

Clothing Construction Standards

Appearance - Overall

It is difficult to be objective when considering the overall appearance and appeal of a garment. It may be helpful to think about there being at least one especially pleasing feature about this garment, reflecting the

many hours of thought, effort, and creativity that went into its construction. It may be the design, fabric, use of unusual technique or detail, particularly neat and well-done machine or hand stitching, and so on.

Basting Threads - removed

Care Label - desirable, but not mandatory

Cleanliness - garment may have been worn, but should be fresh looking, free from spots and stains and markings

Fabric Design - well placed when large pattern used or one part of the pattern is dominant; plaids, checks, or stripes matched at openings, collars, cuffs, pockets, and conspicuous seams

Pressing - done throughout construction, well-pressed

Belts

Appearance - flat, smooth

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Closure - appropriate, attractive, durable

Corners - accurately formed

Curves - smooth

Grain - straight on straight belt

Interfacing - appropriate for effect desired

Points - sharp

Stitching - straight

Width - uniform (unless design requires variation)

Bindings

Appearance - smooth, uniform; flat, or rounded as appropriate

Bulk - seams graded

Grain - cut on true bias

Interfacing - appropriate for effect desired

Points - sharp

Stitching - straight

Width - uniform (unless design requires variation)

Buttons

Reinforced - by interfacing (between garment and facing) or reinforcement button

Shank - proper length to eliminate pull on button or fabric; may be part of button or made with thread

Size - appropriate to fabric and style of garment

Spacing - good proportion between buttons and in relation to edges of garment; in appropriate place for design of fabric as in stripes or plaids

Stitching - secure, uniform; double thread should be used

Type - suitable to fabric and intended use of garment; functional

Buttonholes

Appearance - flat, uniform, fabric around buttonhole not stretched

Grain - on grain of fabric (unless design requires variation)

Length - uniform; large enough for button to pass through easily but small enough to hold garment closed

Placement - on right side of woman's garment, left of man's

Stitching - secure

Spacing - good proportion between buttonholes and in relation to edges of garment

Width - even

Types of Buttonholes

Bound Buttonholes

Facing - securely stitched, finished; as little bulk as possible

Rectangle - corners perfectly formed; no wider than 1/4 inch (6 mm) except for bulky fabrics

Stitching - not visible on outside

Width - lips meet exactly at center of rectangular opening

Hand Worked Buttonholes

Length - center cut on grain of fabric

Stitching - buttonhole or blanket stitch used; stitches uniform length and distance apart; appropriate reinforcement used at ends of buttonhole

Width - appropriate stitch width in proportion to length of buttonhole

Machine-Made Buttonholes

Length - center cut smoothly and correct length

Stitching - uniform, secure, all stitches intact

Width - appropriate stitch width in proportion to length of buttonhole

Collars

Appearance - only upper collar visible (under collar and facing should not be seen); smooth; enclosed seams not visible; patterned fabric is balanced on left and right sides

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Grain - lengthwise unless pattern requires variation

Interfacing - appropriate for effect desired

Shape - same on left and right (curve of collar, angle of points, relation to center front or back)

Understitching - uniform, appropriately placed

Crotch

Appearance - smooth, flat, free from pulling or drawing

Inseams - match where they meet

Reinforcement - used between break points (notches) or seam may be flat-felled

Cuffs

Appearance - flat, smooth, only upper cuff visible

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Interfacing - present in shirt cuffs (not used in pant cuffs), appropriate for effect desired

Grain - lengthwise unless pattern requires variation

Shape - points and curves even in shape on both sleeves

Width - even

Curved Seams (Princess, Yokes, Others)

Appearance - smooth, flat, free from pulling or drawing

Bulk - seams graded, curves clipped and/or wedged

Points - sharp, neat

Seam Finish - appropriate to fabric

Staystitching - used when needed

Darts

Appearance - tapered, smooth, free from puckers or bubbles; symmetrical on left or right sides unless design or figure problem indicates otherwise; appear as straight line from outside of garment (unless meant to be curved)

Pressing - darts pressed very flat to reduce bulk without imprinting on garment fabric; vertical darts pressed toward center, horizontal pressed down, bulky darts split and pressed open; pressed over rounded ham if in curved area of body; lining darts may be pressed in opposite direction to eliminate bulk

Stitching - thread ends secured

Facings

Appearance - flat, smooth, not visible from outside

Bulk - seams graded, curves clipped and/or wedged

Edge Finish - appropriate to fabric

Securing - understitched where appropriate; tacked only at seam allowances and darts or stitch-in-the-ditch method used where appropriate (as on shoulder seam)

Width - even unless pattern requires variation

Fasteners

Appearance - neat, inconspicuous unless intended to be decorative

Covering - snaps are covered when appropriate to garment (suit, coat, "dressy" dress)

Placement - correct placement for the two parts; hook side of Velcro is placed on top and loop side on bottom

Reinforced - by interfacing on wrong side out outer fabric

Spacing - good proportion between fastener and in relation to edges of garment; hooks are usually placed 1/8 inch from edge of overlap

Stitching - small, even, secure, inconspicuous on right side of garment; on wire hooks, anchored under hook part as well as at ends; the buttonhole, blanket, or overcasting stitch may be used for applying fasteners.

Suitable - to fabric and intended use of garment; functional

Gathers

Appearance - full, attractive, evenly distributed

Pressing - pressed without wrinkles or pleats

Stitching - does not form pleats; if gathering stitches are left in - even and parallel to seam line

Grain

Appearance - plaids, stripes, checks, and other designs match at conspicuous seams

Placement - lengthwise threads -are perpendicular to floor, crosswise threads are parallel unless design requires variation; center front and back are on straight grain unless design requires variation; fabric with nap or a direction in design is cut in the same direction throughout unless design requires variation

Hand Stitching

Appearance - invisible from right side unless decorative; loose enough so fabric does not pucker; thread ends securely fastened and hidden

Length - appropriate, even

Stitching - neat, threads drawn to wrong side and secured and clipped

Thread - appropriate for purpose; single thread is usually used except when sewing on buttons, snaps, and other fasteners

Hems

Appearance - flat, smooth, inconspicuous from right side unless decorative

Ease - fullness in flared hem controlled with ease and shrinking

Hand stitching - even, secure, free from drawing, inconspicuous; single thread used; stitches about 3/8" apart

Pressing - upper hem edge should not imprint or cause ridge on outer garment

Seams - matched

Topstitching - uniform, corresponds with other topstitching on garment; appropriate for garment

Width - uniform; appropriate for fabric; style; provides enough weight to make garment hang well

Edge Finishes

Unfinished - appropriate for knit fabrics that do not ravel; finished with catch stitch or fusible web

Edge stitched - appropriate for fabrics that ravel little; machine stitching 1/4" (6 nun) from edge; finished with catch or blind stitch or fusible web

Seam binding - appropriate for all fabrics, especially those that ravel easily; binding compatible with fashion fabric and durable; overlaps hem edge by 1/4"; finished with blind or catch stitch

Hong Kong - appropriate for garments with relatively straight lines and interlined garments, provides bound edge; binding compatible with fashion fabric, straight and even application, finished with slip or catch stitch

Faced - appropriate for use with bulky fabrics, if fabric is insufficient, as decoration effect, or to stiffen; appropriate facing material used; facing ends joined smoothly and without bulk; finished with slip stitch

Serged - overlocked- appropriate for all fabrics; stitching is flat and even

Types of Stitches

Blindstitch - particularly suitable for medium and heavy-weight fabrics; top edge of hem folded back and stitching done 1/4" from edge; also called tailor's hem

Catchstitch - particularly suitable for knit fabrics because it stretches; upper and lower rows of stitches are same distance apart; thread slightly loose.

Slipstitch - desirable when stitching should be invisible from both sides of garment; stitches evenly spaced

Topstitched - appropriate on narrow hems in sporty garments or as design detail when appropriate to fabric; appropriate thread, stitch length, and stitch pattern used; stitching straight, flat and even

Machine blindstitch - appropriate for straight or very slightly flared garments of medium weight fabrics; only single thread of right side of garment caught by the offset machine stitch; stitching straight and even

Special Hems

Fused - appropriate on garments with relatively straight lines or narrow hem if very flared; inconspicuous on right side of garment; avoid on garments that may be dried at very high temperatures

Lettuce leaf - appropriate only on stretch knits that do not run; decorative; hem allowance trimmed to 3/8" and turned to wrong side, stitched with medium zig-zag, or serged (no blade used) fabric stretched enough to produce desired curl

Rolled - appropriate for sheer fabrics; finished width no more than 1/4" - preferably 1/8"

Interfacing

Appearance - smooth, natural, inconspicuous, concealed by facing

Application - properly done, appropriately applied

Bulk - interfacing adds very little bulk

Color - blends with fabric

Position - used where needed (usually at collar, cuffs, center front, pockets, belt, waistband, neck, lapels); applied behind outer fabric if inconspicuous or may be applied to facing piece

Type - appropriate for effect desired, enhances hand of fabric, care compatible with fashion fabric

Weight - provides desired amount of support to fashion fabric

Lining

Appearance - neat, smooth, inconspicuous from right side of garment

Care - appropriate for fashion fabric

Color and pattern - appropriate for fashion fabric and effect desired

Ease - vertical pleat in back jacket or coat lining; fold at bottom of sleeve and garment at hem

Seams - aligned with garment.

Stitching - attached to garment using hand or machine stitching; in coats attached to garment at seams with French tacks near hemline

Machine Quilting and Trapunto

Appearance - design appropriate for fabric and style of garment

Bulk - greatly reduced in seams and darts

Filling - appropriate weight for desired effect; compatible with fabric care

Stitching - appropriate stitch length; neatly and carefully done; threads drawn to wrong side and knotted and clipped

Thread - appropriate color, fiber, and type

Machine Stitching

Appearance - even, secure; free from tangles and skipped or broken spots, no needle holes in fabric

Length - appropriate to fabric; uniform length except where shortened for reinforcement

Placement - starts and finishes at ends of seams

Tension - balanced

Thread - suitable weight, color, fiber, and type; ends knotted or backstitched, then clipped where needed

Neckline (with no collar)

Appearance - flat, smooth, gradual curve unless design requires variation; no pulling or bulging

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Interfacing - appropriate for effect desired .

Understitching - uniform, appropriately placed

Needlework (Decorative)

Appearance - neat, attractive, free from unwanted pulling, color coordinated to garment

Stitching - secure, uniform, correct technique used

Notions

Appearance - compatible to fabric and garment design

Color - appropriate

Fiber or material - appropriate

Weight - appropriate

Plackets and Slashed Openings

Appearance - flat, neat, no pulling at corners

Bulk - seams graded, corners trimmed

Length - equal length on both sides; long enough to put on and take off garment

Stitching - secure, durable; reinforced at corners and points with small machine stitches

Width - equal on both sides, straight and even

Pleats, Tucks

Appearance - free from basting and pin marks; flat unless released tucks and unpressed pleats

Grain - straight

Placement - uniform unless design requires variation

Pressing - free from pressed-in ridges

Stitching - reinforced by backstitching at tuck ends

Width - uniform unless design requires variation

Pockets

Bound Pocket

Appearance - flat, uniform, fabric around pocket not stretched

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Width - even

Corners - perfectly formed, free from pulling or drawing

Facing - securely stitched, finished; as little bulk as possible

Stitching - secure, even inconspicuous

Inseam Pocket

Appearance - not visible unless decorative; flat, does not gap.

Reinforced - to prevent stretching and pulling

Patch Pocket

Appearance - decorative, attractive, flat, smooth

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Hem - in proportion to pocket shape and size

Placement - pairs are balanced and uniform or coordinated in size and shape

Reinforced - upper corners stitched to reinforce

Stitching - even, suitable to fabric and garment design

Pressing

Appearance - smooth, free from wrinkles; original appearance of fabric maintained: no overpressing; no sheen; no flattened nap or pile; no imprints of construction details on outside; no stretching or shrinking; no water spots

Curves - shaping pressed in

Done throughout construction

Seams

Appearance - flat and smooth - whether straight or curved; free from runs, pulls and puckers

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Finish - appropriate for fabric and style of garment. (See Seam Finishes)

Fullness - eased and smooth (as in sleeves, princess seam)

Placement - crossed seams meet

Pressing - open in correct direction for purpose

Pressure - uniform

Reinforced - at ends with backstitching, knotting, or very short stitches for the last 3/8" used

Stitch length - uniform, appropriate to fabric and purpose

Tension - balanced

Thread - appropriate type and fiber, matching color unless decorative

Width - seam allowances even

Types

Topstitched - used on garments where tailored or sporty look is appropriate; flat and smooth, stitching straight and even; stitch length appropriate

French - appropriate for sheer fabrics; should not be used: in curved seams; finished seam allowance no wider than 1/4"

Mock French - appropriate for lightweight fabrics; not as easy to do on curved seams; finished seam allowance even width, stitching straight and even

Flat Felled - used on garment where tailored or sporty look is appropriate; difficult on curved seams; finished seam no wider than 3/8"; finished from right side of garment, seam even width, stitching - straight and even

Welt - (sometimes called Mock Flat Felled) used on garments where tailored or sport look is appropriate; under seam allowance trimmed to 1/4", stitching straight and even

Slot - appropriate as decorative effect with medium to heavy-weight fabric; underlay strip of matching or coordinating fabric, slightly wider than both seam allowances, centered under seams of garment; topstitching even distance from edge

Seam Finishes

Appearance - flat, smooth, no raveling

Appropriate - use only where necessary; fabrics that are firm and do not ravel do not need to be finished; finished according to fabric, design, and use of garment

Types -

Unfinished - for fabrics that do not ravel (usually only stable knits and bonded fabrics)

Pinked - provides a decorative effect; not always a functional seam finish as it sometimes ravel, particularly if garment is laundered frequently

Edge stitched - for fabric with slight degree of raveling; stitching is straight and even, 1/8 to 1/4" from edge

Zig-zag - desirable for many fabrics; on plain seams overcast edge of seam allowance using stitch size appropriate to weight of fabric; on sheer and open fabric stitch both seam allowances together with small stitch close to seam line and trim close to zig-zag

Hand overcast - same as zig-zag; stitches even, single thread, thread not drawn tight

Clean finish - satisfactory for lightweight fabrics; edge of seam allowance turned to wrong side and stitched close to edge of fold, seam allowance even width

Double stitched - appropriate for sheer fabrics; second row of stitching 1/8" from seam line straight and even, trimmed close to second row of stitching

Bound - appropriate for unlined jacket or coat, often used with heavy, bulky fabrics (especially those that ravel easily, such as heavy woven woolen coat or suit fabric); binding appropriate for fashion fabric, stitching straight and even

Hong Kong - appropriate as a special technique for a custom look in garments; binding appropriate for fashion, stitching straight and even

Seared - appropriate for nylon and/or polyester fabrics that ravel badly such as taffeta, ripstop, and chambray; "melting" should be at very edge, invisible, and done evenly

Serged-overlocked - appropriate for most fabrics and weights; both seam allowances are serged together unless very heavy fabric is used; stitching straight, even

Selvages

Treatment - fabrics that shrink, clipped through every 5 to 6" to prevent drawing

Uses - seam finish on straight seams; apron ties and sides of apron; hem finish (i.e., border print); inside edge of waistband to eliminate bulk

Shoulder Straps

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Placement - correctly placed, symmetrical, securely attached

Pressing - sharp, straight edges

Stitching - neat, straight, even

Sleeves

Appearance - curve of armhole smooth and gradual

Bulk - seams graded, curves clipped and/or wedged

Ease - even, not puckered, puffy, or pleated unless pattern specifies this as part of the design

Gathers - evenly distributed when gathering is intended design

Pressing - both seam allowances pressed toward sleeve in set-in sleeve; seam allowances pressed open in kimono and raglan sleeves; elbow dart pressed toward wrist

Reinforced - underarm of raglan and set-in sleeves - second row of stitching 1/4" from seamline between notches; underarm of kimono sleeve - stay tape stitched in underarm seam or gusset inserted

Seam Finish - both armhole seam edges handled as one and finished appropriate to fabric

Seams - free from pulling or drawing in kimono seam; underarm seam in set-in sleeve is double-stitched between notches, then clipped or trimmed between notches. Entire armhole seam can be serged.

Ties

Appearance - straight unless pattern requires variation

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Hem - turned and hand or machine stitched; selvage may be used if appearance acceptable (particularly appropriate for apron)

Length - appropriate to be functional and produce desired design effect

Width - uniform unless pattern requires variation

Top Stitching

Appearance - attractive and appropriate decorative effect, smooth, without puckers

Placement - straight, even distance from edge, same number of rows throughout

Tension - balanced

Thread - ends pulled to wrong side and knotted, clipped close to end of stitching or woven back into the seam allowance with a needle

Trim

Appearance - neat, suitable to and enhances appearance of garment

Application - suitable to trim and fabric, secured to withstand wear

Care - compatible with fashion fabric

Underlining

Appearance - inconspicuous, flat, smooth, produces desired effect

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Care - compatible with fashion fabric

Seam finish - used where appropriate (Note: it is possible that a seam finish is needed on the underlining and not the fashion fabric, or vice versa)

Weight - compatible with fashion fabric

Understitching

Appearance - not visible from right side of garment; flat, smooth, free from puckers; holds facing in place

Bulk - seams graded, comers trimmed, curves clipped and/or wedged

Stitching - straight, even close to seam; facing is stitched to both seam allowances

Thread - blends with fabric

Waistbands

Appearance - smooth and appropriately interfaced to hold shape

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Corners - accurately formed

Fasteners - appropriate for fabric, design, and intended use of garment

Grain - straight unless pattern requires variation

Interfacing - appropriate for effect desired

Overlap - flush (in line) with placket unless design specifies otherwise

Stitching - straight and even; if hand stitching used on wrong side of band, it is neat, even, secure; if "stitch-in-the-ditch" method used - stitching inconspicuous on front of band and even width from edge on back of band

Underlap - extends beyond placket and under band

Width - uniform

Waistline Seams

Appearance - smooth, flat

Bulk - seams graded, corners trimmed, curves clipped and/or wedged

Darts - in bodice and skirt match or are symmetrical

Gathers - evenly distributed

Pressing - crossed seams pressed open

Reinforced - with waistline stay (e.g., seam binding, twill tape, grosgrain ribbon)

Seams - match at side and center front and back

Zippers

Appearance - inconspicuous unless part of design; closed placket flat, smooth, free from puckers, does not buckle or gap

Functional - slides easily and does not stick

Length - placket open to end of zipper teeth; correct length to be useful; may be placed with top zipper stop at neck or waist seam or 1/2" down from seam and fastener used to relieve strain on zipper

Placement - back zipper may be lapped, centered or invisible; side skirt zippers should be lapped or invisible; fly front zipper entirely covered by placket

Seams - horizontal seams meet across placket

Stitching - straight, even; method (hand or machine) appropriate to fabric, design, and intended use of garment

Weight - compatible with fabric.