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Introduction

Volume 2 in the Quality Assurance Handbook is divided into sections. Each Lindström Group Product Category has its own section. This section 2.1 explains the specific instructions for Product Category: Work Wear (WWS).

This section relates to what is included and what shall be used as support and reference material during the manufacturing process to ensure that all Lindström Group standards and expectations are met.

1. Definitions

Below are defined as the main terms used in this Quality Assurance Handbook Volume 2.1 Product Category: Work Wear (WWS).

1.1. Definition of Co-operation forms

Lindström applies two different concepts of co-operation with the suppliers, CMT and FP.

1.1.1. CMT

In co-operation concept CMT (Cutting, Manufacturing and Trims) Garment Supplier purchases the accessories/trims from sources given by Lindström. Lindström provides the fabrics for the supplier.

1.1.2. FP

In co-operation concept FP (full package) the Garment Supplier purchases both fabrics and accessories from suppliers given by Lindström.

1.2. Definitions of Samples

The samples needed for quality assurance are defined in this paragraph and shall be managed as described.

1.2.3. Mock-up Sample

Mock-up Sample is a sample of an element and/or part of a product, e.g. a new collar or pocket. Mock-up Samples are used for new product development or creating a new construction. It is ordered before/instead of a Proto Sample.

1.2.4. Proto Sample

Proto Sample is the first development sample of a new product. It is used when a new body pattern, complicated details, or material is concerned. Proto Samples are used for verifying that the garment can

be produced according to the pattern of files, technical specifications, and/or other given instructions.

1.2.5. Approval Sample

Approval Sample is used to verify that the garment can be produced according to pattern files and technical specifications. It is also used to estimate the material consumption and cost of the garment. Grading Samples (products ordered in different sizes, not only in sample size) belong to this category.

1.2.6. Counter Sample

Garment Supplier produces the Counter sample on the production line. Permission to start production will be given by Counter Sample. A minimum of 2 pcs shall be produced. When approved, the original Counter Sample shall remain at Lindström. One Counter Sample shall remain at the Garment Supplier. The approved Counter Sample is stamped and dated and stored properly to be used as a reference sample in Quality Control of future deliveries. It is stored as long as the garment is in circulation.

1.2.7. Production Sample

Production Sample is taken randomly from the running production of the Garment Supplier, and it is used to verify that the garment is produced as agreed, and in accordance with the given instructions and the accepted Counter Sample.

The Production Sample can be taken into quality control during production (DUPRO). Verification of the Production Sample shall be done by Quality Control. Lindström shall be informed about taken Production Sample and the results of the verification. The Garment Supplier shall provide a Production Sample if separately requested by Lindström.

Supporting Material:

2.1_7 Inspection List of Sample

2. Compliance Guidelines

All products supplied to Lindström shall comply with all international and national laws and standards, EN, GB, etc., applicable in the countries Lindström is offering its services. Whenever a product is aimed to be sold only in a certain geographical area, the Supplier is informed about special requirements, if any.

In deliveries to the European Economic Area (EEA), the Supplier shall keep himself aware of the European Union REACH directive and keep himself updated about the list: Restriction of the use of certain hazardous substances (RoHS). The Supplier shall pay special attention to the regulations in REACH that are strictly followed during the entire production process.

3. Fabrics and Accessories

This part relates to guidelines for Lindström Group requirements in terms of quality and functionality of fabrics and accessories, including the fabric test requirements.

All suppliers should read this part and be familiar with our requirements prior to making a submission for a tender.

This part contains:

- General requirements
- Fabric-specific quality requirements
- Accessories quality requirements
- Testing requirements.

The quality of all fabrics and accessories used in Lindström garments must meet all stated Lindström quality standards.

In a situation where a quality issue arises, either from customer reclamation or as identified by Lindström Manufacturing unit before garments are delivered to our Central Warehouse or to our Business Unit, Lindström require immediate investigations and the Material Supplier must do further testing to check the quality. All testing is at the Supplier's expense. If any additional laboratory tests are needed, these must be agreed - in-house and external tests (in most cases) must be covered by the material supplier.

3.1. Fabric Specific Requirements

At Lindström, different kinds of fabrics are used in garments. The fabrics are divided into two main categories, woven and knitted. The minimum values of the required tests for fabrics that reach Lindström quality level are shown in the Supporting material. International standards are mentioned for each required test. The fabrics shall also comply with the latest requirements of OEKO-TEX Standard 100 and REACH regulations.

The amount of formaldehyde in garments is restricted by the legislation. Material Supplier must follow the changes in legislation and change its processes accordingly. In November 2025 Maximum amounts of formaldehyde in textiles and garments imported are as follows:

	Allowed amount of formaldehyde
1 OEKO- TEX 100 Class 1, Textiles for Children-baby class	According to latest requirements (≤ 16 mg/kg in 2025)

2 OEKO-TEX 100 Class 2, Textiles that have direct contact to skin	According to latest requirements (≤ 75 mg/kg in 2025)

3.1.8. Woven fabrics

The fabric shall be suitable for industrial washing and drying as defined in ISO 15797. Fabrics also need to meet all requirements mentioned in ISO 15797.

When selecting dye stuff, the fabric manufacturer shall give preference to PES dyed with dispersed dyestuffs and CO dyed VAT dyestuffs in accordance with best practice.

For white fabrics, optical brighteners shall maintain their properties during at least 50 washes. For white fabrics, chlorine residues should be avoided because of possible color changes in final products during laundry processes.

3.1.9. Knitted Fabrics

Knitted fabrics shall be suitable for industrial washing and appropriate drying process (e.g. tumbler or tunnel finisher) reference being the process mentioned in ISO 15797. Same manufacturers grading system for defects (shown below in 3.3.5. Inspection of Fabrics at Manufacturer of Fabrics) is used for knits and wovens. The torsion/twisting angle shall not exceed a 5% deviation. Please see all requirements for knits in supporting material: 2.1_2 Fabric Specific requirement, minimum values for knits.

Intended use of a garment for specific purposes defines the requirements of the fabric. Materials used for e.g. for fire resistant, high visible, ESD (Electrostatic Discharge) garments shall be especially tested against needed requirements. Lindström defines separately the needed extra tests case by case for these specific purposes.

Supporting Materials:

2.1_2 Fabric Specific requirements, Minimum values for knits

2.1_3 Fabric Specific requirements, Minimum values for fabrics that contain 50 % or more polyester

2.1_4 Fabric Specific requirements, Minimum values for fabrics that contain 50% or less polyester

2.1_5 Fabric Specific requirements, Minimum values for 100 % cotton fabrics.

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3.2. Quality Requirements for Accessories

All accessories used in the garments shall meet Lindström industrial laundry requirements. No other accessories than those mentioned in the technical specification or in any other by Lindström provided written document shall be used.

Lindström tests and selects new accessories. After approval of the accessories Garment Supplier purchases the accessory from nominated Supplier. Lindström requires the information of sold accessories from accessory suppliers per garment manufacturers yearly. Lindström has the right to demand invoices on trims from the Garment Supplier to check that agreed trims have been purchased and used.

Accessories used in Lindström garments are e.g.: sewing threads, labels, zippers, buttons, snap buttons, velcros, bands, cords, buckles, waddings. The Garment Supplier shall store the trims in a clean and dry place. Stock shall be run according to the principle of first in, first out (FIFO). The Garment Supplier must keep inventory list for accessories.

3.3. Testing and Inspection of Fabrics and Accessories

3.3.10. Testing of Fabrics and Accessories

The quality of fabrics and accessories shall meet suppliers given technical specifications and requirements of Lindström. Lindström will test material suitability for their own washing processes.

Lindström may request fabric and accessories to be tested by a third-party laboratory, according to the performance levels stated in this document. The Material supplier shall correct, at its full cost, any non-compliance or defect in the Goods by arranging a new delivery of replacing Goods, in accordance with the originally agreed specifications and delivery term, or, upon the Lindström's discretion, by repairing the defective Goods at the Material supplier's full cost (if this is possible). The Material supplier shall be fully liable for the costs of detection, analysis, replacement, repair, and disassembly of the defective Goods, as well as the transportation costs of the defective Goods and the replacement Goods and other costs incurring due to defectiveness of any Goods supplied by it.

3.3.11. Material supplier's responsibilities

The material supplier's responsibility is to inspect and when necessary, test fabrics, accessories, components, and labels as stated above.

All required testing must be carried out prior to submission of the item for approval. Suppliers must submit the lab test reports and required certificates at the same time as the item is submitted for approval – where Lindström specifically requests testing to be done, Lindström will not approve the item if the lab test report does not accompany the sample. The item will not be put into use before Lindström has accepted the documentation.

The lab test reports and certificates shall be sent to Lindström. The supplier shall present the original documents to Lindström when requested.

3.3.12. Tests and Testing Laboratories

The selected fabric properties and quality requirements of the various fabrics shall be tested according to Lindström's minimum requirements of fabrics supporting material mentioned below.

Lindström may require that the material test is done in an accredited third-party laboratory.

3.3.13. Inspection of fabrics

Inspection of fabrics shall be carried out at two points of the supply chain. The first inspection point shall be carried out at the factory of the fabric producer. This inspection is comprehensive and shall be carried out as described in 3.3.4.1.

The second inspection of the fabric shall be carried out at the garment manufacturer to ensure that the fabric used in Lindström garments corresponds to what is written in the technical specification and other documentation delivered by Lindström. The garment manufacturer is responsible for this inspection as described in 3.3.4.2.

3.3.14. Inspection of Fabrics at Manufacturer of Fabrics

The Material supplier shall have in place a professional quality control system for the manufacturing of the materials and require the same from its Affiliates and subcontractors. Both greige and finished fabrics shall be inspected up to 100%.

In case any defect or any unqualified materials are found or detected at the Material supplier's or its Affiliates' production facilities, or at their subcontractor's production facilities or from (both of) their warehouse(s), the Material supplier is responsible for the amendment, alteration, or reproduction of the Goods before shipment so that the Goods may be still delivered in the schedule originally agreed. By default, the Supplier is committed to deliver faulty-free and defect-free materials only.

Finished fabric inspection shall be conducted using the Four Point Grading System, used by major Textile Manufacturers. Defects are assigned penalty points based on their size. Their number, related to the length of the fabric inspected, establishes the grade of fabric quality.

The system penalizes all defects which cause rejection of garments under specified visual observation encompassing, inspection speed, lighting, and viewing position.

Defects in both warp and weft directions are assigned penalty points by the following scale:

1 point minor defect	-	for defects up to 7.5cm.
2 point minor defect	-	for defects 7.51 cm to 15cm
3 point major defect	-	for defects 15.1 cm to 22.5cm
4 point major defect	-	for defects over 22.5cm

The acceptable level of First Quality in goods is following:

	Points per 100 linear meters	Points per 100 square meters
Maximum / Piece	40	26

Repeating major defects over two meters in cloth length shall be removed from fabric during inspection. Repeating minor defects, numbering more than 25 per 100 linear meters, are not allowed in First Quality fabric.

Goods exceeding this standard are classified Second Quality.

The fabric shall be inspected on the face side. Inspection machines are run with a tension control system, thus avoiding any tension variance and measurement discrepancies between actual roll length and ticketed length.

The shade of the fabric shall match with the approved original stamped sample.

Inspection measuring machines shall be controlled weekly using a standard calibrated master roll.

Fabric roll information tickets shall be attached on each roll of fabric with name of inspector who has examined the roll.

If requested the inspection report shall be submitted to contact person at Lindström or at Lindström nominated garment supplier immediately after the inspection has been completed and always prior the dispatch to given delivery address. Unless otherwise agreed, no Second Quality goods are accepted.

3.3.15. Inspection of Fabrics at Garment Manufacturer

The Garment Supplier is responsible for verifying the agreed quality and condition of the delivered materials upon their arrival at the manufacturer’s delivery address. The Garment Supplier shall make a claim (in writing) immediately after defect(s) is/are recognized or found.

The garment manufacturer shall carry out quality control for received fabric rolls as described in Volume 1 of this handbook, section 5: Inspection to AQL standard.

The Garment Supplier shall, whenever possible, inspect the delivered batch of fabric on a light board.

In the Quality Inspection special attention shall be paid to:

- Holes
- Shade
- Mis-weave
- Cuts
- Yarn distortions

The shade of the fabric shall be compared with the sample of the original fabric supplied by Lindström to the Garment Supplier. The original fabric sample shall be stored in a dark and dry place easily available for shade control of arrived fabrics. Counter sample is at the same time sample of original fabric.

3.3.16. Inspection of Accessories

A check list for inspecting accessories at arrival:

OBJ

1	Checking accessory type
2	Checking correctness of color
3	Checking correctness of quantity
4	Checking overall appearance

4. Pattern management

The pattern making is conducted and provided by Lindström Pattern Department or its partners and subcontractors. The Lindström Pattern Department provides a general level of patterns. Garment Supplier is obligated to modify Lindström's pattern data according to Garment Suppliers own needs following Lindström Pattern Definition guideline, which is delivered to Garment Supplier separately.

The pattern information is delivered as digital pattern data. Digital pattern data is delivered in Gerber /.TMP file format by e-mail or web services. Also, Pattern data can be delivered in DXF/RUL – export format. Data on digital pattern files shall be strictly followed by the Garment Supplier. Garment supplier is obligated to keep the pattern software and plotting hardware calibrated to match the measures.

Lindström shall be informed about updates on Garment Suppliers' software systems concerning handling digital pattern data. Garment Supplier is obliged to inform Lindström of any deviation or defect revealed in pattern

information. Correcting or amending the pattern is essential before starting production and it's done by Lindström Pattern Department or its partners and subcontractors.

The measurements on Lindström's documents are according to metric system. The abbreviation for size code of letter sizing on Lindström's documentation is without letter X, for example: 4XL is 4L.

Document for calculating the average consumption of fabric and marker efficiency is delivered on request to Garment Supplier.

The documented manufacturing instructions provided by Lindström shall be immediately returned to Lindström if some deviations are found. The documents provided shall be valid in the following sequence: pattern, technical specifications, and other instructions.

The digital pattern data shall be stored in a secured database with a back-up system to ensure their availability in the event of IT system failures. The paper patterns shall be stored in a safe and dry place at Garment Supplier. Lindström's patterns must be kept separate from the patterns of other customers of the Garment Supplier.

The patterns are the intellectual property of Lindström, and they shall not be used for any other purpose than what has been agreed upon in the contract between the Garment Supplier and Lindström.

5. Manufacturing Guidelines

This part relates to Lindström requirements in terms of workmanship and construction of garments, and the safety issues related to their functionality and manufacturing. All suppliers should read this part and be familiar with our requirements prior to making a submission for a tender.

Lindström provides the technical specifications and product pattern files to the Garment Supplier.

Technical specifications include garment specifications: style (design), bill of materials and accessories (BOM), table of measurements and information of design, construction details and sewing instructions (Cross Sections). Measurements given in the technical specifications shall be strictly followed. Points of measurements are defined on the Measurement POM Library Report –document that will be delivered to the Garment Supplier separately.

See 5.7. How to Measure.

Technical specifications may be updated with comments or other information regarding changes to fabric, trims, sewing, and construction details. A Reference Sample can be provided to the Garment Supplier. The Garment Supplier must follow all instructions provided by Lindström.

Counter samples from the Garment Supplier shall be approved by Lindström before production.

The Garment Supplier shall notify Lindström of every intended technical change during sampling or before production, and this notification shall be sent as early as possible. A written approval for such a change is a must from Lindström.

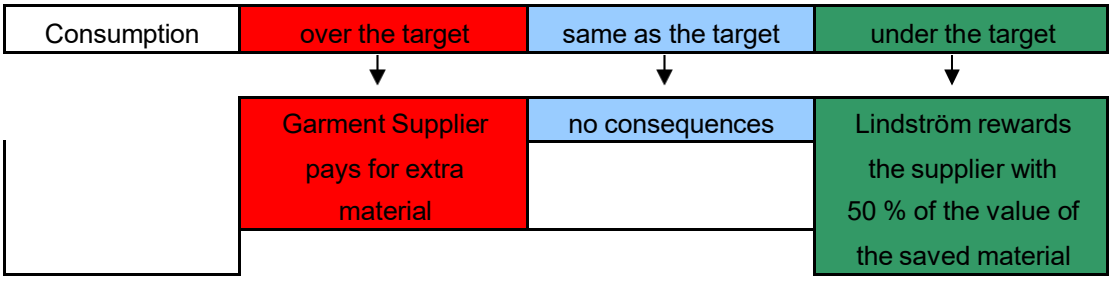
Certified protective work wear complying with standards have more detailed requirements, and they must be strictly followed. Technical specifications include information about CE-labels and pictograms, user manuals, washing grids and other elements which may not be used in standard work wear. Detailed instructions for certified protective work wear are given in style respective technical specification and product pattern files.

This part contains:

- Cutting guidelines
- Markers
- Spreading
- Bundling
- Sewing
- Technical Specifications
- How to Measure
- Construction and sewing details
- Labeling and marking.

5.1. Cutting Guidelines

Lindström calculates the target consumption of fabric for each garment style separately to secure efficient consumption of fabric. The chart below clarifies the consequences of reaching a fabric consumption target when CMT sourcing is used, and Lindström is financially responsible for the fabric.



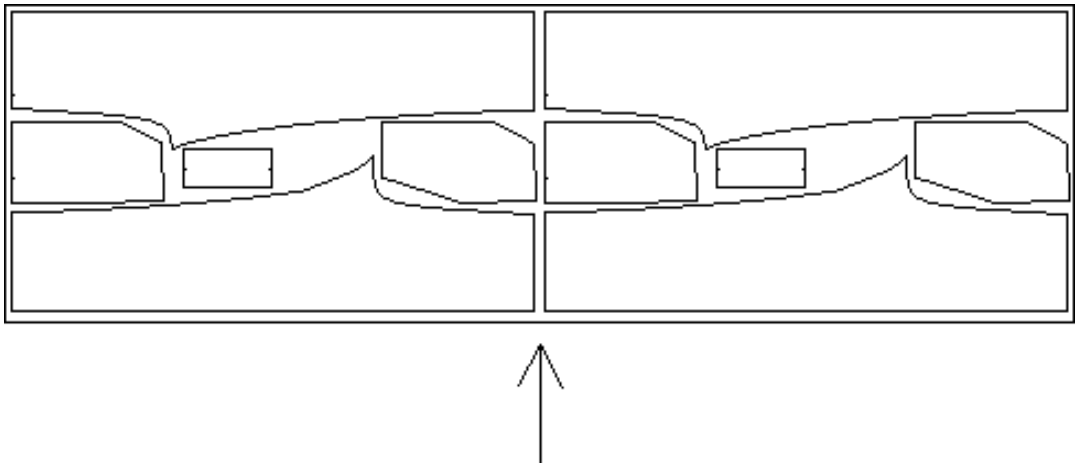
Consequences of reaching fabric consumption target in CMT sourcing.

If the Garment Supplier buys the fabrics for the garments – the full package concept is employed – material costs are highly affected by cut planning.

Cut planning shall be made for three different fabric widths. The standard width of a fabric is 150 cm, which requires a cut plan that is 148 cm wide, since 1 cm extra space on both edges must be given to prevent faulty cut pieces.

There are fabric rolls that are narrower or wider than standard. The widths can be, e.g. 148 cm, 150 cm or 152 cm. Therefore, cutting plans for narrower and wider rolls must be made. Since the width of fabric rolls is measured and sorted on arrival, cut planning shall be informed about the actual width of the rolls. Cutting plans are made according to this information.

Fabric width measuring and the length of the fabric in rolls are checked from roll tickets on arrival in the garment factory. Fabric rolls needed for markers shall be chosen from stock so that whole rolls are used as much as possible. Change of fabric rolls creates costs because often the garment pieces cut from the change point are defective. The defects can be partially prevented by cut plans that enable roll changes. With a proper cut plan, fabric pieces of different shades can be separated. An example of a cut plan that enables changing a fabric roll can be viewed in figure below.



Example of a cut plan enabling fabric roll change in the middle of a fabric layer

By proper cutting plans, lots of fabric can be saved. Information about defects on fabric can be transferred to a computerized cut planning system where patterns easily can be moved or reorganized.

Cutting devices shall be sharp and well maintained to ensure clean, unburned, and unfused edges. Cutting should be efficient and precise. Computerized cutting equipment is fast, accurate, and when they are employed, mistakes rarely happen. After cutting, required markings are made into fabric pieces by notches, drills and tread markers.

5.2. Markers

Cutting plans are either drawn onto a marker-paper by an automatic plotter or transferred to an automatic cutting device. If automatic cutting equipment is used, actual drawn markers are not needed because the cutting device cuts directly according to a cutting plan. Paper markers can be copied to cut similar cutting plans in the future. Copying consumes large amounts of paper. Automatic cutting process is more cost effective than copying due to less paper consumption, especially when many markers are needed.

5.3. Spreading

Spreading of fabric shall be done in two stages. In the first stage, a quality check shall be done to the fabric. Fabric rolls to be spread are chosen – in addition to the type and color of fabric – according to the width, length and batch, which is given on the roll information ticket of the fabric manufacturer. The width and length of fabrics shall be measured to ensure that information given by the fabric manufacturer is correct.

If light table inspection of the incoming fabric has been carried out as described in 3.3.4.2., the width and length of the fabric shall be measured in the quality check during the spreading. If holes, shading and mis-weaves, cuts and yarn distortions are still discovered instructions below shall be followed.

The defects shall be marked at the edge of the fabric with colored tapes or stickers. A piece of fabric with a small defect can be replaced after cutting, but a large defect may require cutting some fabric away. e.g., colored paper can be placed on top of the defective fabric section. After cutting the defective garment piece can be easily located and replaced.

Required actions at fabric examination

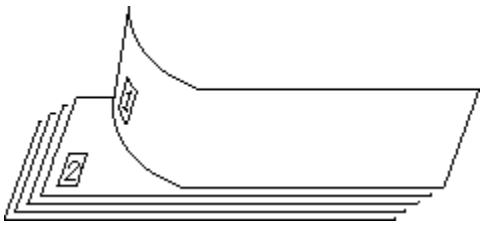
Sufficient accuracy of quality check is: if the defect can be visually seen by a person that has good eyesight, a defect in quality exists. The Garment Supplier must ensure that the pieces of fabrics with quality failure do not end up as garments.

The second stage of spreading is the actual spreading of the fabric. The fabric shall be spread accurately and without tension onto the cutting table according to the length of the marker. Correct ply tension is especially important for knit fabrics. Spreading equipment can be used to assist spreading fabric faster than by doing it manually. The direction of fabric may differ depending on the patterns, equipment, and fabric type. A garment that contains symmetrical pieces can be cut either fabric spread face to face or all plies in the same direction, and asymmetrical pieces from a lay that contains only lays in one direction.

5.4. Bundling

Fabric pieces are bundled into stacks, which contain similar pieces of the same style and size. Sewing operators must pick up the fabric pieces systematically from the top or bottom of the stacks, because there might be different colors and different shades of colors in the lay. If there are different shades of the same

color in the stack, the piles must be numbered with pressure-sensitive tickets. The tickets also reveal the right side of the fabric if it is difficult to recognize. An example of a fabric piece stack that has been marked with number tickets can be seen in figure below.



Fabric piece stack with number ticket on each ply

A style number, size and part identification shall be marked on the bundle, e.g., on the top ply. The marking can be on pattern paper, or it can be written on an adhesive label that is attached to the top ply.

If a garment piece is to be replaced in the bundle, the replacing piece shall be put into the same position. The order of the garment pieces in the bundle does not change, and correct colors and color shades are in a similar position.

5.5. Sewing

The construction and manufacturing of garments shall follow what is described in technical specifications and other materials provided by Lindström. The supervisor of the sewing department shall provide the operators with proper sewing instructions before production starts. The supervisor shall be responsible for ensuring that the instructions are understood and followed by doing checks during sewing.

Garment Supplier shall pay special attention to the fact that deviations in the sewing quality are minimized by using the right type of machines for making the different details in the garment.

Before sewing, fusible interlining is attached to the correct fabric pieces to the correct locations following technical specifications.

5.5.17. Sewing Needle

Care must be taken when selecting needle size, point type, and configuration to prevent damage to fabrics, accessories, and needles. The chosen needles must be fully compatible with the thread.

- For woven materials gsm <150 use needle size No. 14/90 or smaller.
- For woven materials gsm 150> use needle size No. 16/100.
- For knit materials, ballpoint needles of size No. 14/90 must be used.

The Garment Supplier is responsible for ensuring that the finished state of the garment does not compromise customer safety in any way. This requirement must be implemented through rigorous quality inspection procedures and effective line supervision during all manufacturing processes. Compliance with the standards, regulations, and Acts listed under the 'Compliance' section in Volume 1 of this Quality Assurance Handbook is mandatory.

The garment supplier is responsible for ensuring that no broken needle parts remain in any garment during sewing. If necessary, garments must be screened using a metal detector.

5.5.18. Seam Allowances

General seam allowances of Lindström patterns are specified in Lindström Pattern Definition document which is delivered to Garment Supplier separately. Seam allowances shall be followed all the way in every seam to keep the style and fit in the garment. Garment suppliers are obligated to modify Lindström patterns seam allowances to their own needs.

In general, 10 mm or 12 mm of seam allowances shall be followed on all seams. Exceptions to seam allowances are noted in technical specifications and pattern files.

5.6. Technical specifications

Technical specifications and all related instructions for each contracted item are provided to both the Garment Supplier and the designated quality control body, whether internal or external. All instructions contained in these documents must be strictly followed. Any discrepancies or errors within or between the documents must be reported to Lindström immediately.

5.7. How to Measure

Measurements shall be taken in the correct position and correctly as well as accurately. The exact measurements of the garment in question shall always be checked from the measurement table provided in technical specifications. Acceptable irregularities in garment measurements are defined in the measurement table in technical specification as tolerances.

Detailed instructions for measuring the garment are guided on the Measurement POM Library Report – document that will be delivered to the Garment Supplier separately.

5.8. Constructions and Sewing details

This part gives guidelines for seam quality and workmanship and describes the construction details of the garment.

Garment must be produced according to the technical specifications. The construction details in technical specifications provide information about closures, pockets, and other garment details. Stitching instructions related to the style are given in detailed black and white sketches.

5.8.19. Seams and Stitches

Garment seams and stitches shall follow Lindström's sewing guidelines and samples. Detailed instructions for seams are specified in technical specification's sewing instructions.

Stitches must not be broken, and skipped stitches must not occur.

Stitch formation shall be correctly balanced and tensioned to prevent seams from distortion, grinning, or puckering. Seams shall not crack under tension, and therefore, stitching shall have extension properties compatible with the fabric. The minimum stitch density shall be 3,5 stitches per 1 cm or other following instructions provided by Lindström.

A 3 cm overlapping of threads shall be ensured when thread is broken.

Seam slippage must not occur. All piles shall be fully included, and fabrics must lie flat within the bight of the seam, unless specifically required otherwise.

Following stich types are used in technical specifications:

Lock stitch

Stitch formation and tension must be correctly balanced to ensure a stable seam with adequate extensibility and to prevent puckering or seam grinning. All stitch ends must be securely back tacked to avoid unraveling.

Over lock

4 thread (knits) or 5 thread (woven) over lock shall be used according to instructions provided by Lindström. Normally, a minimum bight of 0.8cm shall be used, and it shall neaten the visible raw edge to eliminate the fraying to great extent. It is important to ensure the blade is replaced regularly to guarantee a clean-cut edge.

Chain stitch

Double thread chain stitch shall be used. It is important to ensure that thread ends are adequate.

Top stitching

Top stitching is instructed as a 1-needle or 2-needle stitching. Top stitching instructions related to the style

are given in detailed black and white sketches.

Top stitching shall always be neat and uniform. Stitch joins on the front of garments are not acceptable and shall be avoided in other areas wherever possible. Every top stitching shall be secured against unraveling.

5.8.20. Closures and Fastening

Placket and fly

After attachment, the finished placket shall always lie flat, must be free from pucker, and the width of the placket shall be consistent. When fastened, the top placket shall cover the under placket. The ends of the plackets shall be squarely positioned, and any notches at the base of the stand shall be covered.

Button with holes, buttonhole

Button type and buttonhole shall be checked and matched. Buttons and buttonholes must be aligned correctly.

Buttons shall be securely attached. Button shall be stitched with a minimum of 12 stitches. Small pieces of the fabric shall be used in the reverse side of the garment, to reinforce an area where only one layer of fabric is used. Sufficient thread shanks shall be used to enable the fastening of the garment with ease.

The buttonhole shall be stitched securely and neatly, without damage or distortion to the fabric. Buttonholes must be sized and cut correctly.

Press buttons (fasteners)

Press buttons shall be durable and securely attached to the garment. They shall not be applied to a single layer of fabric, and an additional layer is generally required in the one-layer area.

Press buttons are to be fastened accurately according to instructions of position and spacing. Press buttons on zipper closures must not be placed on top of the zipper or zipper tape.

The placement of the press button markings shall be done correctly, and they shall not be visible on finished garment.

Manual fastening machines shall never be used to attach fasteners, because their security is inconsistent. Either semi- or fully automatic machinery shall be used. Press buttons shall never be attached over seams because of an uneven result.

Correct tools shall be used. They should be regularly checked to ensure good conditions (pressure, distance). The tools shall be replaced at regular intervals to ensure that deformed or worn-out tools are

no longer used.

It shall be impossible to rotate or move the fabric around a post or prong fastener. All parts such as the cap, post, or prong shall be without any deformation.

The back side of the press buttons shall be flat after fastening. A rounded appearance indicates insufficient clenching pressure. The fabric shall be firmly clamped so that it is impossible to insert any thin object, such as a fingernail, between fabric and fastener.

According to Pull Test, the value for press buttons shall reach 90N/10s.

Zippers

Zippers shall be ordered from an approved supplier and comply with the technical specifications. The following should be avoided: incomplete functions, excessively loose or tight sewing, puckering, and uneven or misaligned zippers. The stitching of the zipper seam ends shall be securely back tacked in both ends to prevent unraveling.

Braces

Braces used in bib and braces are to be sewn according to instructions.

5.8.21. Collar and Neckline

Collar

The collars shall be symmetrically positioned, and they shall have even, flat points. The fold line of the collar shall be smooth and wrinkle-free. The lead edge of a collar shall be equal in length when fastened and must not overlap.

Necklines shall never be puckered or stretched when attaching the collar. Fraying or visible edges of the seam allowances shall not occur when a collar is attached to the bodice.

Neck finishes

Necklines shall be symmetrical in shape. They shall not be stretched or distorted.

5.8.22. Waistband, Hem and Cuffs

Waistband

The waistband shall be flat and even. If a zipper extends through the waistband, special care shall be taken to ensure that the seams do not interfere with the functioning of the zipper. If an elastic waistband is used, full extension and full recovery of the waistband shall be allowed.

Sleeve ends, hems

Construction details in sleeve ends and hem must be followed. Seam allowances must not twist or pucker.

Rib cuffs

Measures and construction details for rib cuff are given in technical specification. The closing seam shall follow the wale of the rib. Rib cuffs must be double layered, and the cuff must be sewn together with a lock stitch and attached to the sleeve in a closed circle. The stitches and tensions shall be so that the rib stretches to accommodate the hand.

Elastic band at sleeve or leg end

Sleeve and/or leg end can be elasticated by using an elastic band. The width and length of the elastic band is defined in technical specifications.

The measurement of the tunnel for elastic band in the sleeve/leg end is considered in the sleeve/leg pattern piece. Construction of the elasticated sleeve/leg end is described in technical specifications.

5.8.23. Linings and Facings

Fusible interlining

Fusible interlining shall be fused and pressed to the fabric by following exactly the supplier's instructions regarding temperature, pressure, contact time and other information, to avoid any de-lamination during wash and garment use. The fusible interlining shall be applied evenly, and its deformation and wrinkling must be prevented.

Linings, quilted linings

Linings shall not be visible, distort the garment, or restrict the movement of the wearer. Construction and sewing instructions must be followed.

Facings

Facings shall always be cut on the same grain as the outer fabric to avoid garment distortion. They shall be flat and not visible from the outside of the garment, unless otherwise required as design feature. All raw edges of facings shall be over locked neatly. Waist, neck or armhole facings shall be cut to a sufficient depth to obtain a clean finish and should not roll to the outside.

5.8.24. Other details

Garment shaping

Such as darts, tucks, gathering and pleats, etc. shall be in line with the sewing instructions specified in the technical specification.

Pockets and flaps

Paired pockets shall be symmetrically placed and equidistant from the center front and back of the garment. Marking shall not be visible on finished garments.

Both ends of the pocket opening shall be securely reinforced with bar tack or back tacked according to the technical specification. All pocket corners shall be free from picker and distortion, and all raw edges and cuts at corners shall be fully enclosed.

Pocket flaps shall be flat and big enough to cover the pocket opening. Pockets located in seams shall not distort the hemline, and openings shall lie flat.

5.9. Labeling and Marking

All labels are manufactured by approved suppliers and partners.

All labels must be securely sewn, so they remain permanently attached to the garment.
Labels must be attached so that none of the wording is hidden in the seams.

Labels are always sewn by following each product's technical specifications of the placements or by following additional supportive material.

5.9.25. Marking Label

A marking label is a piece of fabric with printed or stamped information about garment size and product code. A marking piece is made from the fabric’s reverse side up. The size, shape, placement, and attachment of the marking label are instructed in the technical specification.

The color of the marking/stamp is white for dark colors and black for white and light colors. The ink of the stamp must be suitable for textiles and industrial washing. Stamp must not stain garment or leap in heat contact.

The font type and size used shall be clear and approved by Lindström.

5.9.26. UHF RFID Tags

Heat sealable RFID tags are attached to the garments for tracking garments in circulation during their lifecycle.

The use of RFID tags in garments is documented in the technical specification, which includes the bill of materials and sewing instructions. Detailed guidelines for the placement and attachment of RFID tags in various garment types are provided in the supporting material.

Supporting Material:

2.1 _10 Placement and Attachment of heat sealable RFID Tags for workwear

5.9.27. Purchase Order Label

Purchase order label must be added to all products regardless of if it is specified in the product's technical specifications. Label must be in visible place or easy to check when product is folded in stock, so that order lots are possible to track if necessary. Purchase order label also includes the info of the manufacturer required by the European Union legislation.

Supporting Material:

2.1_9 Purchase order label position for workwear

5.9.28. Logos and Labels

Logos and labels in Lindström products consist of Lindström seam and hanger loop brand labels, woven labels for size and product number and customer specific customized logos and labels. Lindström logos and labels are sewn and placed always according to products technical specifications.

Lindström brand labels

Lindström brand labels, seam labels, and hanger loop labels are woven and pre-folded. They are sewn according to technical specifications. Placement of the label varies according to product type.

Woven Label for Size and Product Number in Garments

Labels for size and product number are woven and pre-folded. Placement of the label varies according to product type, and labels are sewn into garment according to technical specification.

Customized specific logos and labels

Customized logos and labels are either sewn in labels, printed or embroidered logo labels. Sewn-in labels can be woven or embroidered logo labels.

In certain products, such as t-shirts and chef jackets, customer logos may be embroidered directly onto the garments.

Customer logo or picture can be printed on knitted garments with screen print or heat transfer. Print result must not be cracked; print should not be unclear, soiled or colored mismatch.

All customized logos and logo labels are instructed with separate instructions.

5.9.29. Heat Transfer of Labels

Heat transfer labels are attached to products according to work order at a pre-defined location. At these locations, a suitable press for attaching the heat transfer labels must be available. This way, standard quality can be guaranteed for the fastening of the label.

5.9.30. CE product labels and user instructions

All the CE garments have their own labels. The CE markings consist of a CE label, size label, care label, and user instructions. All these labels have been listed in technical specifications.

CE labels and user instructions must be placed on garments as they have been marked in technical specifications. CE labels, size labels, and care labels are printed labels that need to be ordered from the named supplier which are listed in technical specifications.

6. Finishing and Packaging

Finished garments must be clean, dry, and neatly presented, free from any soil, stains, or odor. All dirt or marks must be removed, and all thread ends are trimmed and discarded. No foreign objects such as safety pins, scissors, needles or needle parts, pins, pens, buttons, machine parts, tools, or loose accessories are permitted inside or attached to garments. Before final inspection, cord fasteners must be secured and activated, and all buckles and zippers are closed. Other fasteners, such as buttons and press studs, should be fastened according to the folding instructions.

6.1. Folding Instructions

Garments must be folded in a manner that prevents creasing, following the specific folding instructions for each garment type. All folding should be performed according to product-specific instructions. If a folding plate is installed and used, it is fixed 4 cm above the table surface.

Supporting Material:

2.1_6 Folding instructions for workwear

6.2. Packaging Instructions

This part relates to the requirements for packing of the bulk ready for shipment. Garments are to be packed in one inner poly wrapper per carton. The poly wrapper must be sealed. Garments must NOT be packed in individual polybags. Garments must be dry before packing.

Supporting Material:

2.1_8 Packaging Instructions Garments (Overseas)

7. Quality Control

The Garment Supplier must adhere to the instructions provided by Lindström in this Quality Assurance Handbook during garment production. Additionally, the supplier is required to maintain an internal quality assurance system to ensure on-site quality control.

Quality control must be conducted without exception on all incoming fabrics and accessories, throughout garment production. The Garment Supplier must check every one of finished garments in detail and write an internal QC-report of inspection. The details mentioned on the supporting material Defect List of Finished Garment shall be checked when carrying out the Quality Control. Any critical or major defect must immediately be reported to Lindström.

Quality control should primarily be performed by comparing the labeled counter sample with samples from production. If any deviations are identified, the documented manufacturing instructions provided by Lindström must be consulted. The validity of the documents provided shall follow the sequence outlined below:

- Pattern
- Technical specifications
- Other instructions

Lindström or nominated external representative can carry out quality control during production or for finished garments. If there is a risk of failure in quality, Lindström has rights to arrange an external representative to perform the quality control inspection at Garment Supplier cost.

Supporting Material:

2.1_1 Defect List for Finished Garments