Technical Audit in Apparel Industry

Technical Audit (TA) is very crucial task of garments manufacturing. Every buyer (Customer) do technical audit before placing an order to any garments factory. In this article I am going to talk about what is technical audit in apparel industry and how we can use and for what purpose technical audit fulfill. Many garments buyer have their own technical audit checklist, Audit must be done routine wise time to time. Through Technical Audit, auditors actually assurance of ability of making export quality garments of garments maker. **Technical audit checklist** can vary buyer to buyer.

Objectives of Garments Buyer Technical Audit

1. Ensure the QMS is effectively
2. Audit quality control system
3. Ensure compliance of customer quality standard
4. Ensure customer manufacturing and process control requirement
5. Apply best practice in garments manufacturing.
6. Ensuring effectiveness, efficiency, improvement and customer satisfaction.
7. To get excellence & sustainable results in the long run of customer product quality and as a supplier.

Types of Technical Audit (TA)

Internal Audit/ 1st Party Audit

Performed by factory internal Auditor assigned by factory management. Internal auditor report for factory management, management evaluate report and take corrective action. Here supplier has scope of improvement as per customer quality and technical requirement by their own (internal) audit system.

Customer Audit/ 2nd Party Audit

Performed by customer/ buyer own self, report to their supplier and ask for corrective action, available scoring or rating system to classify supplier. Customer audit is very important for supplier.

External Audit/ 3rd Party Audit

Third party audit is external independent audit performed by a party hired or approved by customer to verify their process standard and requirement. 3rd party is a contracted organization work on behalf of customer, make report or certify supplier for a certain period.

Technical Audit Categories/Sections for Apparel

1. Factory Warehouse (Incoming Goods Storage)
2. Trims & accessories area
3. Fabric Inspection
4. CAD
5. Cutting
6. Pre-Production
7. Fusing
8. Sewing
9. Finishing
10. Final Inspection
11. Quality Control
12. Packing/ Finished Goods

Technical Audit Criteria

Factory Warehouse

1. Product identification, FIFO-LIFO, storage items tracking system and inventory
2. Mold prevention system, relative humidity %, and controlling system
3. Trims, accessories and fabrics storage using pallet or rack
4. 5S implementation effort

Trims and Accessories Inspection

1. Approved trim card for every running style
2. Inspection procedure and lighting
3. Rejected items isolation and keeping isolated area

4. Third party or supplier internal test report of all Trims and Accessories.
5. Complain against failed product to supplier and replace, show documents.

Fabrics Inspection and Procedures

1. Fabrics inspection system, procedure, and Report (Follow 4 point or 10-point system)
2. Shrinkage test accuracy
3. Lightbox for shade evaluation
4. Color evaluation, shade grading as per customer requirement

CAD

1. Pattern Library and E-pattern library
2. Marker calibration, verification (pattern or dies, bundles, direction) and Report
3. Making separate pattern as per shrinkage variation

Cutting

1. Grainline/notch indication, cut mold, stripe & check matching indication
2. Pattern measurement for verification
3. Process sequence of fabric cutting
4. Fabric relaxation procedure and report documentation
5. Spreading quality control- Table marking –Ends-Leaning-Tension-Narrow Goods-Remnants-Counts-Ply High-Marker placing-Fabric Flaws
6. Cutting quality control- Miss cut –Rugged Cutting –Notches-Matching Plies and pattern check
7. Bundling and numbering separation, its accuracy and proper report to sewing
8. Cut panel inspection
9. Preventive Maintenance system and report
10. 5S implementation effort
11. Using all types of personal protective equipment. Cutting safety materials: Hand gloves, musk,

Sampling and Pre-production

1. Pre- Production meeting for very style and keeping document

2. Sampling and pattern correction before bulk start

Sewing

1. Proper sewing allowance vs. machines and making before wash measurement spec
2. [Needle Control Policy; Sharps tools and Staples control](#)
3. Preventive Maintenance system and report
4. Roaming QC Audit system
5. Overclock machine fabric trimming check, keep guide for maintain proper seam allowance
6. Approved trim card and approved sample for each running style
7. In-process quality checkpoint, defects type record, and alteration
8. Mockup (with written instruction) or JQS (job quality standard) for every sewing operation
9. Checking garments for construction, seam quality, and overall garments appearance.
10. Garments measurement and construction checking comparing with approved sample and customer provided spec
11. Seam puckering, SPI, stitch tension, needle mark and all others stitching quality
12. Approved lighting condition in all QC checkpoint, customer required lux and checking report
13. [5S implementation effort](#)

Fusing

1. Interlining bonding strength, temperature, time and pressure

Finishing

1. Pull test of snap and shank button and pull tester machine calibration
2. Quality inspection system and report
3. **[Metal and needle detection in place and effectiveness](#)**
4. Garments measurement procedure as per customer requirement
5. Preventive Maintenance system and report
6. Excessive WIP, dumping garments in finishing workplace
7. Approved lighting condition in all QC checkpoint, customer required lux and checking report

8. Pressing system. (Temperature, steam, Iron shoe and head)
9. Show approved sample or customer provided data for attaching finishing sticker and folding.
10. Garments AQL Audit
11. [5S implementation effort](#)

Carton Warehouse

1. Carton keeping system
2. Mold prevention system, relative humidity %, and controlling system
3. Packing, inventory and delivery/shipment system
4. Moisture percentage checking in garments
5. Carton weight report, scan and pack system

Final Quality Audit Room

1. Location of Audit room, separated from production area or not

2. Available necessary for final Audit; approved sample, trim card, inspection table.

3. Customer required light source

Documentation to Show During Technical Audit

1. Complete own Quality control manual of a factory
2. Quality inspectors training and evaluation exam
3. Quality management system and their activities
4. All section SOP separately as following
   - [Trims and Accessories inspection procedure](#)
   - [Fabrics preparatory procedure](#)
   - [Cutting Quality control SOP](#)
   - [Sewing quality control SOP](#)
   - [Finishing quality control SOP](#)

5. Analysis with section quality result and setting target

6. Factory performance report from customer end

7. Factory layout, evacuation, management, and quality organogram

8. All machine calibration report attaching with machine by supplier, 3rd party or own calibration system

9. Quality analysis and control report

10. ISO, ASQ or any other international certificate

11. Quality tools calibration report. E.g.: Measurement tape

Audit CAP and Follow up Improvement in Garments

End of an audit, auditing party make report with their comments where requirement not meet as per standard or customer requirement. Audit result by scoring system by marks (Performance rate) or classify Good, alert and risk. Supplier takes corrective action as per 3rd party auditor or customer recommendation for their customer requirement.

CAP Report Includes

1. Audit observation/findings
2. Auditor recommendation/Comments
3. Corrective action plan of supplier
4. Estimated completion date
5. Progress status
6. Follow up improvement

Follow up Improvement of Audit

As per audit checklist report by auditor, supplier has to fill up customer requirement by a certain time. Customer follows up improvement of CAP in every week or month. If number of CAP decrease after every month, supplier improving towards customer requirement. Anytime or after certain period buyer audit again.

This article also refers few headlines as following

1. Garments manufacturing best practice
2. Benchmark apparel manufacturing industry
3. Garments quality management system (QMS)
4. Export garments quality control system
5. Garments factory standardization
6. Technical Audit checklist in apparel industry
7. Technical checking points in garments buyer audit

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