

1. GENERAL CONSIDERATIONS.

This instruction deals with the aspects to be enhanced in the conception of items with Marisa own brand. All quality items currently in use remain in full force, such as visual inspection of stains, buses, failure to prints, sewing defects, asymmetry of the parts, ironing, thread leftovers, fabric alignment for sewing, etc.

One of the stages of product development is to require Suppliers to efficiently execute the minimum standards settled, ensuring the products conformity.

- 1.1. The pilot unit delivered by the *Supplier* shall meet the quality minimum items required, besides other conditions negotiated in the issuing of the purchase order, being subject to analysis and compliance testing by the *QUALITY CONTROL* area.
- 1.2. The delivery lots shall be inspected according to the quality standard established and in accordance with observations made on the pilot unit previously analyzed.

2. ESPECIFICATIONS OF THE QUALITY STANDARD

2.1. PILLING:

Defects on the surface of the fabric or knitted material, characterized by the formation of smaller "bubbles", causing bad appearance in the garment. They are formed by friction during the washing process or in the use, the entanglement of fibers which are at the fabric surface.

FIGURA 1 :

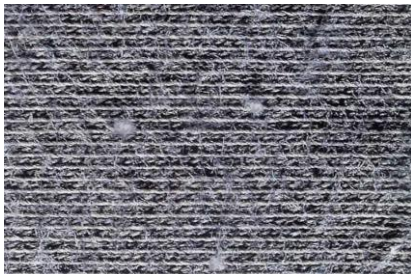
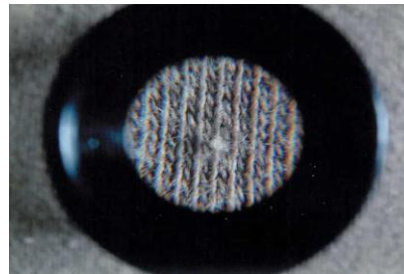


FIGURA 2 ENLARGEMENT

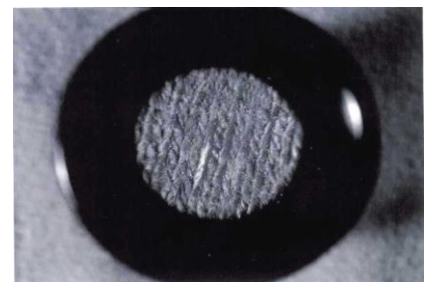


The principal causes of PILLING formation are: low resistance of the fibers, threads with low torsion, resistance and length differences in the fiber mixture in threads and improper final finishing.

2.2. DEAD FIBER:

The entangle of dead or immature fibers that are part of the thread structure causes the fabric bad appearance, appearing as small white dots, due to the poor absorption of dye during the dyeing.

FIGURA 3 DEAD FIBER:



2.3. COLOR TRANSFERENCE PER FRICTION:

It occurs when, while rubbing a white sample on another dyed fabric, a certain amount of dye is transferred to the sample. The degree of transfer indicates how solid the dyeing of fabric is.

- a) The evaluation can be done using the GRAY SCALE OF COLOR TRANSFERENCE (AATCC photographic pattern - American Association of Textile Chemists and Colorists), consisting of grades from 1-5, with intermediate values of 0.5 in 0,5, 1 being the worst grade (excessive color transfeencer) and 5 the best (no color transference)..

2.4. BASIC WEIGHT

It represents the weight in grams of the fabric per a given unit area (cm²). It is strongly related to

productivity, weight and consumption of raw material in the manufacture of woven or knitted.

2.5. DIMENSIONAL ALTERATION

It indicates how much the piece suffers from changes in its measures after going through a washing process, which may occur in three ways:

- a) *WIDENING (POSITIVE DIMENSIONAL ALTERATION)*: when the final measure of the garment after the washing is superior than initial measure;
- b) *SHRINKAGE (NEGATIVE DIMENSIONAL ALTERATION)*: when the final measure of the garment after the washing is inferior than initial measure;
- c) *TWIST*: it represents neither widening nor shrinkage, but how much the garment twisted, taking as reference the lateral seam.

2.6. TWIST BEFORE THE WASHING

It quantifies in percentage the seam deviation in relation to the lateral. It is the same type of defect presented in the preceding item (Twist), without having gone through the washing process, ie, the garment was received this way.

2.7. NOTICES

It is the verification of the presence of certain items of notices, which become part of own brand products:

- a) *RESERVE BUTTON*: IT must be present in all garments that have 3 or more functional buttons in its confection;
- b) *HANGER RING*: present in tops (blouses, shirts and gowns) that have large open collar;
- c) *FINISHING AT RIBBONS TIPS OR BRAIDS*: A KNOT (natural or synthetic fibers) must be done and BURNT (synthetic fibers) on each end of the ribbon or braid, so that they do not ravel after use or washings.
- d) *EYELETS, RIVETS AND BUTTONS*: They must be compatible with the garment, not oxidizing when they are in metal and cannot have burrs rivets;
- e) *WADDING*: they must be compatible with the product and with no bubbles;
- f) *EMBROIDERY*: it must be finished, with the reverse clean and without any embroidery frame mark.

2.8. SEAMS REINFORCEMENT

It must be performed in straight machine or travete, whichever is most appropriate to the type of fabric. It is located in the zippers, pockets and lapels ends and in the junction between the legs.

2.9. PRINTING

The printed garments must not have strong odors arisen from the finishing. For localized printing it must contain the information "NOT TO IRON ON THE PRINTING" on adhesive or on the legal information label. And all printed products must contain the information "IRON ON REVERSE."

2.10. PROTECTIVE ADHESIVE

It must have a protective adhesive in female products in beach line. Exception for the ages from 01 to 03 years old.

2.11. PANTIES SEATS

Must be half-knitted of carded cotton (except for seamless panties).

2.12. SEAMS FINISHING

It should be finished with reverse seams; it will be applied to confections in general.

2.13. POCKET LINING.

It must be in the very fabric of the garment outer part or in mixed fabric (Polyester / Cotton). For buttons of plan fabric.

2.14. FOLD MARK

In knitting products, 1 (ONE) fold mark is allowed only on the garment back.

2.15. REINFORCEMENT FOR BAGS

In Synthetic bags with leather reinforcement in the joints of the handles bag body, Handle Tips, Rivets and Closure Magnets.

2.16. REINFORCEMENT FOR BAGS

In Synthetic bags in which the fund is not pliable, use EVA Plaque.

2.17. RIVET FOR BAGS

In Synthetic bags, all items in which a functional rivet is placed, use with 10mm diameter.

3. MARGINS OF REFERENCE OF QUALITY SPECIFICATIONS

The table in Annex 1 summarizes how the analysis must be performed for each additional specification, establishing in each case:

- a) *DETERMINED VALUES*: margins or scales of tolerance for the garment evaluated, compared with reference values;
- b) *EVALUATION FORMS*: method and tools to perform the analysis;
- c) *APPLICATION* types of products covered by each quality specification.

NOTE: The margins of reference adopted indicate the minimum standards established by Marisa, below which the products are summarily rejected. However, on each purchase order all parameters involved in the negotiation, which become indicators of compliance in the quality inspection must be settled.

4. BIBLIOGRAPHY OF CONSULTATION

- Manual of Textile Engineering [Manual de Engenharia Têxtil] – Calouste Gulbenkian Foundation;
- Introduction to Textile Technology (apostil) - IPT Technology Research Institute of São Paulo. [Introdução à Tecnologia Têxtil (apostila) – IPT Instituto de Pesquisas Tecnológicas do Estado de São Paulo.]

ANEXO 1 ANNEX 5 REFERENCE MARGINS OF QUALITY FOR OWN BRAND PRODUCTS

SPECIFICATION	DETERMINED VALUES	FORMS OF EVALUATION	APPLICATION
PILLING	Maximum allowed 10 stitches per 100 cm	Comparative visual Resources: Pilling Tester Gadget	Plan fabric or knitted
DEAD FIBER	Maximum allowed 10 stitches per 100 cm	Comparative visual	Plan fabric or knitted (100% cotton)
COLOR TRANSFERENCE PER FRICTION	Maximum allowed Dry friction : grade ¾ Humid friction: grade 3	Comparative visual after friction test Resources: photographic pattern of A-ATCC (<i>Grey Scale of Color Transference</i>), sample, crock meter gadget, and light cabinet.	Dyed or printed garments in general: Synthetic fabrics or knitted or in natural fibers in strong or dark colors
WEIGHT	Minimum required Sweat clothe (Mixed) 220 g/m Sweat clothe (100% cotton)240 g/m <i>Moletinho</i> (Mixed) 200 g/m <i>Moletinho</i> (100% cotton)220 g/m Piquet (100% cotton) 170 g/m Suede (100% cotton)220 g/m ½ knitted (PES/CV) 140 g/m (100% cotton) ½ knitted (100% cotton for underwear) 135 g/m	Weight of test frame cut from the part: Resources: analytic scale and sample cutter	Circular knitted
DIMENCIONAL ALTERATION	Maximum allowed 5% in width/length (knitted) 2% in width/length (plan fabric) <hr/> Maximum twist allowed 4% in width/length (knitted)	Garment measurement before and after the washing Resources: washing, drying machines, tanks and tape-measures	Circular knitted with natural or mixed fibers <hr/> Plan fabrics with natural or mixed fibers neither dyed nor washed industrially
ASKEW BEFORE WASHING	Maximum allowed 10% seam deviation	Measure of the askew of the seam of the closing between the legs at the bar Resources: tape-measures	Tops and Bottoms in plan fabric or knitted
RESERVE BUTTON	1 unit for garments with 3 or more mass button	Visual verification of the item presence	Confections in general with use of buttons

TECHNICAL SPECIFICATIONS – MINIMUM QUALITY STANDARDS FOR OWN BRAND PRODUCTS

HANGER RING	Short ring of 4cm. in light grey color with Marisa logomark	Visual verification of the item presence	Blouses, shirts and gowns with great collar opening
FINISHING IN RIBBONS AND BRAIDS	Presence of knots or Burns in each ribbon or braid tip	Visual verification of the item presence	Confections in general with use of ribbons and braids
SEAM REINFORCEMENT	Presence in zippers ends, pockets and lapels extremities, the closing between the legs and bra straps	Visual verification of the item presence	Confections in general
ZIPPER	Only allowed zippers of YKK, Corrente, Sancris, Flenyl (NYL) or ZR marks for functional places	Visual verification of the item presence	Jeans pants
NOTICES (EYELETS, RIVES AND BUTTONS)	They must be compatible with the garments, neither oxidizing when in metal nor having barbs	Visual verification of the item presence	Confections in general
PRINTINGS	The printed garments cannot have strong smell arisen from the finishing. For located printings the following information must appear "DO NOT IRON ON THE PRINTING" in adhesive or legal information label .And for all printed fabric the following information must appear "Iron on seam side" in adhesive or legal information label	Visual verification of the item presence	Confections in general
HYGIENIC PROTECTOR	Presence of adhesive protectors in female products	Visual verification of the item presence	Female beach line (exception for 1 to 3 years of age)
PANTIES FUND	Must be in ½ knitted of carded cotton	Test of fibers identification	Panties except seamless garments
WADDINGS	Must be per compliance with the and with absence of bubbles in the product	Visual verification of the item presence	Confections in general
SEAM FINISHING	Must be finished with seam retrocession	Visual verification of the item presence	Confections in general
EMBROIDERY	Must be well finished with clean seam side and without embroidery frame mark	Visual verification of the item presence	Confections in general, bags and notices
POCKET LINEN	Must be of the own fabric or in mixed fabric (polyester/Cotton)	Test of fibers identification	Plan fabric bottoms
Fold mark	Only a fold Mark on the back is allowed	Visual verification of the item presence	knitted
BAGS REINFORCEMENT	It must contain reinforcement in re leather in the junctions of the handles with the body of the bag Handles tips/ Rivets/Closing	Visual verification of the item presence	Synthetic bags

**TECHNICAL SPECIFICATIONS – MINIMUM QUALITY STANDARDS
FOR OWN BRAND PRODUCTS**

	magnet		
BAGS BOTTOMS	In bags in which the bottom is not malleable, use EVA plaque	Visual verification of the item presence	Synthetic bags
BAGS RIVETS	In all items with functional rivet use it with 10 mm diameter	Diameter measure Evaluation form Caliber rule	Synthetic bags