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Inspection Method for Printed or Dyed Fabric Surface Defects

印染布布面疵点检验方法

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Inspection Method for Printed or Dyed Fabric Surface Defects

1 Scope

This Standard stipulates the terms, definitions, inspection conditions, operational stipulations, inspection methods and inspection report of inspection method for printed or dyed fabric surface defects.

This Standard is applicable to various kinds of bleached, dyed and printed fabric, which is produced through machine-weaving, and with the raw material of cotton, chemical fiber and other pure or blended natural yarn.

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 250 *Textiles - Tests for Color Fastness - Grey Scale for Assessing Change in Color;*

GB/T 24250 *Woven Fabrics - Description of Defects - Vocabulary*

3 Terms and Definitions

What is defined in GB/T 24250, and the following terms and definitions are applicable to this document.

3.1 Point Assessing

Point assessing refers to the method which assesses the number and severity of fabric surface defects through point and stipulates the maximum limit.

3.2 Defect Marking Method

Defect marking method refers to the method which displays the location and number of certain surface defects through marking and stipulates length discount to replace defects.

3.3 Damage

Damage refers to holes, broken edges, edge exclusions, and floats over 0.3 cm.

4 Inspection Conditions and Operational Stipulations

4.1 Inspection Conditions

4.1.1 During inspection, illuminance on the fabric surface shall be not lower than 750 lx. The distance between eyes and the fabric surface shall be 55 cm ~ 60 cm.

4.1.2 When platform inspection is adopted, use 3 ~ 4 PCS of 40 W cyan fluorescent tubes with cover. The distance between the inspection light source and the fabric surface shall be 1.0 m ~ 1.2 m.

4.1.3 When cloth inspection machine is adopted, the angle of the cloth inspection board shall be 45°. The highest linear speed of the cloth inspection machine shall be 40 m/min.

4.2 Operational Stipulations

4.2.1 Adopt cloth inspection machine or platform inspection.

4.2.2 The inspection of fabric surface defects shall subject to the front surface (the surface with plait stamping) of cloth. In terms of twill fabric: yarn fabric: the left oblique "↖" shall be the front surface; thread fabric: the right oblique "↗" shall be the front surface. Or, the front surface of fabric may also be confirmed in accordance with the customers' demands.

4.2.3 Use measuring instrument to measure the length of each fabric surface defect. The division value of the measuring instrument shall be 1 mm.

4.2.4 Chromatic aberration shall be assessed in accordance with GB/T 250.

4.2.5 When the cloth inspection machine and the platform inspection are contradictory, the result shall subject to platform inspection.

5 Inspection Methods

5.1 Inspection of Partial Defects

5.1.1 Point assessing

5.1.1.1 Adopt four-point assessing method. The stipulations of point assessing shall comply with Table 1.

Table 1 -- Stipulations of Four-point Assessing Method

3	0.2 cm and less than 0.2 cm dispersed defects that would affect the appearance; 15 dark-color defects and 10 light-color defects	1
4	Warp-wise 20.0 cm and less than 20.0 cm, 4 and less than 4 No. 1 and No. 2 defects	1

5.1.2.3 Stipulations of defect marking length discount: defect length does not exceed 20.0 cm: length discount shall be 20.0 cm; defect length is 20.0 cm ~ 50.0 cm, length discount shall subject to the actual length of defect.

5.1.2.4 Above 2.0 cm broken holes, stopping gears in dyeing and finishing processing, above 50.0 cm warp-wise severe defects shall not be marked. Instead, they shall be cut through.

5.1.2.5 The location of defect marking shall all be on the fabric of corresponding parts where the defect exists.

5.2 Inspection of Dispersed Defects

Inspection methods for dispersed defects may be degraded in accordance with the degree of severity, the overall effect of the affected appearance and product standards.

5.3 Measurement of Defects

5.3.1 The length of defects shall be measured in accordance with the maximum warp-wise or weft-wise length.

5.3.2 When the length of warp-wise defects exceeds 1 m, the excessive part shall be separately measured and counted, then, assessed in accordance with Table 1.

5.3.3 Curved defects shall be measured in accordance with the maximum distance of the actual influence. Overlapped defects shall be assessed in accordance with the severity.

5.3.4 When various defects simultaneously exist in warp-wise 1 m and less than 1 m, the defects shall be respectively measured and accumulatively assessed. The maximum assessed point shall exceed 4-point; the maximum defect marking number shall not exceed 1.

5.3.5 In terms of dispersed spots which are difficult to be counted or measured, in accordance with the maximum length and width of such dispersion, respectively measure and count them; accumulate the assessed point.

5.3.6 When the same partial defects exist in the same fabric, the accumulative point shall not exceed the degraded limit point of the defect. When the point of other partial defects that simultaneously exist shall be accumulated, plus the starting point of the already-degraded grade and the accumulative point of partial defects. Thus, the total point of the fabric can be obtained.

Appendix A

(normative)

Specific Content of Various Fabric Surface Defects

A.1 Warp-wise Defects

The specific content of warp-wise defects: bamboo joint, thick warp, misaligned density, drafting misdrawn, reed mark, reed misdrawn, multi-strand warp, double warp, parallel thread tightness, loose warp, tight warp, warp hanging, warp shrinkage ripple, breaking wrap, breaking defect, sank yarn, star-shaped stitch, yarn skipping, cotton ball, knot, temple defects, weft throwing, improper trimming, wrong fiber, grease stain, oil warp, rust warp, rust stain, non-fading color wrap and non-fading color stain, water stain, dirt, pulp spot, cloth blossom, oil yarn, cat ear, concave edge, rotten edge, flower warp, long strip shadow, iron-shine, needle mark, grinding crack, improper stitch selvage, reedness, wooden roller wrinkle, corrugated edge, hair point, fleece, down pile making, thick and thin section, tool path, temple mark, strip flower, crumping wrinkle, inconsistent pattern, uneven printing and dyeing, cotton knots and impurities, deep and shallow spots, fish scale streak, missing cut, patching strip, suede patch.

A.2 Weft-wise Defects

The specific content of weft-wise defects: wrong weft (including thick, thin, tight and loose), uneven strips, sloughed-off weft, double weft, weft shrinkage, raw edge, uneven weaving, woven impurities, flower weft, oil weft, rust weft, non-fading color weft, coal-dust stained yarn, mispick, broken filament, wood shavings, lack of core filament, fuzziness, lathing warp shrinkage (print), brush gear.

A.3 Crosspiece

The specific content of crosspiece: pick-out mark, thin weft, close weft, connecting gear, cutting gear, off printing.

A.4 Severe Defects

The specific content of severe defects: broken hole, edge exclusion, float, thin weft, shrinkage ripple (start counting from three rows), 3 parallel hanging warps, loose warps (including separating 1 ~ 2 PCS of good yarn), non-docking rolling spindle, 1 cm and above rotten edge, woven metal impurities, lack of fleece, short fleece, pulp spot that would affect texture, mildew, improper trimming that would damage cloth back, over 10 knots or temple defects in 8 cm weft-wise full frame, exposed core yarn.

A.5 Others

A.5.1 In terms of warp-wise defects and weft-wise defects, some defects have

Appendix B

(normative)
Description of Defect Names

Please refer to Table B.1 for a description of defect names.

Table B.1 -- Description of Defect Names

No.	Name of Defect	Description of Defect
1	Bamboo joint	Short fragment of joint on yarn
2	Thick warp	Relatively thick diameter, 5 cm (and above) of length, warp woven in cloth
3	Misaligned density	Linear density uses a wrong technical process standard
4	Drafting misdrawn	Drafting does not comply with the process requirements, which leads to disordered texture of fabric surface
5	Reed mark	Fabric warp-wise manifests strip-state uneven thickness
6	Reed misdrawn	Reading does not comply with the process requirements, which leads to uneven arrangement of warp on the fabric surface
7	Multi-strand warp	The joint strand of 2 and above single yarns
8	Double warp	2 warps parallelly woven into single yarn (strand) fabric
9	Parallel thread tightness	Uneven tension when single yarn is twisted into strand
10	Loose warp	Partial warps are woven into fabric under loose tension
11	Tight warp	Partial warps are woven under excessive degree of twist
12	Warp hanging	Partial warps are under excessive tension in fabric
13	Warp shrinkage ripple	Partial warps become loose under accidental tension, which leads to ripple-shaped rolls-and-swells on fabric surface
14	Breaking wrap	Broken warp in fabric
15	Breaking defect	Warp with broken yarn tail woven into fabric
16	Sank yarn	Due to improper heald-lifting, warp floats on the fabric surface
17	Star-shaped stitch	1 warp or weft skips 2 ~ 4 yarns and forms star-shaped stitch
18	Yarn skipping	1 ~ 2 warps or wefts skip 5 (and above) of yarns
19	Cotton ball	Spherical fiber on yarn
20	Knot	Knot that would affect the quality of the subsequent processes
21	Temple defects	Temple or licker-in roller leads to fluff or broken rolling of yarns in fabric
22	Weft throwing	Uncut yarn head that is trailed on fabric surface or on selvage
23	Improper trimming	Fabric surface fluffy and has uneven wrinkles after trimming; warp and weft crossing is uneven or unthoroughly trimmed
24	Wrong fiber	Weaving of strange fiber yarns
25	Grease stain	Trace left on fabric after being stained with oil
26	Oil warp	Trace left on warp after being stained with oil

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