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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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Replacing GB/T 2909-2014

Cotton grey canvas

棉本色帆布

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1 Scope

This document defines the terms and definitions for cotton grey canvas, gives the classification and designation, specifies the requirements, the inspection rules, the marking, packaging, transport and storage, and describes the corresponding test and inspection methods.

This document applies to cotton grey canvas produced by weaving.

3 Terms and definitions

3.1 Cotton grey canvas: a relatively coarse and heavy woven fabric made with cotton single yarn or plied yarn in both the warp and the weft direction.

4 Classification and designation

The product varieties, the classification by specification and the designation of cotton grey canvas shall follow GB/T 43831 and FZ/T 10025 according to the user's needs.

5 Requirements

5.1.1 Cotton grey canvas is graded as superior, first grade or second grade; material below second grade is off-grade.

5.1.2 Product quality covers intrinsic quality and appearance quality. Intrinsic quality is graded by lot and appearance quality by piece, and the piece takes the lower of the two gradings.

5.1.3 The length of cotton grey canvas after packing follows the sales contract between supplier and purchaser. Note: a piece is normally taken as 40 m.

5.2 Intrinsic quality. The grading of intrinsic quality follows Table 1, which gives, for superior grade and first grade respectively, the following limits. Density deviation rate, in per cent, against the design nominal value: in the warp direction, where the warp density is 236 ends per 10 cm or more, minus 1.0 to plus 1.0 and minus 1.5 to plus 1.5; where the warp density is below 236 ends per 10 cm, minus 1.5 to plus 1.5 and minus 2.0 to plus 2.0. In the weft direction, where the weft density is 175 picks per 10 cm or more, minus 1.5 to plus 1.5 and minus 2.0 to plus 2.0; where the weft density is below 175 picks per 10 cm, minus 2.0 to plus 2.0 and minus 2.5 to plus 2.5. Deviation rate of the desized dry mass per unit area, against the design nominal value: minus 3.0 to plus 3.0 for superior grade and minus 5.0 to plus 5.0 for both first and second grade. Breaking strength deviation rate against the design breaking strength, warp and weft alike: not below minus 6.0 for superior grade and not below minus 8.0 for first grade. Rate of squares containing nep and trash defects: where the total cover factor of the fabric is below 90 %, not more than 34 % for superior grade and not more than 45 % for first grade; where it is 90 % or more, not more than 38 % and not more than 49 %. Rate of squares containing nep defects: below 90 % cover factor, not more than 10 % and not more than 20 %; at 90 % or more, not more than 12 % and not more than 22 %. A note states that the density deviation rate, the breaking strength deviation rate, the nep and trash square rate and the nep square rate are graded down only as far as second grade. Footnote a states that the warp and weft densities shall meet the values in the table after packing, and that where the width deviation rate exceeds plus 1.0 % the negative deviation of the warp density shall not exceed minus 2.0 %. Footnote b refers the yarn strength utilization coefficient to Annex A.

5.3.1 Appearance quality requirements. The grading of appearance quality follows Table 2. Weave: as specified in the design, and required to meet the design for all three grades. Width deviation rate, in per cent against the design nominal value: minus 0.5 to plus 1.0 for superior grade, minus 1.0 to plus 1.5 for first grade and minus 1.5 to plus 2.0 for second grade. Fabric defects, in points per 100 square metres: not more than 18 for superior grade, not more than 28 for first grade and not more than 40 for second grade. A note states that the weave is assessed against a sample confirmed by supplier and purchaser; footnote a states that the width shall meet the values in the table after packing.

5.3.2 Total permitted defect points per piece. The total permitted score for a piece is calculated from formula (1) and rounded to the units place in accordance with GB/T 8170. In the formula A is the total permitted score for the piece, in points; a is the permitted number of defect points, in points per 100 square metres; L is the piece length in metres; and W is the width in metres. Where the sum of the scores of all defects in a piece exceeds the total permitted score, the piece is downgraded.

5.3.3 Handling of fabric defects. Six major defects, namely a split selvage over 0.5 cm, a

hole of 1 cm or more, a broken selvedge of 1 cm or more, a thin place, a non-matching shuttle trap and a float over 2 cm, shall be cut out at the weaving mill. Metallic foreign matter woven into the fabric shall be picked out at the weaving mill. Any defect that the weaving mill is able to mend shall be mended before the fabric leaves the mill.

5.3.4 False cutting and joining. A defect subject to false cutting shall be one scored at 4 points or 3 points that cannot be mended by weaving, and every length of fabric after false cutting shall be of first grade. Where the user permits false cutting and joining, these may be practised: false cuts shall not exceed two places in a two-piece length and not more than three places in a length of three pieces or more. False cutting and joining together shall not exceed 20 %, of which the joining rate shall not exceed 10 %. The position of a false cut shall be clearly marked.

6 Test and inspection methods

6.1 Density is determined in accordance with FZ/T 10003. The density deviation rate is calculated from formula (2) and rounded to one decimal place in accordance with GB/T 8170. In the formula the deviation rate is the difference between the measured density and the nominal density, divided by the nominal density and expressed as a percentage, for the warp and the weft respectively; the nominal densities are in ends or picks per 10 cm. Note: the nominal density is the value required by the user or the design value, agreed in the sales contract between supplier and purchaser.

6.2 The desized dry mass per unit area is determined in accordance with FZ/T 10026, and its deviation rate is calculated from formula (3) and rounded to one decimal place in accordance with GB/T 8170. In the formula the deviation rate is the difference between the measured and the nominal desized dry mass per unit area, divided by the nominal value, both in grams per square metre. Note: the nominal value is the value required by the user or the design value, agreed in the sales contract.

6.3 The breaking strength is determined in accordance with FZ/T 10003 and the design value of breaking strength follows FZ/T 10025. The breaking strength deviation rate is calculated from formula (4) and rounded to one decimal place in accordance with GB/T 8170. In the formula the deviation rate is the difference between the measured breaking strength and the design breaking strength, divided by the design value, both in newtons.

6.4 The rate of squares containing nep and trash defects and the rate of squares containing nep defects are tested in accordance with FZ/T 10006.

6.5 The width and the length are determined in accordance with FZ/T 10003. The width deviation rate is calculated from formula (5) and rounded to one decimal place in accordance with GB/T 8170. In the formula the deviation rate is the difference between the measured width and the nominal width, divided by the nominal width, both in centimetres. Note: the nominal width is the value required by the user or the design value, agreed in the

sales contract.

6.6 Fabric defects are inspected in accordance with GB/T 17759.

7 Inspection rules, marking and packaging

These follow GB/T 43831.

8 Transport and storage

During transport the packaging shall be protected from damage and the product from damp. The product shall be stored in a dry, clean environment so that it does not go mouldy or otherwise deteriorate.

9 Other

Where the user has special requirements for the product, these may be agreed in the sales contract between supplier and purchaser.

A Annex A (normative) Yarn strength utilization coefficient

The values of the yarn strength utilization coefficient K in the fabric are given in Tables A.1 and A.2.

Table A.1 gives the warp yarn strength utilization coefficient against the warp cover factor. From a cover factor of 50 % to 70 %, in one per cent steps, the coefficient runs 0.850, 0.853, 0.856, 0.858, 0.861, 0.864, 0.867, 0.869, 0.872, 0.875, 0.878, 0.880, 0.883, 0.886, 0.889, 0.892, 0.894, 0.897, 0.900, 0.903 and 0.906. A note states that for every difference of plus or minus 1 % in cover factor the warp coefficient differs by plus or minus 0.00277, which also covers fabrics with a cover factor below 50 % or above 70 %.

Table A.2 gives the weft yarn strength utilization coefficient against the weft cover factor: 0.900 to 0.950 for a cover factor of 36 % to 48 %, and 0.954 to 1.000 for a cover factor of 49 % to 60 %. A note states that for every difference of plus or minus 1 % in cover factor the weft coefficient differs by plus or minus 0.00417, which also covers fabrics with a cover factor below 36 % or above 60 %.