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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 1499.3-2022

Replacing GB/T 1499.3-2010

Steel for the reinforcement of concrete - Part 3:Welded fabric

钢筋混凝土用钢 第3部分：钢筋焊接网

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020 "Directives for standardization - Part

1.Rules for the structure and drafting of standardizing documents". This document is Part 3 of GB/T 1499 "Steel for the reinforcement of concrete". The following parts of GB/T 1499 have been issued. - Part

1 Scope

GB/T 1499.3-2022 is the Chinese national standard on steel for the reinforcement of

concrete - part 3:welded fabric, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 October 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2023. Classification: ICS 77.140.60, CCS H44. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the classification and labeling, order content, technical requirements, test methods, inspection rules, packaging, marking and quality certificates of welded fabric for the reinforcement of concrete. This document applies to welded fabrics (hereinafter referred to as the welded fabric) made of cold-rolled ribbed steel bars or (and) hot-rolled round steel bars and hot-rolled ribbed steel bars by resistance welding. Welded fabrics welded with other types of bars can use this document as reference.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 1499.1, Steel for the reinforcement of concrete - Part

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 welded fabric A fabric in which the longitudinal bars and transverse bars are arranged at a certain interval and at right angles to each other, and all intersection points are welded together by resistance spot welding. The shape of the welded fabric is shown in Figure 1.

3.2 longitudinal bars The bars aligned parallel to the manufacturing direction of the welded fabric.

3.3 transverse bars The bars aligned perpendicular to the manufacturing direction of the welded fabric.

3.4 twin bars Two bars of the same type and of the same nominal diameter that are juxtaposed against each other in the welded fabric.

3.5 spacing The distance between the centerlines of adjacent bars in the same direction in the welded fabric. For twin bars, the centerline is the common tangent of the contact point of the two bars.

3.6 overhang The length of the longitudinal and transverse bars that is beyond the centerline of the outermost transverse and longitudinal bars of the welded fabric.

4 Classification and labeling

4.1 Classification The welded fabric is divided into two types. shaped welded fabric and customized welded fabric, according to the bar designation, nominal diameter, length and spacing.

4.2 Shaped welded fabric and labeling

4.2.1 The bar designation, nominal diameter, length and spacing of shaped welded fabric can be different in both directions. However, in the same direction, the bars of the same designation and nominal diameter shall be used with the same length and spacing.

4.2.4 See Annex B for standard welded fabric models for bridge decks and buildings.

4.3 Customized welded fabric and labeling The bars and their lengths and spacings used in the customized welded fabric shall be determined by negotiation between the supplier and the buyer according to the requirements of the buyer.

5 Order contents

The contract for ordering according to this document shall at least include the followings.

6.1 Bars

6.1.1 The welded fabric shall be made of CRB550 cold-rolled ribbed steel bars in accordance with GB/T 13788, CRB600H high-ductility cold-rolled ribbed steel bars, hot-rolled round steel bars specified in GB/T 1499.1, hot-rolled ribbed steel bars specified in GB/T 1499.2.

6.1.2 Bars with a nominal diameter of 5mm~18mm shall be used for the welded fabric. After the agreement between the supplier and the buyer, and it is indicated in the contract, the bars with other nominal diameters can also be used.

6.1.3 When the welded fabric is a single bar in both directions, the nominal diameter of the thinner bar shall not be less than

0.6 times the nominal diameter of the thicker bar.

6.2 Manufacturing

6.2.1 The welded fabric shall be mechanically manufactured. The intersections of the bars in both directions are welded by resistance welding.

6.3 Fabric size and allowable deviation

6.3.1 The longitudinal bar spacing of the welded fabric shall be an integral multiple of 50mm. The spacing of transverse bar shall be an integral multiple of 25mm. The minimum spacing shall be 100mm. The allowable deviation of the spacing takes the larger value of ±10mm and ±5% of the specified spacing.

6.4 Weight and allowable deviation

6.4.1 The welded fabric shall be delivered by actual weight. It can also be delivered by theoretical weight.

6.4.2 The theoretical weight of the welded fabric is calculated according to the nominal diameter and specified size of the constituent bars. When calculating, the density of steel is 7.85g/cm

3.The allowable deviation between the actual weight of the welded fabric and the theoretical weight shall be ±4%.

6.5 Performance requirements

6.5.1 The mechanical and technological properties of welded fabric bars shall comply with the provisions of the corresponding designations of the bars in the corresponding standards.

7.1 Sampling method

7.1.1 Welded fabric specimens shall be taken from the finished fabric. However, the intersections contained in the specimen shall not be welded. Except for the removal of excess parts, the specimen shall not be subjected to other processing.

7.1.2 The schematic diagram of the specimen used in the tensile test is shown in Figure 3.

7.1.3 One specimen for bending test shall be respectively cut along two directions of the welded fabric. The specimen shall ensure that the bent part is at least 25mm away from the cross welding point during the test.

7.1.4 The specimen for shear resistance test is shown in Figure

4.Three specimens shall be randomly intercepted along the same transverse bar.

7.2 Test methods

7.2.1 Inspection items The inspection items, sampling methods and test methods of each batch of welded fabric shall comply with the provisions of Table 1.

7.2.2 Tensile test The tensile test of the welded fabric shall be carried out in accordance