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JT/T 1267-2019

Prestressing carbon fiber plate-gripping anchorage for bridge

桥梁用预应力碳纤维板-夹持式锚具 清晰版

(English Translation)

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Foreword

This standard is in accordance with GB/T Draft the rules given in 1-2009.

This standard is proposed and managed by the National Technical Committee for Traffic Engineering Facilities (Highway) Standardization (SAC/TC 223).

This standard was drafted. Hebei Baoli Engineering Equipment Co., Ltd., Hebei Engineering Rubber Engineering Technology Research Center, Beijing CCCC Tiejian Technology Development Co., Ltd., Shenzhen Wei Shibang Construction New Material Technology Co., Ltd.

Introduction

The issuer of this document draws attention to the fact that the declaration of compliance with this document may involve 4. 2 Structure and Patent No..2014 2.2009029. X the use of a patent related to "a carbon fiber holding device".

The issuing authority of this document has no position on the authenticity, validity and scope of the patent.

The patent holder has assured the publisher of this document that he is willing to work with any applicant on reasonable and non-discriminatory terms and conditions, Negotiating patent licenses. The patent holder's statement has been filed with the issuing authority of this document. Related information can be obtained through the following links Ways to get.

Patent holder name. Hebei Baoli Engineering Equipment Co., Ltd .;

Address. No. 13 Rubber and Plastic Road, North Industrial Base, Development Zone, Hengshui City;

Zip code. 053000.

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Prestressed carbon fiber board for bridge-clamping anchor

1 Scope

This standard specifies the classification, structure, specifications, model, technical requirements, test methods, Inspection rules and requirements for marking, packaging, transportation and storage.

This standard applies to the production, inspection and use of prestressed carbon fiber board-clamping anchors for bridges.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1184 Shape and position tolerances without tolerance values GB/T 1804 Tolerances for linear and angular dimensions without general tolerances GB/T 3077 alloy structural steel GB/T 3354 Test method for tensile properties of oriented fiber reinforced polymer matrix composites GB/T 3880. 1 Aluminum and aluminum alloy plates and strips for general industrial use Part 1. General requirements GB/T 13657 Bisphenol A epoxy resin GB/T 15519 Chemical conversion coating steel black oxide film specification and test method GB/T 16924 Quenching and tempering of steel parts GB/T 21490 Carbon fiber sheet for structural reinforcement and repair JB/T 5000. 9 General Specifications for Heavy Machinery Part 9. Cutting Workpieces NB/T 47013. 3 Nondestructive Testing of Pressure

Equipment Part 3. Ultrasonic Testing NB/T 47013. 4 Non-destructive testing of pressure equipment Part 4. Magnetic particle testing

3 Terms and definitions, symbols

3.1

Terms and definitions the following terms and definitions apply to this document.

3. 1. 1

Gripping anchor gripping anchor Permanent wedge-shaped clip-type anchoring device (abbreviated as abbreviation) used to maintain the tensile force of prestressed carbon fiber board and transfer it to bridge members Anchor).

3. 1. 2

Prestressed carbon fiber board pressing carbon plate High-strength continuous carbon fibers are arranged according to a certain rule, impregnated with an adhesive, and bonded to form a fiber-reinforced effect.

Stretchable composite sheet.

3. 1. 3

Prestressed carbon fiber board-anchor pressing carbon box plaza anchorage Pre-stressed carbon fiber board and anchors at both ends are assembled in the factory.

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3.2

Symbol

The following symbols apply to this document.

fb --- standard tensile stress of prestressed carbon fiber board, unit is megapascal (MPa);

fc --- Tensile stress of pre-stressed carbon fiber board-anchor before delivery inspection, the unit is Megapascal (MPa);

fj --- ultimate breaking tensile stress of prestressed carbon fiber board, unit is megapascal (MPa);

fps --- prestressed carbon fiber board-anchor breaking tensile stress after fatigue test, the unit is megapascal (MPa);

fs --- External tensile prestressed carbon fiber board-anchor breaking tensile stress in megapascals (MPa);

fx --- External tensile prestressed carbon fiber board-anchor allowable tensile stress, in megapascals (MPa);

r --- When the prestressed carbon fiber board-anchor is subjected to the relaxation performance test, the relaxation rate of the prestressed carbon fiber board at a test time of 100 h is determined;

r' --- prestressed carbon fiber board-anchorage relaxation rate by measuring the relaxation rate extrapolation test time 1000h;

η_{aa} --- anchored efficiency coefficient of anchorage performance test of prestressed carbon fiber plate-anchorage under static load;

ϵ --- the total strain of the prestressed carbon fiber board when the anchorage reaches the breaking tensile stress.

4 Classification, structure, specification, model

4.1 Classification

Anchors are divided into two categories.

- a) Tension anchors. codenamed Z;
- b) Fixed-end anchorage. code G.

4.2 Structure

4.2.1 Pre-stressed carbon fiber board-anchor is pre-assembled and anchored at the factory by tensioned-end anchor, pre-stressed carbon fiber board, and fixed-end anchor the structure is shown in Figure 1.

Explanation.

1 --- tensioned anchors; 3 --- fixed anchors; B --- thickness of anchors; D --- width of fixed-end anchors.

2 --- prestressed carbon fiber board; A-length of anchorage; C-width of tensioned anchorage;

Figure 1 Schematic diagram of prestressed carbon fiber board-anchor structure

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4. 2. The two tensioned end and fixed end anchors are composed of anchor plates, clips, aluminum plates or adhesives. Tension end anchor structure is shown in Figure 2 the structure of the fixed-end anchorage is shown in Figure 3.

Explanation.

- 1 --- anchor plate; 3 --- aluminum plate or adhesive; B --- anchor thickness;
- 2 --- clip; A-length of anchor; C-width of tensioned end anchor.

Figure 2 Schematic diagram of tensioned anchorage structure