

ICS 93.040
CCS P 28

JT

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

JT/T 1265-2019

**Method of tension detection for bridge prestressing fine-rolling
screw-thread steel bars**

桥梁用预应力精轧螺纹钢筋张拉力检测方法 清晰版
(English Translation)

Issued on: January 1, 1970

Implemented on: September 1, 2019

Issued by: Ministry of Transport

Table of Contents

Foreword
Introduction
1 Scope
2 Normative references
3 Terms and definitions, symbols
4 Testing equipment
6 Test piece
7 Detection steps
8 Test report

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 Standardization of Traffic Engineering Facilities (Highway) (SAC/T 223).

Introduction

The issuer of this document draws attention to the fact that when it declares compliance with this document, Chapter 4 may involve a patent number QL 10411 475 752. 8 "base "Patent for the detection system of the vertical prestressed tendons of the web of a concrete box girder bridge".

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 Contact.

Name of the patent holder. Zhong Xingu, et al. (Hunan University of Science and Technology, E-mail. 464397070 @ o.com) Address. Building of School of Civil Engineering, Hunan University of Science and Technology, Xiangtan City, Hunan Province Postcode. 411121 Please note that in addition to the above patents, some content of this document may still involve patents. The issuer of this document is not responsible for identifying these Li's responsibility.

JT/T 1265-2019

Method for detecting tensile force of pre-stressed finished rolled rebar for bridge

1 Scope

This standard specifies the tensile testing equipment, testing conditions, test pieces, testing procedures, and testing reports for prestressed precision rolled rebar for bridges.

And other requirements.

This standard is applicable to the detection of the tensile force of the pre-stressed anchoring system of the rolled rebars for bridges before grouting or sealing.

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. For undated references, the latest version (including all amendments) applies to this document.

GB/T 14370 Anchors, clamps and connectors for prestressed tendons
GB/T 20065 rebar for prestressed concrete
JJG 676 Verification Regulations of Working Vibrometer
JJG 834 Dynamic Signal Analyzer
JT G 3362 Design Code for Highway Reinforced Concrete and Prestressed Concrete Bridges and Culverts
JT G/T F50 Technical Specifications for Construction of Highway Bridges and Culverts

3 Terms and definitions, symbols

3.1

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

3.1.1

Pre-rolled rebar prestressed anchoring system the pressigning system symmetry offloorzrolling schrewing stell barr it consists of fine-rolled rebar, metal or plastic bellows, fixed-end anchorage, and tension-end anchorage.

Pre-stressed anchor system is obtained by tightening the tension-anchor anchor nut and pipe grouting.

3.1.2

Prestressed reinforcement bar Pre-rolled rebar that undergoes tensile forces in a pre-rolled rebar prestressed anchoring system.

3.1.3

Anchorage equipment

Assembly of pre-stressed tendon nut and anchor plate. The fixed-end anchorage is composed of a flat head nut and its supporting anchor pad, and the tensioned end the anchor is composed of a cone nut and a matching cone hole anchor pad.

3. 1. 4

Dynamic characteristic coefficient coefficient of off dynamic characteristics A dimensionless coefficient describing the change in flexural stiffness of the anchoring section of the prestressed tendon nut at the tensioned end.

3.2

Symbol

The following symbols apply to this document.

JT/T 1265-2019

APV --- the cross-sectional area of the prestressed tendon, the unit is square millimeter (mm²);

a--the third-order fitting parameter of the relationship between the dynamic characteristic coefficient and the tensile stress of the prestressed tendon;

b--the fitting parameter of the quadratic term of the relationship curve between the dynamic characteristic coefficient and the tensile stress of the prestressed tendon;

c--the first-order fitting parameter of the relationship between the dynamic characteristic coefficient and the prestressed tendon tension;

d --- constant parameter fitting parameter of dynamic characteristic coefficient and prestressed tendon tension curve;

EP --- the elastic modulus of the prestressed tendon, the unit is Pascal (Pa);

er --- standard deviation of the relationship curve between the dynamic characteristic coefficient and the prestressed tendon tension;

f --- the natural frequency of the exposed section of the prestressed tendon, the unit is hertz (Hz);

k --- dynamic characteristic coefficient of flexural rigidity of prestressed tendon and nut anchoring section, dimensionless;

L1 --- length of exposed section of prestressed tendon, unit is millimeter (mm);

L2 --- the height of pre-stressed anchor nut in millimeters (mm);

L3 --- Length of prestressed tendon anchoring tension section, unit is meter (m);

Mgf --- mass of anchor nut, unit is kilogram (kg);

Mgg --- mass of acceleration sensor, unit is gram (g);

Mgs --- the unit length mass of the prestressed tendon, the unit is kilogram per meter (kg/m);

PIPd --- Tension control force of the design of the prestressed tendon, the unit is kilonewton (kN);

PIPT-the effective tensile force of the prestressed tendon without considering creep loss, the unit is kilonewton (kN);

PcIPy --- fitting the tensile stress of the prestressed tendon, the unit is kilonewton (kN);

S11 --- Readout of dial indicator before jack unloading, unit is millimeter (mm);

S12 --- B dial indicator before jack unloading, unit is millimeter (mm);

S21 --- A dial indicator reading after the jack is unloaded, the unit is millimeter (mm);

S22 --- B dial indicator reading after the jack is unloaded, the unit is millimeter (mm);

T1 --- the tensile force of the prestressed tendon before tightening the nut, the unit is kilonewton (kN);

T2 --- Tension of the exposed section after tightening the nut with the prestressed tendon, the unit is kilonewton (kN);

T3 --- Tension of the anchored tensioning section L3 after tightening the nut with the prestressed tendon, the unit is kilonewton (kN);

deltaS --- Retraction value of prestressed tendon, unit is millimeter (mm);

deltaT --- Retraction loss of pre-stressed tendons in millimeters (mm).

4 Testing equipment

4.1

Structure

The pre-stressed precision rolled threaded steel bar tensile tester for the bridge is composed of an acceleration sensor, a data acquisition and analysis system, and an impact hammer.

Composition, see Figure 1.

Explanation.

1 --- vibrating hammer; 4 --- exposed section of prestressed tendon; 7 --- charging interface;

2 --- acceleration sensor with magnetic base and connecting line; 5 --- LCD touch screen of signal acquisition and analysis system; 8 --- data output interface.