

JB

Professional Standard of the People's Republic of China

JB/T 4730.6—2005

Replace part of JB 4730—1994

**Nondestructive testing for
pressure equipment
Part 6: Eddy current testing**

Issued on 2005-07-26

Enforced on 2005-11-01

**Issued by National Development and Reform Commission
of the People's Republic of China**

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CONTENTS

Foreword		230
1 Scope		231
2 Normative References		231
3 General Requirements		231
4 Eddy Current Testing for Ferromagnetic Steel Tube (Tubular Products)		233
5 Eddy Current Testing for Non-Ferromagnetic Metallic Tube (Tubular Products)		236
6 Far Field Eddy Current Testing for Ferromagnetic Steel Tube (Tubular Products) In-Service ...		239
7 Eddy Current Testing for Non-Ferromagnetic Tube (Tubular Products) In-Service		242
8 Evaluation and Treatment of Testing Results		248
9 Testing Report		248
Annex A (normative)	Flaw Characteristics of Reference Tube Standard of Eddy Current Testing for Ferromagnetic Steel Tube Used for Pressure Equipment In-Service	249
Annex B (normative)	Reference Tube Standard Type III of Eddy Current Testing for Non-Ferromagnetic Tube Used for Pressure Equipment In-Service	251

FOREWORD

The JB/T 4730.1 ~ 4730.6—2005 《Nondestructive testing for pressure equipment》contains following six Parts:

- Part 1: General requirements;
- Part 2: Radiographic testing;
- Part 3: Ultrasonic testing;
- Part 4: Magnetic particle testing;
- Part 5: Penetrant testing;
- Part 6: Eddy current testing.

This Part is the Part 6 of JB/T 4730.1 ~ 4730.6—2005: Eddy current testing (ET). This Part is formulated with reference to the corresponding requirements of GB/T 5126 《Eddy current inspection method for cold drawn thin-walled tubes of aluminum/ aluminum alloy》, GB/T 5248 《Copper/copper alloy seamless tubes Eddy Current Testing method》, GB/T 7735 《Steel tubes—the inspection method on eddy current testing》, GB/T 12604.6 《Terminology for nondestructive testing—Eddy Current Testing》, GB/T 12969.2 《Method of eddy current testing for titanium/titanium alloy tubes》, GB/T 14480 《Standard practice for measuring the operating characteristic of eddy current flaw detecting system》, Chapter 8 of Section V, ASME 《Boiler and pressure vessel code》 and ASTM E2096, and in coordination with the domestic actual situations. The scopes of this Part in comparison with the corresponding part of JB 4730—1994 are changed as follows:

1. The requirement of “Normative References” is added.
2. The reference tube standard and acceptance level of ET for ferromagnetic steel tube are partially changed and improved.
3. The reference tube standard and acceptance level of ET for non-ferromagnetic metallic tube are partially changed and improved.
4. The far-field ET of ferromagnetic steel tube in-service is added.
5. The ET for non-ferromagnetic tube in-service is added.

The Annex A and Annex B of this Part are normative Annexes.

This Part is proposed by the China Standardization Committee on Boilers and Pressure Vessels (SAC/TC 262).

This Part is under the jurisdiction of the China Standardization Committee on Boilers and Pressure Vessels (SAC/TC 262).

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Nondestructive Testing for Pressure Equipment

Part 6: Eddy Current Testing

1 SCOPE

This Part of JB/T 4730 specifies the requirements for the testing method and quality classification of eddy current testing(ET) used for pressure equipment.

This Part is applicable to detect the flaws either open to the surface and slightly subsurface in metallic material and welded joint having electric conductivity used for pressure equipment.

2 NORMATIVE REFERENCES

The following documents contain provisions which, through reference in this text, constitute provisions of this Part of JB/T 4730. For dated references, subsequent amendments to (excluding corrigendum), or revisions of, any of these publications do not apply. However, parties to agreements based on this Part are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below. For undated references, the latest edition of the document referred to applies.

GB/T 5126	Eddy current inspection method for cold drawn thin-walled tubes of aluminum/aluminum alloy
GB/T 5248	Copper/copper alloy seamless tubes Eddy Current Testing method
GB/T 7735	Steel tubes—the inspection method on eddy current testing
GB/T 12604.6	Terminology for nondestructive testing Eddy Current Testing
GB/T 12969.2	Method of eddy current testing for titanium/titanium alloy tubes
GB/T 14480	Standard practice for measuring the operating characteristic of eddy current flaw detecting system
JB/T 4730.1	Nondestructive testing for pressure equipment Part 1: General Requirements

3 GENERAL REQUIREMENTS

3.1 Testing System

3.1.1 Generally, the ET system is composed of ET instrument, test coil and auxiliary apparatus (such as magnetic saturation apparatus, mechanical transmission mechanism, record device and de-magnetic apparatus etc.).

3.1.2 The ET system shall be able to excite the test coil by alternating signal of proper frequency, and able to induce and treat the response of test coil corresponding to the electromagnetic property change of object being tested.

3.1.3 The performance of ET system shall be per the requirements of this Part and corresponding standards.



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