JB／T 4709—2000

Welding Specification For Steel Pressure Vessels

Foreword

This Standard is the revision of JB/T 4709-1992.

This standard is changed based on the experiences obtained after the JB 4708-1992 came into effect and on the reference to the similar international standards in recent years.

1. Add Annex A *Welding Specification for Stainless Composite Steels* and Annex B *Voluntary Form for Welding Procedure Specification.*

2.Add the following contents in Chapter 3:

a) The selection of welding materials and it should meet the requirements for welding procedure qualification.

b) Specifications for selected electrodes as specified in GB/T 5118.

c) Add some steel grades in Table 1 and Table 3.

d) Add Table 2.

3.Add Table 4 in Chapter 5 and add some steel grades in Table 5.

4.Add the specifications of thickness for the post welding heat treatment in Clause 8; add some steelgrades and adjust the temperature of post welding heat treatmentin Table 6 and add Table 7.

This standard will replace JB/ T 4709-1992 from the implementation date of this standard.

Annex A of this standard is the standard annex.

Annex B of this standard is the recommended annex.

This standard is proposed by National Technical Committee of Standardization for Pressure Vessels and is under jurisdiction of the Sub-Committee of Production of the National Technical Committee of Standardization for Pressure Vessels.

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This standard was issued first in April of 1992

This standard is to be interpreted by China National Standardization Committee on Pressure Vessels.

Industry Standard of the People's Republic of China

JB/T 4709-2000

Welding Specification for Steel Pressure Vessels

Replace JB/T 4709-19

1. Scope

This standard specifies the basic requirements for welding of steel pressure vessels.

This standard is applicable to the steel pressure vessels welded by the methods of gas welding, arc welding by electrode, hidden arc welding, gas shielded arc welding and electroslag welding.

2. Normative Reference

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

GB 150—1998 Steel Pressure Vessels

GB／T 983—1995 Stainless Steel Electrodes

GB／T 5117—1995 Carbon Steel Electrodes

GB／T 5118—1995 Low Alloy Steel Electrodes

GB／T 5293—1985 Flux Used by Hidden Arc Welding of Carbon Steel

GB／T 14957—1994 Steel Wire Used by Fusional Welding

GB／T 14958—1994 Steel Wire Used by Gas Shieded Arc Welding

JB 4708—2000 Welding Procedure Qualification for Steel Pressure Vessels

JB 4730—1994 Non-destructive detection for Pressure Vessels

JB 4733—996 Explosive Stainless Composite Steel Plate Used by Pressure Vessels

YB／T 5091—1993 Stainless Steel Bar and Wire Used by Inactive Gas Shielded ArcWelding

YB／T 5092 –1996 Stainless Steel Wire Used by Welding

3、 Welding materials

3.1 The welding materials include electrodes, welding wires, steel belts, fluxes, gas, liner, etc.

3.2 Principles for selecting the welding materials

The selection of the welding materials should be based on the comprehensive consideration of the chemical components, mechanical propery and welding property of the parent materials and the structure features, utilization condition and welding methods of the pressure vessels. Tests can also be used to guarantee the selection when it is necessary.

The property of the weld metals should be higher than or equal to the lower limit of the standard prescripition for corresponding parent materials. The requirements for the weld metals of all kinds of steels are as follows:

3.2.1Weld metals welded by steels of the same grades

3.2.1.1 The weld metals of carbon steel and low alloy steel should ensure the mechanical property and their tensile strengthen shouldn't exceed the upper limit specified by the parent materials' standar plus 30 MPa. The weld metals of the heatproof low alloy steel should also ensure the chemical components.

Note：This standard classifies the low alloy steel mentioned in GB 150 into strong low alloy steel, heatproof low alloy steel and low temperature low alloy steel.

3.2.1.2 The weld metals of the high alloy steel should ensure the mechanical property and the anti-corrosion property.

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