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NB/T 47015-2011 (JB/T 4709)

Replace JB 4709-2000

Welding Specification for Pressure Vessels

压力容器焊接规程

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Foreword

Comparison with JB 4709-2000 *Welding Specification for Pressure Vessels*, main changes of this Standard are as follows:

- Added the welding method; welding specification of Titanium, Aluminum, Copper and Nickel products; Annex A “Method and Scope of Welding Position” and Annex B “Welding groove type and dimension of special materials”;
- Changed the “Welding specification of stainless composition steel” in Annex A of JB/T 4709-2000 as “Welding specification for pressure vessels with composition metal” from annex to standard text;
- Corresponding to new add contents, adjusted the structural of this Standard. General welding specification of different materials as shown in Clause 3, welding specification of different materials as shown in Clause 4 and Clause 9;
- Revised the selection principle of welding materials, preheating temperature of steels; after-heating temperature and PWHT (postweld heat treatment) in Clause 4;
- Added the measurement position provisions of preheating temperature in Clause 3.

The Annex A, B and C of this Standard are informative annex.

This Standard was proposed and under the jurisdiction of National Technical Committee 262 on Boilers and Pressure Vessels of Standardization Administration of China.

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This Standard is in charged of National Technical Committee 262 on Boilers and Pressure Vessels of Standardization Administration of China.

The previous edition of the part replaced by these following one:

- JB 4709-1992;
- JB 4709-2000.

Welding Specification for Pressure Vessels

1. Scope

This Standard specifies the basic requirements of welding for pressure vessels made of steel products, aluminum products, titanium products, copper products, nickel products and composition metal products.

This Standard is applicable to the pressure vessels of gas welding, arc welding by electrodes, hidden arc welding, MIG Welding, gas tungsten-arc welding, electroslag welding, plasma arc welding, friction welding, electrogas welding and screwbolt arc welding, etc.

This Standard is not applicable to gas cylinder.

2. Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 985.3	Recommended joint preparation for gas-shield arc welding on aluminium and its alloys
GB/T 3670	Coated electrodes for copper and copper alloys
GB/T 9460	Copper and copper alloy wires and rods
NB/T 47002	Explosion welded clad plate for pressure vessels
NB/T 47014	Welding procedure qualification for steel pressure vessels
NB/T 47018	Technical permission of welding materials for pressure equipment
JB/T 4745	Titanium welded vessels
TSG Z6002-2010 Examination Rules for Welding Operators of Special Equipment	

3. General Welding Specification

3.1 General Specification

3.1.1 Besides the regulations in this Specification, the welding for pressure vessels shall also meet the technical requirements of the design document.

3.1.2 Besides the regulations in this Specification, all results that have been proofed to be valid through test research and practical certification, recognized by all parties and listed into the enterprise standards can be applicable to the welding of pressure vessels.

3.2 Welding materials

3.2.1 The welding materials include the welding rod, welding wire, welding strip, welding flux, gas, electrode, liner and others.

3.2.2 Selection rules of welding materials:

a) The mechanical property of the weld metal shall be higher than or equal with the specified limit value of the parent metal; if necessary, other properties shall be no lower than relevant



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