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SH

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

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**Pure adipic acid. Part 1: Specification
(English Translation)**

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1 Scope

This Specification gives the construction process and construction methods of vertical cylindrical low-temperature storage tanks (hereinafter referred to as low-temperature storage tanks); specifies the process control, quality standards, inspection, testing of prefabrication, assembly, welding, cold preservation.

This Specification is applicable to the construction and acceptance of low-temperature storage tanks, which have a nominal volume greater than or equal to 10000 m³ and a design temperature not higher than -45 °C and not lower than -168 °C. Low-temperature storage tanks, which have a nominal volume of less than 10000 m³, can make reference to this Specification.

This Specification is applicable to the construction of low-alloy steel and alloy steel low-temperature storage tanks. Stainless steel low-temperature storage tanks can make reference to this Specification.

This Specification does not apply to the outer tank part of reinforced concrete.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB 985 Basic forms and sizes of weld grooves for gas welding, manual welding and gas-shielded welding

GB 986 Basic forms and sizes of weld grooves

GB 50236 Code for construction and acceptance of field equipment, industrial pipe welding engineering

JB 4708 Welding procedure qualification for steel pressure vessels - Welding specification for steel pressure vessels - Mechanical proper ty tests of product welded test

JB 4730.2 Nondestructive testing of pressure equipment - Part 2.Radiographic testing

JB/T 4730.3 Nondestructive testing of pressure equipment - Part 3.Ultrasonic testing

3 General provisions

3.1

The construction of low-temperature storage tanks shall comply with the provisions of the design documents and this Specification. The construction of its subsidiary steel structures shall comply with the provisions of SH/T 3507.

3.2 For any changes involving design documents and materials, a design change form

or written approval from the original design organization shall be obtained.

3.4 The non-destructive testing personnel engaged in low-temperature storage tanks

shall obtain qualification certificates, which are suitable for their work, in accordance with the "Rules on Management of Special Equipment Nondestructive Testing

Personnel Assessment and Supervision".

3.5 The construction safety technology and labor protection of low-temperature storage

tanks shall be implemented, in accordance with the provisions of SH 3505.

4.1 Technical preparation

4.1.1

The low-temperature storage tank shall have the following technical documents, before construction.

4.1.2

Check the drawings, including.

4.1.3

Refer to design disclosure.

4.1.4

Conduct technical disclosure, including project characteristics, schedule, construction technology, quality standards, safety and technical labor protection measures, etc.

4.2.1 Arrange the construction site according to the construction layout drawing. The

water, electricity, roads are unimpeded and meet the following requirements.

4.2.2 Provide the construction machinery, tooling facilities, measuring instruments, samples, etc. that meet the requirements for on-site assembly. Measuring instruments shall be within the validity period of the verification.

5.1 The steel materials, accessories, welding materials, cold insulation materials, which

are used for low-temperature storage tanks, shall have quality certification documents; their characteristic data shall meet the relevant standards and meet the requirements of the design documents.

5.3 The manufacturer's sign on the steel surface shall be clear and correspond to the quality certification documents.

5.4 The steel plates used for low-temperature storage tanks shall be checked for appearance quality one by one; they shall meet the following requirements.

5.5 The sum -- of the local thinning of the steel plate surface and the actual negative deviation of the steel plate -- shall not exceed the standard allowable negative deviation

value of the corresponding steel plate.

5.6 Low-temperature steel, low-temperature welding materials, cold-insulation

materials shall be re-inspected, according to the design documents.

5.8 The purity of argon shall not be lower than 99.96%.

6 Construction process

6.1

The construction process of steel single-layer low-temperature storage tanks can be implemented, according to the requirements of SH/T 3530.

6.2

For the construction process of the steel double-layer low-temperature storage tank, see Figure B.1 in Appendix B.

6.4

Refer to Figure B.3 in Appendix B, for the construction process of formal wall installation AND the air lift of tank roof along the inner tank of steel double-layer low- temperature storage tank wall.

6.5

Refer to Figure B.4 in Appendix B, for the construction process flow of the steel double-layer low-temperature storage tank by inverted method.

7.1 General requirements

7.1.1

Verification shall be carried out after the template is prepared, which shall meet the following requirements.

7.1.2

Check the flatness of the steel plate with a straight template; the gap shall not be greater than 4 mm. The coil shall be flattened and straightened. The straightening should be carried out on a multi-roller plate straightening machine.

7.1.3

Before material marking, check the material and specifications of the steel plate; keep the steel plate in a flat position.