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**SN**

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

**SN/T 3644-2013**

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**Determination of Sialic acid in cubilose and its products for  
export**

**(English Translation)**

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## 1 Scope

This Standard specifies the basic requirements for the structure, material, design, manufacturing, inspection and acceptance, packaging and transportation of quick opening closure.

This Standard is applicable to quick opening closure (hereinafter referred to as quick opening closure) with a design pressure less than or equal to 35MPa and a design temperature of -50°C~200°C for the onshore oil and gas industry.

## 2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 150.1~150.4 Pressure Vessels

GB/T 528 Rubber, Vulcanized or Thermoplastic - Determination of Tensile Stress-Strain Properties

GB/T 713 Steel Plates for Boilers and Pressure Vessels

GB/T 1047 Pipework Components - Definition and Selection of DN (Nominal Size)

GB/T 1048 Pipework components - Definition and Selection of PN (Nominal Pressure)

GB/T 1682 Rubber, Vulcanized - Determination of Low-temperature Brittleness - Single Test Piece Method

GB/T 3452.1 Fluid Power Systems - O-Rings - Part 1: Inside Diameters, Cross-Sections, Tolerances and Size Identification Code

GB/T 3452.3 Housing Dimensions for O-Ring Elastomer Seals in Hydraulic and Pneumatic Applications

GB/T 3512 Rubber, Vulcanized or Thermoplastic--Accelerated Ageing and Heat Resistance Tests - Air-Oven Method

Vessel

TSG Z6002 Examination Rules for Welding Operators of Special Equipment

TSG Z8001 Examination Rules for Non-Destructive Testing Inspectors of Special Equipment

### **3 Terms and Definitions**

For the purposes of this document, the following terms and definitions apply.

#### **3.1 Quick opening closure**

A mechanical device that is used on the circular port of a pressure pipeline or pressure vessel and can be quickly opened or closed. It consists of a cylinder flange, head cover, hook ring or clamp, sealing ring, safety interlocking device, opening and closing mechanism, rotating arm and short section (when necessary), etc.

#### **3.2 Quick opening closure for jaw-type (YQ-type)**

A quick opening closure that realizes quick opening or closing by disengaging or meshing between the hook ring and the teeth on the head cover. Jaw-type quick-opening closure is divided into integral type (when the hook ring and cylinder flange are made into one body) and split type (the structure is shown in Figure 1).

#### **3.3 Quick opening closure for clip-type (KG-type)**

A quick-opening closure that realizes quick opening or closing by loosening or tightening the clamp (the structure is shown in Figure 2).

#### **3.4 Quick opening closure for faucet-type (CK-type)**

A quick-opening closure that realizes quick opening or closing by intermittent single-head or multi-head thread rotation between the cylinder flange and the head cover (the structure is shown in Figure 3).

#### **3.5 Quick opening closure for ring-type (YH-type)**

A quick opening closure between the cylinder flange and the head cover through the expansion or tightening of the lock ring mainly to withstand the compressive stress to achieve quick closing or opening (the structure is shown in Figure 4).

### **4 Basic Provisions**

#### **4.1**

The nominal diameter of the quick opening closure shall comply with the provisions of GB/T 1047. When the nominal diameter is greater than 700mm, it should be selected in integer

multiples of 100mm; the nominal pressure shall comply with the provisions of GB/T 1048.

#### **4.2 In addition to meeting the strength, sealing performance and corrosion resistance**

required by the working conditions, the quick opening closure shall also be opened and closed flexibly and conveniently.

4.3 The quick opening closure shall be equipped with safety interlocking devices and warning signs shall be installed in appropriate positions, which shall meet the following requirements:

a) When the quick opening closure reaches the predetermined closing position and the safety interlock device is in place, the equipment can only operate at a boost.

b) When the internal pressure of the equipment is completely released and the safety interlock device is disengaged, the quick opening closure can be opened.

4.4 The inner diameter of the cylinder flange of the quick opening closure shall be consistent with the inner diameter of the connected cylinder.

4.5 The seal of the quick opening closure shall have good sealing performance during the service life.

4.6 The design service life of the quick opening closure shall be no less than the design service life of the belonging equipment.

4.7 The quick opening closure shall be equipped with an operating hand wheel or a special wrench to ensure flexible and convenient opening and closing.

#### **4.8 The design, manufacture, inspection and acceptance of the quick opening closure**

shall also meet the relevant requirements of the equipment design documents.

4.9 The introduced quick opening closure shall meet the requirements of TSG 21 and this Standard.

### **5.1 Basic structure**

#### **5.1.1**

The schematic diagram for the structure of quick opening closure for jaw-type is shown in Figure 1.

b) When the design temperature is lower than -20 °C, the forging grade shall be no lower than Class III.

c) When the working medium is extremely highly hazardous, the forging grade shall be no