

ICS 77.100
CCS H11

SN

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

SN/T 3709-2013

**Determination of tin coating mass for tinplate.
Spectrophotometric method
(English Translation)**

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed and approved by the National Certification and Accreditation Administration Committee.

The drafting unit of this standard. Tianjin Entry - Exit Inspection and Quarantine Bureau of the People's Republic of China.

1 Scope

This standard specifies the tinplate tin plating quantity determination method.

This standard is applicable to the determination of the tinplate, the measurement range.
1g/m² ~ 25g/m²

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 2520 cold - rolled electroplated tin steel sheet and strip GB/T 6379.5 Accuracy of measurement methods and results (accuracy and precision) - Part 5. Determination of standard measurement methods Precision an alternative to the degree GB/T 6682 Analytical laboratory water specifications and test methods Representation and Judgment of the Rule and Limit Value of GB/T 8170 Numbers

3 Method summary

The tin surface of the sample surface is dissolved in hydrochloric acid solution, under the protection of ethanol solution, tin and pectin reagent to form a stable yellow network the absorbance of the iron element was measured at a specific wavelength of 450 nm using the

interference of thiourea to mask the iron element.

4 Reagent

Unless otherwise stated, the reagents used are analytical reagents and the water is a secondary water complying with GB/T 6682.

4.1

Acetone.

4.2

anhydrous ethanol.

4.3

Ethanol (95%).

4.4

Cellulose Paint. Cellulose paint that is easy to dry in the air.

4.5

Hydrochloric acid ($\rho = 1.19 \text{ g/mL}$).

4.6

Hydrochloric acid (3 1).

4.7

Hydrochloric acid (1 4).

4.8

thiourea solution (5%).

4.9

pectin-ethanol solution (0.04%), weighed 0.4g of pectin, dissolved in 1L ethanol (4.3).

4.10

tin standard solution (0.5000mg/mL, 20% hydrochloric acid medium). commercially available hydrochloric acid medium tin standard solution or according to the following methods. Said Take 0.5g metal tin (99.99%), accurate to 0.0001g, placed in 250mL beaker, cover the dish, along the cup wall by adding 100mL hydrochloric acid (4.5), dissolved by heating. Cooling, transferred to 1000mL volumetric flask, add 100mL hydrochloric acid (4.5) diluted to the mark, shake. In this solution the tin content is 0.5000 mg/mL.