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

GB/T 13825-2008

Replacing GB/T 13825-1992

**Metallic coatings -- Hot dip galvanized coatings on ferrous
materials -- Gravimetric determination of the mass per unit area**

金属覆盖层 黑色金属材料热镀锌层 单位面积质量称量法

(English Translation)

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Foreword

This standard is identical with ISO 1460:1992 "Metallic coatings on ferrous materials - hot zinc coating mass per unit area weighing method" (In English).

This standard is based on ISO 1460:1992 draft translation, this corresponds to standard ISO 1460:1992, made the following editorial changes.

- According to the existing national standard diet overlay series, plus the name of the former standard "metallic coatings";
- Canceled international standards foreword, preface increased our standards;
- Use the "standard" instead of "this International Standard." this standard replaces GB/T 13825-1992 "quality metal cover layer of hot dip galvanized coatings on ferrous materials - Determination of weighing method." this standard compared with GB/T 13825-1992, the main changes are as follows.
- According to the ISO 1460 instructions revised measurement procedure described;
- This standard is adopted ISO 1460:1992 Measurement Symbols used;
- According to ISO 1460:1992 provisions of Chapter 6 used internationally accepted unit mass formula;
- According to ISO 1460:1992 regulations, amended Chapter 7 of the test report and added footnote 1);
- According to ISO 1460:1992 regulations, complementing the repetition rate of 6.2 requirements.

The standard proposed by China Machinery Industry Federation.

This standard layer Standardization Technical Committee (SAC/TC57) administered by the National Metal and non-metal cover.

This standard was drafted. Beijing Yongtai and metal anti-corrosion Technology Co., Ltd., Ma On Shan Ding Tai Rare Earth New Materials Co., Ltd., Wuhan Materials Protection Institute.

1 Scope

This standard specifies a method for determining the quality of the hot dip galvanized coatings on ferrous materials per unit area.

This standard requires accurate calculation of the surface area of the sample. Therefore, this standard applies to the sample surface area and easily determinable. If the specimen is heavy can not be in accordance with this standard requires the implementation of Chapter 5, the mass of hot-dip galvanizing layer should use other methods.

Principle 2

A sample of known surface area immersed in corrosion resistance in acidic solution, the quality of the coating by weighing before and after the dissolution of the sample, determine the quality of the sample Loss, calculated according to the mass loss of the sample on the sample unit area of hot-dip galvanizing layer quality.

3 Stripping solution

3.5g of hexamethylenetetramine dissolved in 500mL of concentrated hydrochloric acid ($\rho = 1.19\text{g/mL}$) and diluted with distilled water to the solution 1000mL.

4 Sampling

Sampling methods should negotiate supply and demand sides.

5 Measuring program

When necessary, the sample should be used which does not attack galvanized layer of organic solvent degreasing, and then dried.

Before stripping, weighing samples, to predict accurately precision coating quality range of 1%.

Stripping solution in an amount of sample surface per square centimeter less than 10mL. Specimens shall be completely immersed in retreat at room temperature plating solution, plating Remove the layer is completely dissolved. That is the end of the coating process to dissolve gently unchanged when hydrogen evolution. Remove the sample is placed in flowing water rinse Wash any loose material, if necessary, use a soft brush attachment to the surface. Then immersed in absolute ethanol, and dried quickly removed, weighed and then to the front Said coating quality measurement accuracy.

After weighing, the exposed surface area to be measured A, measurement accuracy accurate to 1% range.

Calculate the coating quality and thickness of 6

6.1 Formula

Mass per unit area ρ_A hot dip galvanizing unit in g/m^2 represents, according to equation (1).

$\rho_A =$

$\frac{M_2 - M_1}{A} \times 10^3$

Where.

M_1 --- sample quality retreat before plating units of grams (g);

M_2 --- sample mass m_1 retreat after plating, in grams (g);

A --- exposed area of the sample, in units of square millimeters (mm^2).

Note: The unit steel galvanized layer unit in the area of $\rho_A \text{ g/m}^2$ represents, should be calculated using the following formula.

$\rho_A =$

$\frac{M_2 - M_1}{A} \times 10^3$

$M_2 - M_1$

M_2

GB/T 13825-2008/ISO 1460:1992