

ICS 77.040.10

CCS H 22



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

GB/T 29515-2013

**Cold rolled steel sheet for enameling -- Fish-scaling sensitivity
test -- Hydrogen permeation method**

Issued on: May 9, 2013

Implemented on: February 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

Table of Contents

- Foreword
- Introduction
- 1 Scope
- 3 Chemicals
- 4 test device and the electrolyte
- 4.1 test device

Foreword

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

The standard proposed by China Iron and Steel Association.

This standard by the National Steel Standardization Technical Committee (SAC/TC183) centralized.

This standard is drafted by. Wuhan Iron and Steel (Group) Company.

Introduction

Enameling cold-rolled steel scales blast susceptibility testing method generally comprises hydrogen permeation and enamelling law, this standard uses a hydrogen permeation measurement scales steel

Explosion sensitivity.

Enameling cold-rolled steel scales explosion sensitivity test

Hydrogen permeation method

1 Scope

This standard specifies the dual cell assay enameling cold-rolled steel scales explosive hydrogen permeation test principle sensitive method, test equipment and electronic

Hydrolyzate, samples, test procedures, and test results of the calculation reports.

This standard applies to a thickness of 0.3mm ~ 3.0mm enamel sensitivity was measured using cold-rolled steel scales explosion.

Principle 2

When charging hydrogen electrolysis, hydrogen ions (H) to reach the surface of the specimen as a cathode, to become a hydrogen atom into the sample, the sample surface to the other diffusion time,

Re is a hydrogen atom electrolytically oxidized into hydrogen ions (H), by detecting the anode current of hydrogen oxidation process, to assess the hydrogen atoms in the sample

Diffusion process. When the time required for the diffusion of hydrogen called stable hydrogen permeation time t_b , t_b longer, anti-enamel scale burst performance, the better. by t_b defined sample anti-enamel scale explosion sensitivity TH.

3 Chemicals

Chemicals used in the test were of analytical grade, test water is deionized water.

4.1 test device

Test device shown in Figure 1, the specimen is clamped between two cells A and B are not mutually connected. A termination galvanostat, B termination constant potential

, Automatic recording current variations are oxidized after permeation through the data collection system.