

ICS 77.040.99

H 24



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

中华人民共和国国家标准

GB/T 3246.2-2012

Replace GB/T 3246.2-2000

**Inspection method for structure of wrought
aluminum and aluminum alloy products - Part 2:
Inspection method for macrostructure**

变形铝及铝合金制品组织检验方法

第 2 部分：低倍组织检验方法

Issued on December 31, 2012

Implemented on October 01, 2013

**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**

Contents

Foreword.....	1
1 Scope.....	3
2 Test solution.....	3
3 Test piece preparation	3
4 Organizational inspection	9
5 Classification of defects	17
6 Test report.....	39

Foreword

GB/T3246 *Inspection Method for Structure of Wrought Aluminum and Aluminum Alloy Products* is divided into two parts:

- Part 1: Inspection method for microstructure;
- Part 2: Inspection method for macrostructure.

This is part 2 of GB/T3246.

This part is drafted in accordance with provisions in GB/T1.1—2009.

This part replaces GB/T3246.2—2000 *Inspection Method for Macrostructure of Wrought Aluminum and Aluminum Alloy Products*.

Compared with GB/T3246.2—2000, main changes of this part are as follows:

- Increasing schematic diagram of cross section of ingot oxidation film test piece;
- Amending macroscopic test piece taking and preparation methods of plate and strip material;
- Increasing etching requirements of 8××× alloy;
- Increasing requirements for etching degree;
- Supplementing typical pictures of place oxidation film fracture structure, loose and non-metallic inclusion microstructure and feathery crystal fracture structure.

This part uses redraft method and refers to ASTM E3—2011 “Regulations on Metallographic Specimen Preparation” and ASTM E340—2010(2006) “Test Method for Metal and Alloy Macroetching”; consistency with ASTM E3—2011 and ASTM E340—2010(2006) is not equivalent.

This part is under the jurisdiction of National Standardization Technical Committee of Nonferrous Metals (SAC/TC243).

Drafting unit of this part: Northeast Light Alloy Co., Ltd.

Drafting units of this part: Southwest Aluminum (Group) Co., Ltd., General Research Institute for Nonferrous Metals, Shandong Yankkuang Alloy Co., Ltd., Liaoning Zhongwang Group Co., Ltd., CHALCO Northwest Aluminum Processing Branch Company, CHALCO Ruimin Aluminum Plate and Strip Co., Ltd., Nanshan Aluminum Co., Ltd., Guangdong Xingfa Aluminum Co., Ltd., Zhenjiang Dingsheng Aluminum Co., Ltd.

Main drafters of this part: Wang Meiqi, Hou Yi, Xie Yancui, Wen Qinghong, Wei Yanqin, Liu Shufeng, Chen Lichao, Guo Hong, Zhou Xia, Lan Zheng, Xia Xiuqin, Dong Zefang, Wang Qi.

Previous versions that this part replace are as follows:

——GB/T 3246.2—2000;

——GB/T 3246—1982.

Inspection Method for Structure of Wrought Aluminum and Aluminum Alloy Products

Part 2: Inspection Method for Macrostructure

1 Scope

This part of GB/T3246 specifies test solution for microstructure of aluminum and aluminum alloy ingot (or rough ingot), deformation aluminum and aluminum alloy plate, strip, foil, tube, bar, profile, wire and forging (hereinafter referred to as processed products), structure inspection, defects classification, test report, etc. This part applies to inspection for macrostructure of aluminum and aluminum alloy ingot (or rough ingot) and processed products.

2 Test solution

2.1 Particularly strong mixed acid solution: mix volumes of hydrofluoric acid (ρ 1.15g/mL), nitric acid (ρ 1.40g/mL) and hydrochloric acid (ρ 1.19g/mL) based on (1+5+15) and blend.

2.2 Strong mixed acid solution: mix volumes of hydrofluoric acid (ρ 1.15g/mL), nitric acid (ρ 1.40g/mL), hydrochloric acid (ρ 1.19g/mL) and water based on (1+5+15+42) and blend.

2.3 Sodium hydroxide solution (150g/L~250g/L).

2.4 Mixed acid solution with high concentration: mix volumes of hydrofluoric acid (ρ 1.15g/mL), nitric acid (ρ 1.40g/mL), hydrochloric acid (ρ 1.19g/mL) and water based on (2+1+1+76) and blend.

2.5 Nitric acid solution (1+4)~nitric acid solution (1+3).

2.6 Sodium hydroxide solution (80g/L~120g/L).

3 Test piece preparation

3.1 Take rough specimen according to relevant standards or technical agreement and provisions in table 1.

完整版本请在线下单/Order Checks Online for Full version

联系我们/or Contact:

TEL: 400-678-1309

QQ: 19315219 | Skype: Lancarver

Email : info@lancarver.com

<http://www.lancarver.com>

线下付款方式 :

I. 对公账户 :

单位名称 : 北京文心雕语翻译有限公司

开户行 : 中国工商银行北京学清路支行

账 号 : 0200 1486 0900 0006 131

II. 支付宝账户 : info@lancarver.com

III. Paypal: info@lancarver.com

注: 付款成功后, 请预留电邮, 完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱, 如需索取发票, 下单成功后的三个工作日内安排开具并寄出, 预祝合作愉快!

NOTE All documents on the store are in electronic Adobe Acrobat PDF format, there is not sell or ship documents in hard copy. Mail the order and payment information to info@lancarver.com, you will shortly receive an e-mail confirming your order.

