



Brinell Hardness Laboratory Test Report
布氏硬度试验报告

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Type: TLM-YR-50x10 (Soft)
产品规格: TLM-YR-50x10 (软态)

Test Date: Aug.5 2014
测试日期: 2014.8.5

Test by: Liu Hongchang
测试人: 刘洪昌

Approved by: Lan Zhanjun
批准人: 兰占军



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1. Brinell hardness (Reference)

布氏硬度（参考）

1) Test Objective: Through hardness tester tests copper layer hardness and aluminum core hardness of the copper cladding aluminum busbar.

试验目的：通过硬度计测试铜铝复合排的铜层硬度、铝芯硬度。

2) Test Apparatus: Brinell Hardness Tester (HBS-62.5)

测试设备：布氏硬度计（HBS-62.5）



图 1 布氏硬度计（HBS-62.5）

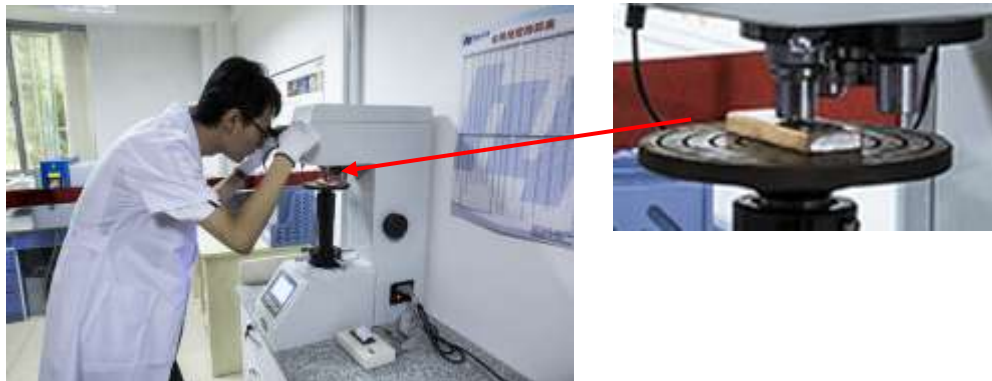
Fig.1 Brinell Hardness Tester (HBS-62.5)

3) Test Method: Brinell hardness test should be carried out according to the provisions of GB/T 231.1. Sample size 50x10x60mm, load 62.5kgf, diameter 2.5mm hard alloy hardness penetrator, load time 30s, as shown in Fig.2.

测试方法：布氏硬度测试方法按 GB/T 231.1 的规定进行。样品尺寸 50x10x60mm，采用配重 62.5kgf，直径 2.5mm 硬质合金压头，加载 30s，进行测试，如图 2 所示。

4) Test Picture:

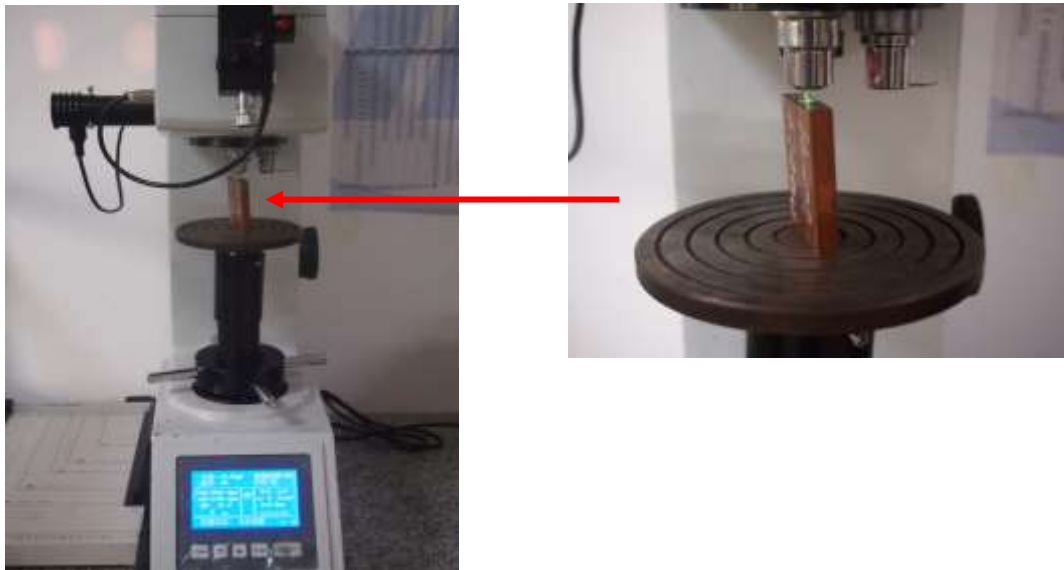
测试图片：



Hardness test of copper cladding layer
测试铜包覆层硬度



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Hardness test of aluminum core
测试铝芯硬度

Fig.2 Hardness testing process
图 2 硬度测试过程

5) Test Data:

测试数据:

Sample size 样品尺寸/mm	Penetrator diameter 压头直径/mm	Lode time 加载时间/s	Copper layer HB 铜层布氏硬度/HB	Aluminum core HB 铝芯布氏硬度/HB
50x10x60	2.5	30	55.8	21.4

6) **Conclusion:** Measured copper layer hardness and aluminum core hardness are in accordance with indicators of the material mechanics performance of the copper cladding aluminum busbar.

结论: 测得的铜层硬度及铝芯硬度符合复合排的材料力学性能指标。