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

**GB/T 25117.2-2010**

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**Railway applications -- Rolling stock -- Combined testing -- Part  
2: Combined testing of chopper-fed direct current traction  
motors and their control system**

轨道交通 机车车辆 组合试验 第2部分：斩波器供电的直流牵引电动机及其控制系  
统的组合试验

**(English Translation)**

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## Foreword

GB/T 25117 "rail rolling stock composition test" consists of the following three parts.

--- Part 1. Combined testing of inverter - fed alternating current motors and their control system;

- Part 2. chopper powered DC traction motor combination test and its control system;
- Part 3. Test Set indirect converter fed alternating current motors and their control system.

This section is GB/T Part of 225,117.

This part redrafted modification method using IEC 61377-2:2002 "rail rolling stock composition testing - Part 2.

Chopper DC traction power supply combination test motor and its control system "(in English). This section lists the reg number in Appendix A List of control clauses No. 2002. with IEC 61377-2.

This part of IEC 61377-2:2002 technical differences exist, these differences involve the terms of the margin with a single vertical line (-) it is marked. This part of IEC 61377-2:2002 technical differences and their reasons are as follows.

- Normative references IEC 60050-811, IEC 60349-1, IEC 60571, IEC 61287-1, IEC 61287-2 respectively for it should be amended to adopt national standards for the subject alternative;
- Reference GB/T 25117.1-2010, the combined 3.7 and 3.8 and 3.7;
- IEC 61377-2 no environmental conditions in compliance with this section to add a chapter, namely "4 environmental conditions";
- In the middle 7.6.6, IEC 61377-2 regulations interference test See IEC 61287-1:1995 is 2.4.6.23, read in this section "The test shall GB/T 25122.1-2010 4.2.8 conduct." for ease of use, this section also made the following editorial changes.
- "This International Standard" be replaced by "this section";
- Instead of using as a decimal comma ", ". ", ";
- Delete foreword international standards;
- To increase the numbers in Figure 3.4, the successor of the original drawing number is incremented;
- Increasing the exemplary voltage source combined system operating range in 7.6.2, making it easy to understand;
- The IEC 61377-2 6.7 in Table 1, as an individual, that is, "7.8 Test Project";
- Increase in Appendix A "section of this chapter and shall IEC 61377-2:2002 clauses control." this section in Appendix A, Appendix B is an informative annex.

This section proposed by the People's Republic of China Ministry of Railways.

This part of the National electric traction equipment and systems Standardization Technical Committee (SAC/TC278) centralized.

This part mainly drafted by. Zhuzhou CSR Times Electric Co., Ltd.

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## 1 Scope

GB/T 25117 in this section applies to the combination of a DC motor system, chopper and its control system constituted, its purpose is to provide.

--- Performance characteristics of the chopper, DC motors and related control system of electric drive system;

--- Verify the performance characteristics of these test methods.

In the traction drive system, by the presence of a chopper and DC motor system consisting of a combination of mechanical output of the system in combination with There is no control means between the chopper, since this combination system is not common, and therefore not considered in this section.

a) series excited DC motor combination system

b) a combination of separately-excited DC motor system

**NOTE:** smoothing reactors considered to be part of the chopper.

Figure 1 traction drive

GB/T 25123.1-2010 applicable to DC motor powered chopper, GB/T 25122.1-2010 for the power electronic converters Current, GB/T 25119-2010 suitable for electronic devices.