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Rolling stock — Protective provisions against electrical hazards

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard by Japan Association of Rolling Stock Industries (JARI) /Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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Rolling stock — Protective provisions against electrical hazards

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **IEC 61991** published in 2000, with some modifications of the technical contents such as addition of terms and definitions in response to the actual situation in Japan, deletion of tables regarding voltage bands applied only in specific European countries, and addition of a provision regarding railways of ungrounded rail system.

The portions with dotted underlines and Annex JA are the matters that are not given in the corresponding International Standard. A list of such modifications, along with their explanations, is given in Annex JB.

1 Scope

This Standard offers a set of rules that are applied in the design and manufacture of electrical installations and equipment to be used on rolling stock so as to protect the persons from electric shocks.

This Standard is applicable to vehicles of rail transport systems, road vehicles powered by an external supply (trolley buses), magnetic levitated vehicles and to the electrical equipment installed in these vehicles.

This Standard does not apply to

- mine railways in underground mines ;
- crane installations, moving platforms and similar transport systems on rails ;
- funicular railways ;
- temporary constructions.

Testing of vehicles against the requirements of this Standard is not included.

NOTE 1 For the relevant tests, see **JIS E 4041**.

NOTE 2 It is generally accepted that safety depends on human factors, based on the normal behaviour of the operators involved, as well as upon technical factors. For these reasons, this Standard, in several instances, leaves a choice to the contracting parties [e.g the user or the purchaser and the manufacturer (hereafter referred to as “contracting parties”)] between the alternatives which consist either in :

- a) the provision of operating rules, regulations and procedures in the instruction manual; or in
- b) the application of technical measures such as mechanical or elec-