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**RAILWAY INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

TB/T 1484.4-2010

**Specification for cables on board rolling stock - Part 4: Zero
halogen low smoke and flame retardant cables for
communication networks
(English Translation)**

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Foreword

This Standard is drafted according to the rules given in GB/T 1.1-2009.

This Standard replaces TB/T 1979-2003 "Ordering technical conditions of atmospheric corrosion resisting steel for railway rolling stock"; compared with TB/T 1979-2003, main technical changes are as follows.

- ADD the representation method of atmospheric corrosion resisting steel grades (see Clause 4);
- The naming of atmospheric corrosion resistant steel grades is changed from the naming by the main chemical composition in steel TO the naming by the lower yield limit of steel (see 5.1.1 of this Standard, 4.1.1 of 2003 version);
- ADD the high-strength atmospheric corrosion resisting steel (see Table 1);
- MERGE the cold-rolled 05CuPCrNi steel and cold-rolled 09CuPCrNi-A in the original standard (see Table 1);
- ADD the requirements for the control sample Q345B of corrosion resistance test (see Table 6);
- MODIFY the batch weight of atmospheric corrosion resisting steel (see 7.2 of this Standard, 6.3 of 2003 version);

- ADD the requirements for the corrosion resistance test frequency (see 7.2);
- ADD the comparison table of atmospheric corrosion resisting steel grades in new- and old-version standards (see Annex A).

This Standard is proposed by and under the jurisdiction of Institute of Standards and Metrology of Ministry of Railways.

Drafting organizations of this Standard. Institute of Standards and Metrology of Ministry of Railways, Institute of Metals and Chemistry of Institute of Intercalary Railway, Baoshan Iron and Steel Co., Ltd.

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The previous version of the standards replaced by this Standard are as follows.

- TB/T 1979-1987, TB/T 1979-2003.

Atmospheric corrosion resisting steel for railway
rolling stock

1 Scope

This Standard specifies the dimension, shape, weight and allowable deviation, representation method of steel grades, technical requirements, inspection methods, inspection rules, packaging, marking and quality certificates of atmospheric corrosion resisting steel for railway rolling stock.

This Standard applies hot-rolled and cold-rolled steel sheet, plate and strip and structural steel of atmospheric corrosion resisting steel for railway rolling stock.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 222 Permissible tolerances for chemical composition of steel products

GB/T 223 Methods for chemical analysis of iron, steel and alloy

GB/T 228.1 Metallic materials - Tensile testing - Part 1. Method of test at room

temperature

GB/T 229 Metallic materials - Charpy pendulum impact test method

GB/T 232 Metallic materials - Bend test

GB/T 247 General rule of package mark and certification for steel plates (sheets) and strips

GB/T 706 Hot rolled section steel

GB/T 708 Dimension shape weight and tolerance for cold-rolled steel plates and sheets

GB/T 709 Dimension, shape, weight and tolerances for hot-rolled steel plates and sheets

GB/T 2101 General requirement of acceptance packaging marking and certification for section steel

GB/T 2975 Steel and steel products - Location and preparation of test pieces for mechanical testing

GB/T 4336 Carbon and low-alloy steel - Determination of multi-element contents - Spark discharge atomic emission spectrometric method (routine method)

GB/T 6394 Metal - Methods for estimating the average grain size

GB/T 10561 Steel - Determination of content of nonmetallic inclusions - Micrographic method using standards diagrams

GB/T 17505 Steel and steel products - General technical delivery requirements

GB/T 20066 Steel and iron - Sampling and preparation of samples for the determination of chemical composition

GB/T 20125 Low-alloy steel - Determination of multi-element contents - Inductively coupled plasma atomic emission spectrometric method

TB/T 2375 Test method for cyclic wetting corrosion of weathering steels for railway applications

3.1 The dimension, shape, weight and allowable deviation of steel plates, sheets and

strips shall comply with the relevant specifications of GB/T 709, GB/T 708.

3.2 The dimension, shape, weight and allowable deviation of hot-rolled steels shall

comply with the relevant specifications of GB/T 706; the dimension, shape, weight and allowable deviation of cold-formed steels shall comply with the corresponding product specifications.

4 Representation method of steel grades

The steel grade consists of the lower yield strength code, lower yield strength limit value, atmospheric corrosion resisting steel code, delivery state code and steel category, the specific structure is as follows.

0.55 3.50 0.65

Q400NQR1 ≤ 0.12 ≤ 0.75 ≤ 1.10 ≤ 0.025 ≤ 0.008 0.20 ~0.55 -

0.30 ~

1.25

0.12 ~

0.65 -

Q450NQR1 ≤ 0.12 ≤ 0.75 ≤ 1.50 ≤ 0.025 ≤ 0.008 0.20 ~0.55 -

0.30 ~

1.25

0.12 ~

0.65 -

Q450EWR1 ≤ 0.07 ≤ 0.50 ≤ 1.50 ≤ 0.020 ≤ 0.010 0.30 ~0.55 -

3.00 ~

5.50

0.10 ~

0.65 -