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

GB/T 19402-2003

Replacing GB/T 19402-2003

**Safety requirements for passengers funiculars
(English Translation)**

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Foreword

The standard 3.1 ~ ~ 3.6.7,3.7,3.8,4.1,4.2,4.3.1,4.3.2 3.5,3.6.1, Chapter 5, Chapter 6, 7.1, 7.2, 7.4,7.5,7.6,8.1,8.2,8.5,8.6 and Appendix B mandatory, the rest are recommended.

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 19402-2003 "passenger ropeway ground technical specifications." this standard and GB/T 19402-2003 compared to the main changes are as follows.

--- Name from "ground passenger cable car technical specifications" to "ground tramway passenger safety requirements";

--- Delete terms and definitions (see the 2003 edition of Chapter 3);

--- Modify the slope of the line difference allowable value, modified by $\pm 18\%$ to $\pm 20\%$ (see 312, 2003 version 4.1.1.);

--- Increased the normal acceleration requirements (see 3.1.5);

--- Modify the boundaries of the scope of requirements (see 32, 2003 edition of 4.1.7.);

- Modify the maximum operating speed, modified by 10m/s to 12m/s (see 34, 2003 version 4.2.1.);
- Increased or stop by the station house when the maximum speed requirements (see 3.4.3);
- Modify the effective area of the car by $0.6 \times 0.16 \times n$ revised to $0.6 \times 0.20 \times n$ (see 35, 2003 version 4.3.1.);
- Modified payload and route calculation rope (see 362, 2003 version 5.1.1.);
- Modify the dynamic load factor by 1.2 revised to 1.3 (see 367, 2003 version 5.1.5.);
- Wind loads has been modified by the wind pressure 200Pa modify runtime 0.25kN/m^2 , wind pressure 1200Pa modify decommissioning 0.8kN/m^2 (see 3661, 2003 version 5.1.4.1...);
- Increased its relief requirements (see 3.7);
- Added to run automatically lifts requirements (see 3.8);
- Revised Promise wound pulling cable splicing requirements (see 4.1 3, 2003 edition of 5.2.2)
- Modified tensile wire rope safety factor of 5 from 6 to modify (see 421, 2003 Edition 5.2.3.1...);
- Increase the tension should be included in the calculation of the maximum working force value (see 4.2.3);
- Increased the station guide wheel diameter rope diameter ratio requirements (see 4.2.5.6);
- Increasing the fixed rope and connecting the basic requirements (see 4.3.1);
- Increased traction Shengka cable reel on the relevant provisions (see 4.3.3);
- Increasing the pouring sleeve relevant provisions (see 4.3.4);
- Increasing the relevant provisions of the splint Shengka (see 4.3.5);
- Increased splint Shengka sliding force calculation method (see Appendix A);
- Increasing the clamping sleeve with the relevant provisions (see 4.3.6);
- Modify the wire rope scrap provisions (see 44, 2003 edition of 5.2.3.3.);
- Transfer of power on the drive wheels increases the inertial force checking the relevant requirements, modify the check slip force way (see 5.3.4, 2003 version 5.4.3);
- Increasing the allowable coefficient of friction wheels relevant provisions (see 3.6.4.1);
- Increased requirements of the relevant provisions of the brake (see 5.6);

- Information about the requirements of the sheave calculation (see 5.7.2);
- Does not modify the balance ropes limits (see 511, 2003 edition of 6.6.1.);
- Modify the elongation value rope tensioning stroke calculation by 5 per mille revised to 3 per mille (see 5114, 2003, edition of 6.6.4.1.);
- Information about the power supply requirements of the steady-state voltage, frequency steady-state value (see 6.1.3);
- Increased installation and maintenance requirements related to the switch (see 6.1.8);
- Increased install the emergency stop button on the requirements (see 6.1.9);
- Increasing the master boot actuator requirements (see 6.2.2);
- Increasing the line safety circuit of the power supply voltage requirements (see 6.4.2);
- Increasing the delay trigger emergency stop requirements (see 6.4.3);
- Increased requirements for signal transmission between two stations when the failure (see 6.5.3);
- Increasing the relevant provisions of the test (see 6.6);
- Increased lightning safety requirements (see 6.8.7,6.8.8);
- Increasing the bridge to allow deformation of the provisions (see 7.3.7);
- Increasing the provision of bridge and foundation design working life (see 7.1.3);
- Increased and steel bridge fatigue calculation method (see 7.3.1);
- Increased the requirements for the vehicle is calculated (see 8.2.2,8.2.3);
- Modify the collision force calculation requirements (see 821, 2003 edition of 9.2.2.);
- Increased rail brake is not provided with the relevant provisions (see 8.6.1);
- Increased case load calculation formula under unfavorable check stability (see 8.2.5.1);
- Increasing the provision of rail brake test (see 8.6.9);
- Modify the automatic effect of the rail brake overspeed value, from 30% to 25% modification (see 862, 2003 version 9.5.2.);
- Increased the installation and commissioning of safety requirements (see Chapter 10, Chapter 11);
- Increasing the daily inspection, monthly inspection, annual inspection security requirements of content (see 12.1.3,12.2.1,12.2.2);
- Adds tramway maintenance-free rail brake safety requirements (see 12.2.3).

This standard by the National Standardization Technical Committee Ropeway and recreational facilities (SAC/TC250) and focal points.

This standard was drafted. Beijing Materials Handling Design and Research Institute.

1 Scope

This standard specifies the safety requirements for passenger ground cable car design, manufacture, installation, operation and other aspects.

This standard applies to commercial passenger ground lifts.

This standard does not apply to non-profit-ground commuter cable car lifts and docks, mines, underground professional use.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 229 metal Charpy pendulum impact test method GB/T 1031 Geometrical product specifications (GPS) Surface texture Profile method Surface roughness parameters and their values GB/T 3480 involute cylindrical gear carrying capacity calculation methods GB 3805-2008 extra low voltage (ELV) limits GB 5226.1-2008 Safety of machinery - Electrical equipment - Part I. General technical conditions GB 8918 important uses rope GB/T 9075 cableway wire rope inspection and scrap specification GB 12352 Safety rules for aerial tramway GB 50007 Code for design of building foundation GB 50009 building structural load specifications GB 50010 Design of Concrete Structures Steel structure design specification GB 50017-2003 GB 50061 66kV and below overhead power line design specifications GB 50231 mechanical equipment installation construction and acceptance of universal norms DL/T 5161.1 ~ 5161.17 electrical equipment installation engineering quality inspection and assessment procedures JB/T 4730 Pressure Equipment NDT

3.1 Line Selection

3.1.1

Select the line, you should consider.

--- Local climate and geographical conditions, the cable car through the roads and buildings across facilities and emergency requirements;

--- Avoid endangering the safety of the tramway has built in the region avalanches, landslides,, tsunamis, floods, etc., approved by the competent authorities, to take when precautions exception;