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

**中华人民共和国国家标准**

**GB 12352-2007**

Replace GB12352-1990, GB/T 13676~13678-1992

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**Safety Code for Passengers Aerial Ropeways**

**客运架空索道安全规范**

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China**

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## Foreword

The standard chapter 1, chapter 2, as well as 3.1.3.1, 3.1.3.3, 3.7.1.2 of chapter 3, 4.1.4 of chapter 4, 5.1.3 of chapter 5, chapter 6, 7.1.5, 7.1.7, and 7.2.6 of chapter 7, 8.2.1, 8.5.5 and 8.7.4 of chapter 8, 9.1.3, 9.5.3, 9.8.2~9.8.4 of chapter 9, 10.1.4, 10.1.6, 10.2.3, 11.3.1.2 of chapter 11, and chapter 12 are recommended, and the remaining is compulsory standards.

The standard replaces GB12352-1990 *Safety Code for Passengers Aerial Ropeways*, GB/T 13676-1992 *Design Code for Bi-wiring Reciprocating-type Passengers Aerial Ropeways*, GB/T 13677-1992 *Design Code for Mongline Fixing Rope Clip Passengers Aerial Ropeways* and GB/T 13678-1992 *Design Code for Mongline Detachable Grip Passengers Aerial Ropeways*.

Comparing with the standards: GB12352-1990, GB/T 13676-1992, GB/T 13677-1992, and GB/T 13678-1992, main changes in this standard are as follows:

---Integrated relevant contents of GB12352-1990, GB/T 13676-1992, GB/T 13677-1992, and GB/T 13678-1992, and respectively concluded them into corresponding sections and modified them;

--Increased the requirements to length of span (see 3.1.3);

--Modified allowable deviation for the ropeway's spacing (see 3.1.5);

--Modified the allowable maximum height from the ground (see 3.1.7);

--Modified the maximum operation speed of the carriers on the routes and in the station (see 3.2);

--Modified available area and allowable seating capacity of the compartment (see 3.4);

--For the safety of steel wire rope on supporting saddles and holding (pressing) cable pulley, increased the safety clauses preventing detaching (see 3.5.1, 3.5.2);

--Modified effective loads in calculations of routes and steel wire ropes (see 3.6.1.2);

--Increased the provisions to dynamic acting force (see 3.6.2);

--Increased the provisions to friction factor (see 3.6.3);

--Modified the wind load (see 3.6.4);

--Increased the calculation provisions to snow load and ice load (see 3.6.5);

- Increased the requirements for vertical rescue and horizontal rescue (see 3.7.2, 3.7.3);
- Increased the requirements for quality guarantee of the equipment (see 3.8);
- Modified tensile safety factors of the steel wire rope, and increased the provisions for tensile safety factors of rescue cable, signal cable and anchor cable (see 4.2.1);
- Modified the relationships between the transverse load and wheel pressure (see 4.2.2);
- Increased the requirements for the ratio of wheel diameter of the rescue cable and diameter of the cable (see 4.2.3);
- Increased the provisions for scrapping of the steel wire rope (see 4.5);
- For transmission of the force on driving wheel, increased relevant requirements for checking the inertia force, and modified the mode for checking the skid-resistance force (see 5.1.5);
- Increased relevant requirements for the design safety factors on cable wheel, axle, and tensile unit etc, as well as the structures (see 5.2~5.4);
- Increased the most basic safety requirements for the tripper, locking rail, acceleration unit and deceleration unit, stopper, open-close door unit, position indicator, buffer, and cable-supporting equipment etc.(see 5.5~5.12);
- Increased the safety requirements for installation of loading belt on station-building passageway and loading area (see 6.1.9, 6.2.2);
- Increased the provisions of allowable deformation on top of the support (see 7.1.5);
- Increased the provisions of designed working life for the support and foundation (see 7.1.7);
- Increased the requirements for structures of holding (pressing) cable pulley unit (see 7.2.3);
- Increased the requirements that shall be considered for structural design and calculation of the service platform (see 7.2.6);
- Increased the calculation requirements to the carrier (see 8.2.1, 8.2.2);
- Increased relevant provisions that the reciprocating-type passengers ropeways are not equipped with passenger car brake (see 8.5.1);
- Modified the requirements for braking force of the passenger car brake (see 8.5.4);

--Increased the structural requirements for the cabin-lift, compartment doors, hanging bracket and hanging seats (see 8.6~8.10);

--Increased the requirements for power's voltage and frequency (see 9.1.3);

--Increased the installation requirements of service switch (safety switch) (see 9.1.8);

--Increased the most basic safety requirements for electrical dragging unit and control unit (see 9.2.9.3);

--Increased the requirements for color selection of operation and indication signals (see 9.5.3);

--Increased the requirements for artificial test (see 9.6.1);

--Increased the safety requirements for lightning protection (see 9.8.2~9.8.4);

--Increased the safety requirements for installation and commissioning (see chapter 10, 11);

--Increased the content requirements for daily inspection, monthly inspection and annual inspection (see 12.2.3, 12.3.1, 12.3.2);

--Increased the requirements for inspection of the rope clip, reciprocating-type ropeway's maintenance non-passenger car brake, as well as the carrying-cable's deflection (see 12.3.3, 12.3.5 and 12.3.6);

--Increased aviation barrier marks, the contents for special prompts of hanging-seat cables (see 13.3, 13.4).

The standard was proposed by and shall be under the jurisdiction of the National Technical Committee for Standardization of Cables, Entertainment Machine and Recreation Facilities.

Drafting units of this standard: Beijing research institute for heavy lifting and transportation machinery, national safety supervision and inspection center for passenger aerial ropeways.

Main drafters of this standard: Zhang Haiqiao, Zhang Hong, Liu Xusheng, Liao Qin, Huang Pengzhi, Huang Yuefeng, Fan Junhong, Du Junming, Liu Jingben, Wang Xu, Li Gang, Wen Xinjie.

Issuing of previous versions replaced by this standard:

--GB 12352-1990;

--GB/T 13676-1992;

--GB/T 13677-1992;

--GB/T 13678-1992.



# Safety Code for Passengers Aerial Ropeways

## 1 Scope

This standard the most basic safety requirements for passengers aerial ropeways in design, manufacturing, installation, inspection, use and management etc.

This standard is applicable for reciprocating type passengers aerial ropeways and circulation passengers aerial ropeways.

This standard isn't applicable for freight cables, dragging cables and non-public passengers aerial ropeways, as well as the special commuting cables used for the mines, under the shaft.

## 2 Normative References

The clauses in the following documents become clauses of this standard through reference of this standard. For the dated documents referred here, all the subsequent modified forms (excluding the corrigendum) or revised versions are not applicable for this standard, while, we encourage whether various researches can use the latest versions of such documents by the agreements reached according to this standard. For the documents without being dated, their latest versions shall be applicable for this standard.

GB 146.2 the construction boundary for railways with standard rail spacing

GB 188 the classification and basic dimensions for the limit of 762mm rail-spacing locomotives and building approach limit

GB/T 352 sheathed wire rope

GB 8918 wire ropes with important purposes (GB8919-2006, ISO 3154:1988, Stranded wire ropes for mine hoisting-Technical delivery requirements, MOD)

GB 9075 inspection and scrapping specification for steel wire ropes used for aerial ropeways

GB 50007 basic design specifications for the construction foundation

GN 50009 loading specifications for the construction structures

GB 50010 design specifications for concrete structures

GB 50017 design specifications for steel structures

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