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

GB/T 19155-2017

Replacing GB 19155-2003

Temporarily installed suspended access equipment

高处作业吊篮

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 19155-2003 "High-altitude work basket", the main technical changes compared with GB/T 19155-2003 are as follows:

- a) Add the assumptions of this standard, etc. in the "Scope" (see Chapter 1);
- b) the terms "extraordinary suspension equipment", "qualified personnel" and "operator" have been added to "terms and definitions" (see 3.2);
- c) The following changes have been made to the type and main parameters (see Chapter 4). 1) Added the type of slide window cleaner; 2) The main parameters have been increased by "1500", "2000" and "3000"; 3) Added a typical platform icon; 4) The feature code adds "clamp type"
- d) the noise of the gondola is modified to 79dB(A) (see 5.3.3);
- e) modified the reliability classification of the basket (see 5.3.4);
- f) increased safety requirements (see 5.5);
- g) The original standard structural safety factor requirements, wind load design requirements, etc. are modified to. equipment structure, stability and mechanical design requirements, The following changes have been made to the original standard content (see Chapter 6). 1) Added an overview; 2) Increase the content of the allowable stress; 3) Increased the content of the design load and force; 4) Increase the content of the platform structure design load; 5) The calculation of the suspension device is added; 6) Added the content of the wire rope calculation;

- h) modified the contents of the suspension platform (see Chapter 7);
- i) modified the contents of the hoisting mechanism (see Chapter 8);
- j) modified the contents of the suspension mechanism (see Chapter 9);
- k) modified the contents of the electrical control system (see Chapter 10, Chapter 11);
- l) modified the content of the test method (see Chapter 12);
- m) modified the content of the inspection rules (see Chapter 13);

1 Scope

China's national standard for temporarily installed suspended access equipment - the powered cradle hung from a roof rig that carries workers up and down a facade during construction, painting, cladding and repair. It specifies the types and parameters, the technical requirements including the structure, the suspension rig, the hoist and safety lock, the wire ropes, the electrical and control system, the safety devices, the test methods, the inspection rules and the information for use. The word temporarily is what separates this from the permanent building maintenance unit of GB/T 19154, and it is the source of the hazard. A permanent unit is engineered into the building, commissioned once and maintained under a regime. A temporary cradle is brought to site by a contractor, assembled by that contractor's workers from components that may have come from different sources and different jobs, rigged on a parapet or a roof with counterweights whose adequacy nobody independently checks, used for a few weeks and then dismantled. It is among the most lethal pieces of equipment on a construction site, and almost every fatal accident traces to rigging, to counterweight, to a worn or wrongly reeved rope, or to a safety lock that had not been tested. The standard is written against exactly those failures. It sets the requirements for the suspension rig and its stability and anchorage, for the counterweight and its securing, for the hoist and for the independent safety lock that must arrest the platform on a slack or broken rope, for the wire ropes and their inspection and discard criteria, and for the overload, limit and emergency stop devices. And it sets the information for use, because the equipment is assembled by the people who will ride in it. Issued on 12 July 2017 and in force since 1 August 2018, it replaces GB 19155-2003.

This standard stipulates the terms and definitions, types and main parameters, general technical requirements, structure, and high-level work baskets (hereinafter referred to as "cradle"). Stability and mechanical design calculations, suspension platforms, hoisting mechanisms, suspensions, electrical systems and control systems, test methods, inspection rules, standards Zhi, random files, etc. This standard covers the relevant load regulations imposed by the basket on the building structure, and the safety requirements for the installation of the basket to the building and structure. This standard covers the significant hazards associated with the work of the basket. This standard describes appropriate techniques to eliminate or reduce significant risks. Technical measures. The

baskets covered by this standard and the degree of hazard involved are within the scope of this standard. This standard assumes the following conditions.

- a) Manufacturer/suppliers need to work with the buyer/employer under specific partial installation conditions and desired functions and requirements Negotiate
- b) a risk analysis has been carried out for each assembly part of the basket, and the rules are based on this assumption;
- c) The basic safety requirements for components of this standard are. - Designed according to all failure forms and calculation rules of current engineering practice; - Have reliable mechanical and electrical processing manufacturing capabilities and means; - Made of sufficient strength and appropriate materials; - No visual defects;
- d) not using hazardous materials such as asbestos;
- e) the basket maintains a good working condition;
- f) Any mechanically processed and manufactured according to this standard will not be damaged to the point of danger without being noticed degree;
- g) The working environment temperature range is $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$;
- h) The structure of the installation basket has sufficient strength to withstand the expected load. This standard applies to all types of baskets that are powered or manually driven by buildings or structures. This standard does not apply to.
 - a) harsh and special working conditions (such as harsh environmental conditions, corrosive environments, strong magnetic fields);
 - b) work under specific rules (eg in a explosive atmosphere, live working);
 - c) transporting personnel from one floor to another;
 - d) handling items that may cause danger (eg molten metal, acid, radioactive material, fragile items);
 - e) a platform suspended from the crane;

2 Normative references

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

GB/T 3811 crane design specification

GB/T 4208 enclosure protection grade (IP code)

GB 5144 tower crane safety regulations

GB 5226.1 Mechanical electrical safety machinery and electrical equipment - Part 1.
General technical conditions

GB 5226.2 Mechanical safety machinery and electrical equipment - Part 32. Technical
conditions for lifting machinery

GB/T 5972 crane wire rope maintenance, maintenance, inspection and scrapping

GB/T 8918 important purpose wire rope

GB/T 9969 General guidelines for the use of industrial products GB/T 13306 signage

GB/T 15706 Mechanical Safety Design General Risk Assessment and Risk Reduction

GB/T 16754 mechanical safety emergency stop design principle

GB/T 16855.1 Safety of mechanical safety systems - Part 1 . General rules

GB/T 16855.2 Safety related components for machinery safety control systems - Part 2

GB/T 19154-2017 window cleaning machine

4.3 Model

4.3.1 The hanging basket model consists of class, group, type code, characteristic code,
main parameter code, suspension platform structure layer and update variant code.

4.3.2 Example of tagging. Example 1. 500kg electric, single-layer climbing high-altitude
work basket with rated load capacity, marked as. High-altitude work basket ZLP500 GB/T
19155 Example 2. The first variant of the 800kg electric, double-height climbing
high-altitude work basket with rated load capacity, marked as. Height work basket
2ZLP800A GB/T 19155 Example 3. A 300kg manual, single-layer climb-up high-hanging
work basket with a rated load of 300kg, marked as. High-altitude work basket ZLSP300
GB/T 19155 Example 4. Pneumatic, single-layer climbing high-altitude work basket with a
rated load of 500 kg, marked as. ...