ICS 13.340.99
CCS C73

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 6095-2021

Replacing GB 6095-2009

Fall protection - Personal fall protection systems

坠落防护 安全带

Issued on: August 10, 2021 **Implemented on: September 1, 2022**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

1 Scope

GB 6095-2021 is the Chinese national standard on fall protection - personal fall protection systems, in the field of environment and health protection, safety. It carries no /T suffix,

which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 10 August 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 September 2022. Classification: ICS 13.340.99, CCS C73. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the classification and marking, technical requirements, test methods, inspection rules and identification, and information provided by the manufacturer of personal protection systems for working at height. This document applies to personal protection systems used when the sum of the user's weight and load is no more than 100 kg during operations at height. This document does not apply to personal protection systems used for sports and firefighting, etc.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 6096-2020 Fall Protection - Performance Test Methods for Fall Protection Systems

GB/T 8427 Textiles - Tests for Color Fastness - Color Fastness to Artificial Light: Xenon Arc Fading Lamp Test

GB/T 23268.1 Specifications for Protective Equipment for Sports - Part 1: Dynamic Mountaineering Ropes

GB/T 23469 Personal Fall Protection Equipment - Connectors

GB 23525 Safety Technical Criterion for Personal Board-type Sling Equipment for Suspending Work

GB/T 24537 Personal Fall Protection Equipment - Guided Type Fall Arrester Including a Flexible Anchor Line

GB/T 24538 Personal Fall Protection Equipment - Energy Absorbers

GB 24539-2021 Protective Clothing - Chemical Protective Clothing

GB 24542 Fall Protection - Guided Type Fall Arrester Including a Rigid Anchor Line

GB 24543 Personal Fall Protection Equipment - Lanyards

GB 24544 Fall Protection - Retractable Type Fall Arrester

GB 30862 Personal Fall Protection Equipment - Anchor Devices

GB/T 38230 Personal Fall Protection Equipment - Descender Devices

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 personal fall protection systems A system of individual fall protection equipment that secures operating personnels' positions during operations at height, climbing and suspension operations, prevents them from falling, or safely suspends them after a fall.

3.2 work positioning systems An individual fall protection system that uses ropes or belts wrapped around a fixed structure to bind the human body to the vicinity of a fixed structure to prevent the person from slipping and allow the operating personnels' both hands to perform other operations.

3.3 restraint systems Individual fall protection systems that restrain the range of movement of operating personnels to prevent them from reaching areas where a fall may occur.

3.4 fall arrest systems When an operating personnel falls, individual fall protection systems that will safely suspend the operating personnel through braking.

3.5 lanyard A rope or strap that connects the harnesses to the anchor in the personal protection systems. NOTE: lanyard generally serves to expand or restrain the wearer's range of movement and absorb the impact energy.

3.6 energy absorber A component connected in series between the harnesses and the anchor to absorb part of the impact energy and reduce the impact force when a fall occurs.

3.7 retractable type fall arrester A component connected in series between the harnesses and the anchor, equipped with a rope or belt that can be extended or retracted as the personnel moves, and can trigger a locking and braking effect due to speed changes when a fall occurs.

3.8 guided type fall arrester A component attached to the anchor line that triggers the braking action when falling.

3.9 harnesses A component that attaches the personal protection systems to the human body, and supports and controls the human body, and disperses the impact force when falling. NOTE: the harnesses are made of webbing, buckles and other metal components. There are generally full-body harnesses, single waist harnesses and half-body harnesses.

3.10 primary strap The webbing in the harnesses that directly bears the impact force.

3.11 secondary strap The webbing in the harnesses that does not directly bear the impact force.

3.12 deploy distance During the test, when the fall stops, the vertical distance from the test anchor to the lowest point of the torso test mass in the suspended state.

3.13 fall distance The maximum vertical distance from the starting point of the fall or the operating surface to the lowest point of the body that wears the personal protection systems.

4.2 Marking of Personal Fall Protection Systems

4.2.1 The marking of the personal fall protection systems consists of two parts: category of operations and additional functions of the personal fall protection systems:

---Category of operations of the personal fall protection systems: regional restriction is represented by the letter Q, work positioning is represented by the letter W, and fall arrest is represented by the letter Z.

---Additional functions of the personal fall protection systems: anti-static function is represented by the letter E, flame retardant function is represented by the letter F, rescue function is represented by the letter R, and chemical resistance function is represented by the letter C.

4.2.2 The marking of the personal fall protection systems shall be clearly indicated on the product identification in the form of Chinese characters or letters. EXAMPLE 1: the restraint systems indicated as "Q"; the personal fall protection systems that can be used for work positioning, fall arrest, and have flame retardant, rescue and chemical resistance functions are indicated as "W/Z-FRC". EXAMPLE 2: the restraint systems indicated as "regional restriction"; the personal fall protection systems that can be used for work positioning, fall arrest, and have flame retardant, rescue, and chemical resistance functions are indicated as "work positioning / fall arrest - flame retardant and chemical resistant".

5.1 Overall Structure of Personal Fall Protection Systems

5.1.1 Parts and components used in the personal fall protection systems shall be smooth and without sharp edges, and the parts in contact with the webbing shall have rounded corners.

5.1.2 Animal leather used in the personal fall protection systems shall not have seams.

5.1.3 The webbing in the personal fall protection systems shall be a whole piece, and there shall be no seams between the two attachment points of the same webbing.

5.1.4 When the personal fall protection systems are designed as an integral part of the work clothes, they shall not be enclosed in the lining.

5.1.5 The primary strap fastening buckles in the personal fall protection systems shall be secure and shall not accidentally open or cause damage to the webbing.