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

GB 21976.3-2012

Escape apparatus for building fire - Part 3: Escape ladder

建筑火灾逃生避难器材 第3部分：逃生梯

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Foreword

Chapter 5, Chapter 7 and

8.1 of this section are mandatory and the rest are recommended. GB 21976 "Building fire escape equipment" is divided into the following sections. - Part 1. with guidance; - Part 2. escape retarder; - Part 3. Escape ladder; - Part 4. escape chute; - Part 5. Emergency escape; - Part 6. escape rope; - Part 7. Filter - type fire - fighting self - help respirator; - Part 8. Chemical oxygen fire self - help respirator; This part is part 3 of GB 21976. This part is drafted in accordance with the rules given in GB/T 1.1-2009. This part is made by the Ministry of Public Security of the People's Republic of China. This part is owned by the National Fire Safety Standardization Technical Committee Fire Services Accessories Subcommittee (SAC/TC113/SC5). This part of the drafting unit. Ministry of Public Security Shanghai Fire Research Institute. This part of the main drafters. Li Baozhong, Wan Ming, Jin , Jiang Xudong, Han Xiang, Gu Wenjie, Li Jinghai. This part is the first release. Building fire escape equipment Part 3. Escape ladder

1 Scope

GB 21976.3-2012 is the Chinese national standard on escape apparatus for building fire - part 3: escape ladder, 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 5 November 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2013. Classification: ICS 13.220.10, CCS C85. 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 part of GB 21976 specifies the terms and definitions of escape ladder, classification and type, technical requirements, test methods, inspection rules and Logo, packaging, transportation and storage. This part applies to the construction of fire when the trapped personnel to escape the use of special fixed escape ladder and hanging escape ladder.

2 Normative reference documents

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

GB/T 191 packaging and storage icon General rules for the use of industrial products GB/T 9969

GB/T 10125 artificial atmosphere corrosion test salt spray test

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Fixed escape stairs fixture escape ladder The use of fixed frame and transmission chain pedal structure, construction fires rely on the user's own weight so that the pedal vertical drop escape ladder.

3.2 Suspension escape ladder pensile escape ladder The use of the top of the suspension and the edge of the staircase file structure, the construction of fire for the user to climb the climbing ladder.

3.3 Pedal tread Fixed escape ladder for the user foot of the cross members.

3.4 Transmission chain transmission chain Fixed escape ladder on both sides of the link to connect the components of the pedal.

3.5 Stapler stirrup Suspension escape ladder for the user foot of the cross members.

3.6 Side sider Suspension escape ladder on both sides of the link to connect the steps of the file.

3.7 Brace And a support member for keeping the suspension escape ladder at a distance from the wall.

3.8 Ladder width Escape ladder drive chain (or edge cable) between the inner margin.

3.9 Maximum working height maximumworkingheight The fixed escape ladder is the vertical distance from the pedal to the ground at the highest position available for escape personnel. Suspended escape ladder for the top of the hook The vertical distance from the end of the staircase.

4 Classification and model

4.1 Classification Escape ladder according to the structure is divided into fixed escape ladder (hereinafter referred to as fixed ladder) and hanging escape ladder (hereinafter referred to as hanging ladder).

4.2 Model Escape ladder model by the large class, small class, the main parameters, the structure of the form code, edge cable material code composition, the form is as follows:
Escape refuge equipment Escape stairs - - Maximum working height in meters (m)
Structural code. D-fixed, G-hanging type Edge cable material code. S-wire, L-steel chain, Z-fiber fabric (ribbon or rope), fixed ladder omitted Example. TT-40D. steel fixture with a maximum working height of 40m; TT-15GL. indicates a maximum working height of 15m, Chain hanging escape ladder.

5 Maximum load of the whole ladder/N (981 ± 5) x Maximum carrying capacity

5.2.2 The pedal of the fixed ladder shall be capable of withstanding the load of 3 times the maximum load of the single pedal. After the strength test, the pedal shall not be broken or Obvious deformation phenomenon.

5.2.3 The pedal and drive chain of the fixed ladder shall be capable of withstanding the shear load of 3 times the maximum load of the single pedal, and the shear of the drive chain After the test, the pedal, the drive chain and the connection between the two should not be broken or obvious deformation.

5.2.4 fixed ladder of the handrail should be able to withstand

1.5 times the maximum load of single pedal load, after the strength test, the maximum bending deformation of the handrail Should not be greater than 2mm.

5.2.5 The main shaft of the fixed ladder shall be capable of withstanding the load of 3 times the sum of the maximum load of the whole ladder and the total weight of the operating

parts. After the strength test, Should not appear broken or obvious deformation phenomenon.

5.2.6 The drive chain of the fixed ladder shall be capable of withstanding the load of 3 times the sum of the maximum load of the whole ladder and the total weight of the operating parts. After the strength test The kinetic chain should not be broken or deformed.

5.2.7 fixed ladder of the transmission chain after corrosion resistance test, there should be no layer, peeling or visible pitting pits. And then the intensity Test, the transmission chain should not be broken or obvious deformation.

5.2.8 The speed of the pedal of the fixed ladder at the maximum load of the whole ladder, the maximum load of the single pedal and the maximum load of the whole ladder shall be

0.1 m/s to

0.4 m/s.

5.2.9 fixed ladder should be set emergency braking mechanism. When the descending speed of the pedal is greater than 0.5m/s, the emergency braking mechanism should be automatically stopped Fixed ladder operation, and can be manually operated by the load pedal slowly and safely down to the ground.

5.2.10 fixed ladder after the reliability test, should not appear to jam or affect the normal operation of the fault, the pedal of the descending speed should still meet 5.2.8.

5.3 hanging ladder

5.3.1 The basic parameters of the suspension ladder shall comply with the provisions of Table 2. Table

5.1 Structure and appearance requirements

5.1.1 Escape ladder metal parts should be anti-corrosion treatment, no rust, spots, burrs and other defects.

5.1.2 Escape ladder stalls or pedal of the foot surface should be anti-skid treatment.

5.1.3 Escape ladder of the transmission chain or edge cable should be the same structure, uniform thickness, no distortion and wear phenomenon.

5.1.4 fixed ladder should be set on both sides of the fence, pedal should be set above the handrail.

5.1.5 The drive system of the fixed ladder shall be flexible and the protective measures shall be carried out outside the transmission parts.

5.1.6 fixed ladder coating should be smooth, uniform color.

5.1.7 Suspension ladder The outer surface of the rope used shall be free of wear.