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

GB 50067-2014

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**Code for fire protection design of garage, motor-repair-shop
and parking-area
(English Translation)**

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1 General

1.0.1

This specification is formulated to prevent and reduce fire hazards in garages, repair garages and parking lots, and to protect the safety of people and property.

1.0.2

This code is applicable to the fire protection design of new, expanded and reconstructed garages, repair garages and parking lots, but not applicable to the fire protection design of garages, repair garages and parking lots of fire stations.

1.0.3

The fire protection design of garages, repair garages and parking lots shall take effective fire prevention measures in consideration of the characteristics of repair garages and parking lots, and shall be safe, reliable, technologically advanced, and economical and reasonable.

1.0.4

The fire protection design of garages, repair garages and parking lots shall not only comply with this code, but also comply with the provisions of relevant national standards.

2.0.1 Garage

Buildings for parking vehicles such as passenger cars, trucks, engineering vehicles, etc. driven by internal combustion engines and without tracks.

2.0.2 Garage motor repair shop

Buildings (structures) used for maintenance and repair of passenger cars, trucks, engineering vehicles and other vehicles driven by internal combustion engines and without tracks.

2.0.3 Parking lot

It is an open space or structure dedicated to parking passenger cars, trucks, engineering vehicles and other vehicles driven by internal combustion engines and without tracks.

2.0.4 Underground garage

The difference between the height of the indoor floor surface and the outdoor floor surface is greater than $\frac{1}{2}$ of the clear height of the garage on this floor.

2.0.5 Semi-underground garage

The difference between the height of the basement indoor floor surface and the outdoor floor is greater than $\frac{1}{3}$ of the clear height of the garage on this floor and does not exceed $\frac{1}{2}$ of the clear height.

2.0.6 Multi-storey garage

Two-story and above garages with a building height less than or equal to 24m or garages located on floors above the ground floor in multi-storey buildings.

2.0.7 High-rise garage

A garage with a building height greater than 24m or a garage located on a floor above the ground floor in a high-rise building.

2.0.8 Mechanical garage

A garage for parking cars in the form of mechanical equipment for vertical or horizontal movement.

2.0.9 Open garage

The open area of the outer wall of the garage on any floor is greater than 25% of the total area of the outer wall around the floor, and the open area is evenly arranged on the outer wall and its length is not less than 50% of the perimeter of the garage.

3 Classifications and fire resistance classes

3.0.1

The classification of garages, repair garages and parking lots shall be determined according to the number and total area of parking (parking spaces), and shall comply with the regulations in Table 3.0.1.

Table 3.0.1 Classification of garages, repair garages, and parking lots

Note: 1 When the roof open-air parking lot shares the car ramp with the lower garage, its parking quantity shall be included in the total number of vehicles in the garage.

2 The construction area of outdoor ramps and roof open-air parking lots may not be included in the construction area of the garage.

3 The construction area of the bus garage can be increased by 2.0 times according to the specified value in this table.

3.0.2

The fire resistance ratings of garages and repair garages are divided into Class I, Class II and Class III. The combustion performance and fire resistance rating of its components should not be lower than those specified in Table 3.0.2.

Table 3.0.2 Combustion performance and fire resistance limit (h) of building components of various fire resistance classes

Note: The joint gaps of prefabricated reinforced concrete components or the exposed parts of metal load-bearing components should be provided with a fire protection layer, and the fire resistance rating should not be lower than the requirements of the corresponding components in this table

3.0.3

The fire resistance rating of garages and repair garages shall meet the following requirements.

- 1 Underground, semi-underground and high-rise garages should be grade one;
- 2 The garages and repair garages of Class A and Class B goods transport vehicles and the garages and repair garages of Class I shall be Class I;
- 3 The fire resistance rating of the garages and repair garages of Category II and III shall not be lower than Class II.
- 4 The fire resistance rating of category IV garages and repair garages shall not be lower than Class III

4 General layout and floor plan

3 On the walls within 2m around the outdoor stairs, no other doors, windows or openings except evacuation doors shall be opened;

4 The doors leading to the outdoor stairs shall adopt Class B fire doors.

6.0.6 The evacuation distance from any point in the garage to the nearest personnel safety exit should not be greater than 45m, and when an automatic fire extinguishing system is installed, the distance should not be greater than 60m. For a single-storey garage or a garage set on the first floor of a building, the evacuation distance from any indoor point to the nearest outdoor exit should not be greater than 60m

6.0.7 For the underground garage connected to the basement of the residence, the evacuation stairs of the residential part can be used for personnel evacuation; when the evacuation stairwell of the residential part cannot be directly accessed, a connection between the underground garage and the evacuation stairs of the residential part shall be provided. The aisle, the aisle should be separated by a fire partition wall, and the doors of the garage opening to the aisle should be Class A fire doors.

6.0.8 Indoor mechanical garages with no driveway and no personnel to stay may not be provided with safety exits for personnel, but stairwells for fire fighting and rescue shall be provided according to the following regulations.

1. When the parking quantity is greater than 100 vehicles in each parking area, at least one stairwell shall be set;

2 The stairwell and the parking area shall be separated by a fireproof partition, and the door of the stairwell shall be a Class B fireproof door;

3 The clear width of the stairs shall not be less than 0.9m.

6.0.9 Unless otherwise specified in this code, the total number of vehicle evacuation exits in garages and repair garages should not be less than 2, and they should be arranged in a scattered manner.

6.0.10 When one of the following conditions is met,...