

大和欄杆執行標準

STANDARDS

GB 4053.3-1993 固定式工業防護欄杆安全技術條件
 GB 17888.3-1999 機械安全 進入機器和工業設備的固定設施 第3部分:樓梯、階梯和護欄
 GB 5009-2001 建築結構荷載規範
 GB 4053.3-1993 Fixed Industrial Protection Handrails - Safety Technical Conditions
 GB 17888.3-1999 Safety of machinery Permanent means of access to machines and industrial plants Part 3: Stairways, stepladders and guard-rails
 GB 5009-2001 Loading of Building
 ISO 14122-3-2001 Safety of machinery Permanent means of access to machines and industrial plants Part 3: Stairways, stepladders and guard-rails
 BS 6399-1:1996 Loading of Building Part:1 Dead and imposed loads
 BS 6180:1995 Barriers in and about buildings
 AS 1657:1992 Fixed platforms, walkways, stairways and ladders-Design, construction and installation
 ANSI/NAAMM AMP521-2001 Pipe Railing Systems Manual Including Round Table
 有關標準對欄杆荷載的規定

SPECIFICATIONS OF STANDARDS FOR HANDRAILS LOADS

GB5009-2001 建築結構荷載規範:

GB5009-2001 Loading of Building

4.5.2 樓梯、看台、陽台和上人屋面等的欄杆頂部水平荷載應按下列規定採用:

4.5.2 Stairways, landings, balconies and roofs etc.

Top horizontal loads on handrails shall be applied as following:

1. 住宅、宿舍、辦公樓、旅館、醫院、托兒所、幼兒園，應取 0.5kN/m;

1. Dwelling house, lodging house, office, hotel, hospital, nursery, shall be 0.5kN/m

2. 學校、食堂、劇場、電影院、車站、禮堂、展覽館或體育場，應取 1.0kN/m。

2. School, dining hall, theatre, cinema, station, auditorium, exhibition hall or sports ground, shall be 1.0kN/m

BS 6399-1:1996 Loading of Building Part:1 Dead and imposed loads

Use	Intensity of horizontal load N/m
Light access stairs, gangways and the like, not more than 600mm wide	220
Light access stairs, gangways and the like, more than 600mm wide, stairways, landings and balconies, private and domestic	360
All other stairways, landings and balconies and all parapets and handrails to roofs	740

BS 6180:1995 Barriers in and about buildings

Use	Concentrated load kN
1A Single family dwelling (house, maisonette, etc).	0.25
6A Factory, workshop, warehousing storage or deposit of goods and materials or parking only of vehicles other than motor vehicles, light traffic routes subject to one-way flow.	
1B Boarding house, guest house, hostel, lodging house, residential club (and communal areas in residential property).	0.5
1C Hotel and motel.	
2 Those parts of a prison, hospital, school, college or other training establishment or detention centre, not used for assembly purposes.	
3C Museum, library, non-residential club, pedestrian area.	
4 Office.	0.5
6B As 6A, but for escape routes and general routes subject to regular two-way flow.	
3A Designated and non-designated sports grounds.	1.5
3B Theatre, cinema, concert hall, discotheque, auditorium, shopping mall.	
5 Shop, department store, supermarket, public house, restaurant with or without assembly area, café, hairdressers, wholesale or retail warehouse, public area of bank, building society or betting shop.	
7A Car parks.	1.5

GB4053.3-93 固定式工業防護欄杆安全技術條件:

GB4053.3-93 Fixed Industrial Protection Handrails – Safety Technical Conditions

5. 強度要求 欄杆的設計，必須保證其扶手所能承受水平方向垂直施加的載荷不小於 500N/m。

5. Intensity requirement Handrails shall be designed to withstand a vertical load of no less than 500N/m applied in horizontal direction

GB 17888.3-1999、ISO14122.3-2001 機械安全 進入機器和工業設備的固定設施 第3部分:樓梯、階梯和護欄:

GB 17888.3-1999, ISO14122.3-2001 Safety of machinery Permanent means of access to machines and industrial plants Part 3: Stairways, stepladders and guard-rails

7.3. 強度判据 護欄應支撐得沿扶手最不利處施加大于或等于 F_{min} 的橫向載荷而沒有永久變形，並且最大撓度不超過 30mm

$$F_{min}=300N/m \times L$$

L 是相鄰兩支柱軸線間最大距離。

7.3 Intensity Criterion Handrails shall be capable of with standing horizontal load of F_{min} or more applied in the most disadvantage point. Under this load, there shall be no permanent distortion and the max. deflection not exceed 30mm.

$$F_{min}=300N/m \times L$$

L indicates the max. space between adjacent two stanchions axis ANSI/NAAMM AMP 521-2001 Pipe Railing Systems Manual Including Round Table

Handrails: Capable of withstanding following loads applied as indicated.

a. Concentrated load of 200 pounds applied at any point in any direction.

b. Uniform load of 50 PLF applied in any direction.

c. Concentrated and uniform loads above need not be applied simultaneously.

AS 1657:1992 Fixed platforms, walkways, stairways and ladders-Design, construction and installation

Loads on Handrails. Each handrail shall be designed to withstand each of the following loads acting separately:

(a) A horizontal force of 550N applied outward at the centre of the span.

(b) A vertical force of 550N applied downward at the centre of the span.