

# **FIRA DE BARCELONA**

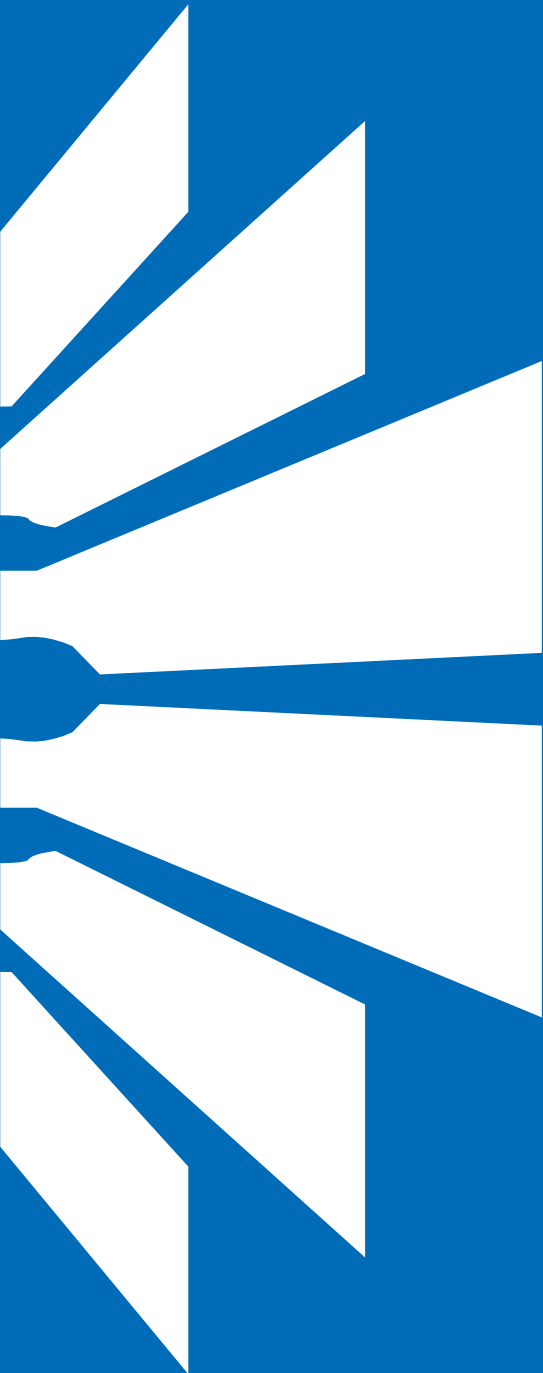
## **Regulations**

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## Index

- **STAND CONSTRUCTION REGULATION** ..... 3
- **TECHNICAL REQUIREMENTS FOR CONFERENCE ROOMS** ..... 16
- **SAFETY & SECURITY** ..... 21
- **HEALTH & SAFETY** ..... 28
- **ELECTRICITY** ..... 31



# **STAND CONSTRUCTION REGULATION**

## 1. STAND CONSTRUCTION AND DECORATION

The hired exhibition space refers only to the marked perimeter on the floor (excluding those events where due to the event regulations, the quote per square metre includes the stand construction, or where the regulations expressly indicate another special feature). The construction of stand is mandatory in the acquired exhibition space. Organisers are in charge of the fulfilment of this requirement for those exhibitors who have not contracted a stand.

Stand building and decoration is responsibility of the exhibitor, except at those events where it is expressly indicated that the stands must have a specific structure.

The exhibitor or stand contractor must be informed about the characteristics or special features regarding the exhibition space, as well as the placement and dimensions of those elements that could eventually exist – such as fire hoses, fire extinguishers, service chests and drainage pipes – they must be respected and besides that, the “General Regulations” must be complied with.

All stands must be previously approved by the Exhibition Services Department and based on the regulation stated in the “Building and decoration” section of this document and subject to the Spanish regulations CTE (Technical Building Code). Consult the existence of specific rules for each event upon the Organiser.

For stand approvals, exhibitors have to submit detailed stand plans before the stipulated deadline and according to the defined regulations. For complex structures (double-deck, stands with platforms higher than 50cm), besides complying to the regulations stipulated in the “General Regulations”, exhibitors must submit detailed documentation to the Exhibition Services Department as described in the “Complex Structures” chapter.

The Organiser and Fira de Barcelona will verify if the stand construction is in accordance with the submitted approved projects. If the regulations have not been complied the Exhibition Management reserves the right to dismantle or close the stand, with no obligation of compensation to the corresponding exhibitor. The same exhibitor will also be responsible for all expenses incurred by the infringement of the rules.

## **1.1 TYPES OF STAND**

### **1.1.1 Modular Stand Structure**

Modular stand structures can be hired directly through ServiFira - Fira de Barcelona. Their specifications and prices are available in the online exhibitor services catalogue.

### **1.1.2 Custom-Design Stand Constructions**

These structures can also be hired directly through ServiFira Project - Fira de Barcelona. Please contact ServiFira Project for a free and no obligation quotation. If the exhibitor finally contracts a custom-design company which is not a Fira supplier, they must submit the project to the Event Management team before the stipulated deadline.

## **1.2 GENERAL REGULATIONS**

### **1.2.1 Floor Marking**

The stand area will be marked out. It is important the construction fits within these limits and does not exceed the markings.

### **1.2.2 Build height restrictions**

Please consult the Exhibitor Manual about height restrictions.

Please consult [www.firabarcelona-guestevents.com](http://www.firabarcelona-guestevents.com) to check the technical floor-plans and heights for each hall.

### **1.2.3 Stand partitions**

Every stand must provide its own structural walling.

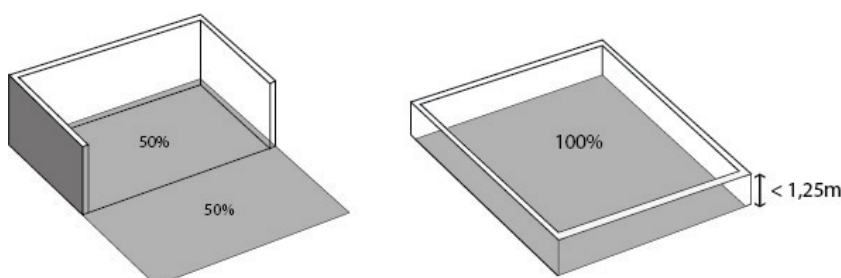
Dividing walls with neighbouring stands must have a minimum height of 2.5 m. Stands must be dressed from the rear in a neutral colour with no logos or branding.

### **1.2.4 Image and transparency of the stands**

Fully enclosed stands are not allowed and must have as minimum 50% open to the exterior perimeter walls. In the open areas transparent materials may be used.

It is permitted to build 100% of all perimeter sides with walls or other elements not exceeding 1.25m in height.

At all times the exhibition organizer may modify these rules.



### 1.2.5 Stand structure

The exhibitor is responsible for the structural safety of the stand.

The structure and stand fittings must have the necessary rigidity and stability that does not involve any risk, either to people or property.

Hall walls and columns as well as all the technical facilities of the halls, shall not support loads of decoration or exhibits.

In the case that the stand exceeds the load capacity of the hall floor, the use of a special structure may be required and it must be provided by the exhibitor.

Fira de Barcelona reserves the right to request a justification in writing for the constructive solutions adopted, if deemed necessary.

### 1.2.6 Maximum floor loading

Please consult [www.firabarcelona-guestevents.com](http://www.firabarcelona-guestevents.com) to see technical floor plans for each hall.

### 1.2.7 Pillars

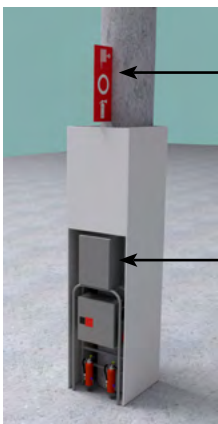
Pillar claddings are allowed when they are within the stand and never causing any damage to them.

The maximum height of cladding is 5m.

The existent fire installations must remain visible and accessible at all times.

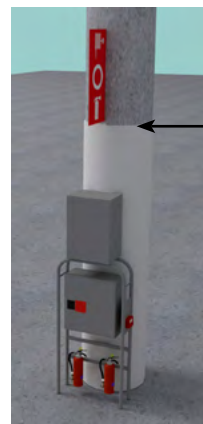


Existing fixed fire hose



The cladding cannot cover the upper signage

Some of the fire equipment include fixed switchboards. Check floorplans and pictures of the halls in order to see if the specific column includes it or not.



A vinyl can reach up to the upper fire signage

Those pillars that are found at the border of evacuation aisles, the space between the pillar and the cladding surface should not exceed 100mm.

Pillars on the edge of the stand, occupying part of the aisle or corridors in front of stand, are not allowed to be covered with logos or branding as this may bother exhibiting neighbours. If both parties get in agreement and communicate previously to the organizers this may be allowed.

### 1.2.8 Doors and windows

The minimum height of doors is 2100mm and the maximum width of sheet is 1230mm. Doors and windows have to set back so as to open outwards and not exceed the boundaries of the stand.

Emergency exit doors must open in the direction of the evacuation, in case of evacuating more than 50 people, but under no circumstances they can encroach on the evacuation corridors.

All emergency exits must be free of obstacles at all times.

### 1.2.9 Ceiling installations / visibility

Exhibitors may cover their stands. If the stand is completely covered, the technical requirements for fire protection must be followed, according to regulations hereby, and also to the Spanish Technical Code (CTEDB-SI).

Bearing in mind that the stand roofs are visible from higher levels, they should have a decorative finishing. For a pleasant overview, the Show Management may require adjustments of the roof finishing, even if it means additional costs to the exhibitor.

### 1.2.10 Rigging

According to Fira de Barcelona's Safety and Occupational Hazard Prevention Regulations, any company planning to hang any object from the ceiling of any of the Halls of the two exhibition centres, must submit an application to ServiFira through the Online Exhibitor Service Catalogue.

### 1.2.11 Exhibition floor

Platforms and carpets are the only authorized floorings, which must be removed by the exhibitor / stand contractor at the end of the event.

All service chests on the hall floor must always remain accessible.

For carpet installation, we only permit the use of approved double-sided adhesive tape (100% removable). The remaining tape on the hall floor must be removed by the end of the event.

It is not allowed to use any kind of cement on the hall floor without a protective coating authorized by Fira de Barcelona and nailing using percussion tools. Fira de Barcelona reserves the right to repair the damage to the hall, charging the related costs directly to the exhibitor.

In order to avoid risks of fire and accidents, carpets and floorings must comply with the CTE rules and therefore follow these conditions:

Floor coverings must have a reaction to fire classified as EFL (resistant to a brief attack of small flames with a limited spread of flames).

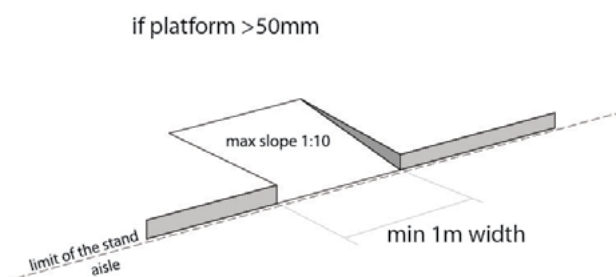
The slip-resistance on floors with slopes up to 6% shall be Class 1 (Slip resistance  $R_d: 15 < R_d \leq 35$ ) and Class 2 for stairs.

(Slip resistance  $R_d: 35 < R_d \leq 45$ ).

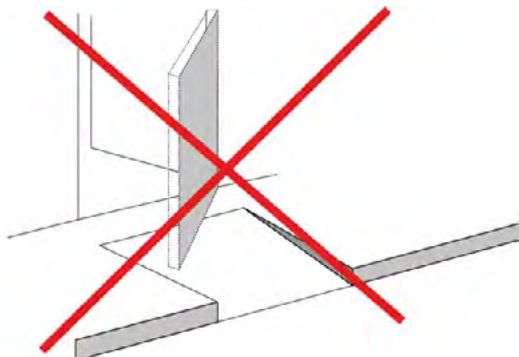
The floor should not have any perforations or holes in which it could be inserted a sphere of 15mm diameter.

### 1.2.12 Ramps - Disabled access

Stands with an access platform or walkway higher than 50mm, must have a ramp installed. The minimum width of the ramp should be 1000mm. The slope has to be uniform, up to 1:10 and completely within the stand.



Level landings must be provided at the top and the bottom of the ramp and at every intermediate level where an exit door can be opened.



### **1.2.13 Paintwork**

Only water-based paints are allowed.

Fabrics and fire-treated materials cannot be recovered with any kind of paint.

Protection must be provided to avoid spilling or spraying on the hall structure or on neighbouring stands.

Inside the halls it is strictly forbidden to use cellulose varnish and flammable materials.

### **1.2.14 Air-conditioning**

The installation of air-conditioning units with warm-air condensation is prohibited inside the Halls.

### **1.2.15 Display of Logos**

Displaying logos or branding outside of exhibition stands such as light beams or projections onto bare walls or gangways are not permitted without prior written approval by Fira de Barcelona.

### **1.2.16 Lighting**

All lighting shall be distributed so as to avoid disturbing both visitors and neighbouring exhibitors.

The situation of the installed lamps must not pose a fire risk and those installed at a height up to 2,5m must be protected in such a way so as not to pose a hazard to people. It is not allowed the use of strobe lighting and flashing lights.

### **1.2.17 Hanging banner /ceiling / lighting policy**

The installation of aerial structures, such as support systems for lighting, is permitted provided that those structures do not exceed 6m in height and the fixing systems are suitable.

### **1.2.18 Elements outside the allocated space**

No constructive or decorative element may protrude of the hired exhibition space.



### **1.2.19 Communications equipment**

The use of wireless installations is allowed as long as it does not interfere on the Fira de Barcelona's own infrastructure and is duly authorised. Exhibitors or stand contractors planning to install such devices must inform Fira de Barcelona about the radio frequency used and its range.

### **1.2.20 Others**

In the case of absolutely needing to carry out a non-authorised activity, a special authorisation must be requested to the Organiser and Fira Barcelona at least 10 weeks prior to the opening of the show, documenting with full details the need for this action and attaching to-scale stand floorplans, specifying the exhibits weight and supports and all decorative elements that will be installed. Calculations of those elements, assuring their stability, may be required if deemed necessary. Any damage which may be incurred by exhibitors or their delegates to the Exhibition hall walls, installations, etc., will be repaired by the Fira de Barcelona and charged directly to the exhibitor.

## **1.3 FIRE EMERGENCY REGULATIONS**

### **1.3.1 Fire exits and escape routes**

The capacity of the exits is subject to the Spanish law specifications CTE (Technical Building Code).

Signage of escape routes and emergency exits must remain illuminated at all times and adequately maintained general and safety lighting, with maintained illuminated exit signs, that should be provided to any enclosed area on the stand.

During the event, as well as build-up and dismantling, escape routes within the stand and hall must remain in good condition and free from any obstacles. The stand fittings and its layout should not obstruct the access to fire equipment that might exist within the stand; they must remain visible and accessible at all times.

Stands over 200m<sup>2</sup> require a minimum of two emergency exits.

The length of an evacuation route to an open area should not exceed 25m. The widths of escape routes should be as the follows:

Stands up to 100m <sup>2</sup>	1m width minimum
Stands over 100m <sup>2</sup>	1.5m width minimum

Emergency exit doors:

The width of a door must be at least 0.80m and not exceed 1.23m;

Emergency exit doors must be non-lockable;

They must have a system of easy and fast opening accessible on the side from which an evacuation would occur. Emergency exit doors must open in the direction of the evacuation.

### **1.3.2 Material specifications**

All materials used must meet the relevant Spanish build regulations CTE (Código Técnico de la Edificación), and of the EU (European Union). The Technical Department at Fira de Barcelona reserves the right to request certifications at all times. In order to comply with the CTE (DB-SI), covering materials must follow:

On ceilings and walls: C-s2 (resists briefly to flames and burning of a single object both limiting the spread of flame, light smoke blockage) and d0 (no drops in 10min).

On floorings: EFL. (Withstands brief flames and limits the spreading of flame). For auditoriums, upholstered seats should not be combustible and need to meet the corresponding layout.

### **1.3.3 Fire extinguishers**

According to CTE regulations, a portable and suitable fire extinguisher must be provided for each 15m on the emergency escape routes, equally on ground and upper floors. They must be properly marked and be visible at all times. Stands where demonstrations are carried out, fire precautions must be provided with suitable equipment in case of fire.

At least one fire extinguisher must be provided on the upper floor, in case of double-deck stands.

### **1.3.4 Fire detections and alarms**

Exhibitors may cover their stands with a ceiling structure provided that they observe the material specifications as laid out in the exhibitor manual. Test certificates should meet DIN 4102-B1 or its equivalent standards. Relevant certificates should be available for presentation upon request.

Stands with completely enclosed rooms that do not allow the release of smoke must provide smoke detectors and a fire alarm system fitted with CE certification. At least one smoke detector for each 60m<sup>2</sup> of enclosed ceiling is required, i.e. an enclosed ceiling of 100m<sup>2</sup> requires minimum two smoke detectors.

In narrow aisles and covered spaces less than 3m wide, the minimum distance between detectors has to be 15m.

For stands less than 350m<sup>2</sup> independent, autonomous smoke detectors with integrated alarms are acceptable as long as they are certified according to the CE regulation.

Conventional textile ceilings are classed as solid ceilings and will require smoke detectors.

#### **General Exceptions**

If the ceiling area to be covered is less than 40m<sup>2</sup>, the corresponding smoke detector can be avoided if and only the covered ceiling has at least 2 openings on opposite corners of the room to be covered, resulting in a total uncovered area of minimum 0.18m<sup>2</sup> for a room of 40m<sup>2</sup>. Smaller areas have to apply the same ratio (0.0045 m<sup>2</sup> per m<sup>2</sup> enclosed) i.e. if the room is 30m<sup>2</sup> the sum of the total area of the 2 openings in the opposite corners would be of 0.135m<sup>2</sup> minimum

Ceilings made from textile wire mesh are accepted without smoke detector if they are fire resistant M0, M1 or M2 (Euroclass A, B or C) and have a minimum grid opening of 2mm x 4mm or 3mm x 3mm. The textile has to be stretched horizontally and has to be in one layer only.

Ceilings made with metal grid are accepted without smoke detector if they are fire

resistant M0, M1 or M2 (Euroclass A, B or C) and have a minimum grid opening of 10mm x 10mm.

Stands of 350m<sup>2</sup> and above

Stands of 350sqm and above will require a professional smoke detector system that meets the requirements of UNE 23007-14:2009 including alarm buttons, inter-connected smoke detectors and control panel. Such installations will need a certificate by an authorised and competent local supplier. Each enclosed room on these stands will require at least one smoke detector. For such stands it is recommended to contact ServiFira for a quote for the installation through Fira de Barcelona's smoke detectors official supplier. Below is a list of some of the requirements for such installations as an example:

Alarm buttons must be placed so that any person within these spaces should not have to walk more than 25m in order to reach/press the alarm button. In places where it is expected that users may have limited mobility, the distance covered should be reduced. In general, the buttons should be set at a height between 1.2m and 1.6m from the floor.

The sound of the fire alarm must have a minimum level of 65 dB (A) or 5 dB (A) above any other noise that will probably persist for a period of 30 seconds, if this level is higher. The sound level should not exceed 120 dB(A) at any point where there is likely to be people.

All detectors shall be provided with the CE mark.

### **1.3.5 Storage**

Storage of containers, packaging or any flammable materials in the stands is strictly not allowed.

### **1.3.6 Waste removal**

Please refer to the exhibitor manual for the waste policy.

The containers used for waste and rubbish placed in the stands should not be made of flammable materials.

### **1.3.7 Balloons**

The use of balloons as decoration of stands is restricted to previous consultation with the Fira de Barcelona Office.

### **1.3.8 Flammable gases and vapours**

The emission of toxic gases and vapours is not permitted as this could represent a risk to workers and visitors. The redirection of these gases/vapours to the exterior requires prior approval by Fira de Barcelona.

### **1.3.9 Use motor vehicles in stands**

Motor vehicles used in stands must have enough fuel to enter and leave the exhibition venue at the end of the event. It is obligatory that the vehicle has passed its MOT inspection, or has submitted the corresponding certification from the country of origin.

### **1.3.10 Smoke machines**

The use of smoke machines must be previously approved by Fira de Barcelona.

### **1.3.11 Work machinery**

All equipment used during build-up and dismantling of stands must comply with the regulations of RD 1627/97 Health and Safety guideline in the workplace.

### **1.3.12 Welding and hot works**

Before using welding and works involving the risk of fire, exhibitor/contractor must apply for permission from Fira de Barcelona.  
Work surfaces should be suitably protected.

At least one CE fire extinguisher, with the corresponding permission, must be provided when working with a fire risk.

### **1.3.13 Smoking**

Smoking in covered areas within Fira de Barcelona during the build-up, dismantling and the event is strictly forbidden.

## **1.4 HEALTH AND SAFETY**

Please refer to the regulations established on the AFE's (Spanish Trade Fair Association) manual, available from Fira de Barcelona.

## **1.5 ADDITIONAL REGULATIONS FOR COMPLEX STRUCTURES**

### **1.5.1 General Regulations**

Fira de Barcelona may authorize the construction of a complex structure in accordance with standards established by the event in the areas where the hall structure and ceiling heights are feasible.

Complex structures comprehend any construction that demands the development with a competent professional on its design, calculation and also needs a solidity certification or an assessment of significant risks. Having this, they can be classified as:

1. Double deck stands with under passes and staircases.
2. Platforms and stages over 0.5m in height and those including staircases
3. Staircases
4. Outdoor structures.

Fira de Barcelona reserves the right to request static calculations for those constructive elements that may pose a risk to the solidity of the stand.

#### **1.5.1.1 Required documentation for complex structures:**

A project describing the construction of the structure, including materials, measurements, load transmission to the hall floor, its height and location. A structural

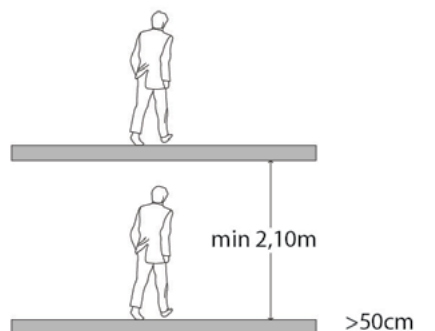
project with static calculations by a competent technician must be provided. Verification of the solidity and stability of the structure against wind (for outdoors structures), static loads, usage loads, etc. A Risk assessment of the structure during build-up and dismantling will also be requested.

A certificate issued by a qualified technician, stamped by an official body competent in Barcelona (similar to the double-deck structure certificate).

### 1.5.2 Platforms and raised walkways

Every passable element or platform, equal or above 50cm in height, with no access underneath, is also considered a complex structure.

complex structures



Every passable elements or platforms, equal or upper to 50cm in height, with no access underneath, are also considered complex structure.

Platforms and elevated walkways must be properly built, with sufficient resistance and stability for its construction and further use, taking into account the maximum floor loading of the exhibition floor.

Exhibitors must respect the booth limits and not exceed the hired area.

Platforms and raised walkways that have public access must be equipped with a handrail at a height of minimum 90cm.

The exposed corners must be rounded or in bevelled angle to avoid hazards. The edges of the platforms must be clearly highlighted.

1.5.2.1 Documentation required for platforms and raised walkways: A narrative project, as specified previously on complex structures section.

Certification issued by a qualified professional including the following:

Prior: Verifying that the structure complies with the Spanish building regulations and also Fira de Barcelona's exhibition regulations, i.e. loads must not cause any damage to the hall installations or any other constructions. After that a structure approval certificate ("Asume" in Spanish) must be endorsed by a qualified technician and also be stamped by an official body (Colegio Oficial) competent in Barcelona. This stamped certificate must be handed over to the Fira de Barcelona's security department. This certificate covers the responsibilities for the professional activities, as well as the requirements of public liability insurance.

Once the construction starts, the technician who has endorsed the certificate must verify that the construction is assembled according to the structural project submitted.

The technician also has to check that the work carried out by the builders is in accordance with the health and safety regulations of Fira de Barcelona.

Final certificate of solidity.

### 1.5.3 Double decks

Double-deck structures are those with a height of 2.10m and above, with an intended use as a second level and with underneath access.

In addition to the referred in section 1.2 General Regulations and to the CTE, exhibitors must bear in mind the following regulations:

The design of a double deck stand has to be approved by the organizer of the event.

Capacity of the upper floor: 1 person per 2m<sup>2</sup>. A warning letter, indicating the limitation of occupancy load, should be visibly placed at the bottom of the staircase.

Maximum use overloads on the upper floor:

C-1 area with tables and chairs, lobbies, restaurants, cafes,  $Q = 3 \text{ kN/m}^2$ .

C-2 area with fixed seating, movie theatres, meeting rooms, offices,  $Q = 4 \text{ kN/m}^2$

C-3 area for public free circulation  $Q = 5 \text{ kN/m}^2$ .

Guardrails and handrails:

Minimum height: 900 mm.

Guardrails shall withstand a horizontal force of 1kN / m, applied on the top.

They shall be designed so that they cannot be easily climbed, for which there should not be any existing footholds between the heights of 200mm and 700mm above ground level or on the line of inclination of a staircase.

There should not be any gaps through which a 100 mm diameter ball could pass through.

A barrier with minimum of 50mm in height should be provided around the perimeters of upper floors and landings, in order to avoid the falling of objects.

Glazing:

All glazing used at the stands must be safety glass (laminated or tempered) and of a minimum of 6mm in thickness.

Glazing panels must meet the following thickness requirements:

- 8mm to 1100mm x 1100mm
- 10mm to 2250mm x 2250mm
- 12mm to 4500mm x 4500mm
- 15mm - No limits

Stairs:

In section, the depth of each step should be min. 280mm and the riser between 130mm and 185mm in height.

In evacuation stairs, steps are not allowed without risers; risers must be vertical or inclined at an angle not exceeding 15°.

All treads and risers of a straight staircase must have the same depth and height, respectively.

The usable width of a staircase section shall be at least 100mm.

Staircases must be free of obstacles along all its width. The minimum usable width is measured between walls or protection barriers, not considering the space occupied by railings, as long as they do not protrude more than 120 mm from the wall onto the width.

Landings between the sections of a staircase must be as wide as the tread and 1000 mm minimum in depth.

A continuous handrail must be provided where there are two or more steps.

For stairs with spiral or a curved path, please check the CTE regulations.

Handrails for stairs:

Staircases on platforms higher than 550mm shall have a continuous handrail on at least one side.

For staircases wider than 1200mm must have handrails on both sides.

A central handrail shall be provided when staircases are wider than 2400mm.

Handrails must be between 900 and 1100mm high.

Handrails must be tightly fixed and easy to handle; they should be separated from the wall at least 40mm and its fixing system should not interfere with the hand passing.

#### Fire Safety:

For each 200m<sup>2</sup>, an additional staircase must be provided.

On the second floor at least one fire extinguisher must be provided.

On the ground floor an emergency exit must be reachable within a route of maximum 25m.

#### Personal protective equipment (PPE):

During build-up and dismantling, for two-storey stands there is a requirement for the use of certified helmets and high visibility reflective clothing, steel toe shoe, safety glasses for cutting or grinding material and harnesses when working on first level storeys of stands.

##### 1.5.3.1 Required documentation for double deck stands:

A project similar as previous description for complex structures is required.

A structural project with static calculations created by a competent technician will have to be submitted. In this document, every element of the structure must be described, including the load transmission of pillars to the hall. Plans of each level and details of handrails and staircases must also be submitted.

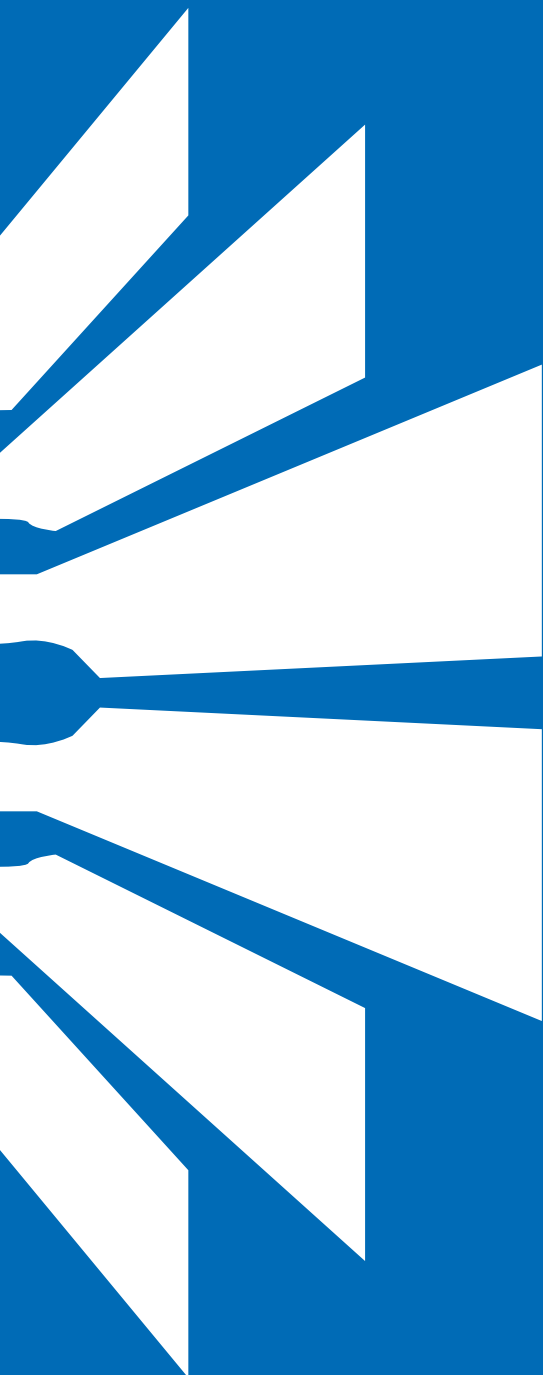
Risk assessment for build-up and dismantling of the stand.

Certification issued by a qualified professional including the following:

Prior: Verification that the structure complies with the Spanish building regulations and also with Fira Barcelona's exhibition regulations, i.e. loads must not cause any damage to the hall installations or any other constructions. After that a certificate ("Asume" in Spanish) must be endorsed by a qualified technician and also be stamped by an official body (Colegio Oficial) competent in Barcelona. This stamped certificate must be handed over to Fira de Barcelona or the Organiser. This certificate covers the responsibilities for the professional activities, as well as the requirements of public liability insurance.

Once the construction starts, the technician who has endorsed the certificate must verify that the construction is assembled according to the structural project submitted.

The technician also has to check that the work carried out by the builders is in accordance with the Health and Safety Regulations of Fira de Barcelona.



# **TECHNICAL REQUIREMENTS FOR CONFERENCE ROOMS**



**APPLICABLE RULES:**

1. These rules are based on the Technical Building Code, hereinafter CTE (Código Técnico de la Edificación in Spanish), and its corresponding basic requirements: "Basic fire safety requirements (SI)", "Basic safety requirements for use and accessibility (SUA)" and "Basic structural safety requirements (SE)".
2. The halls are always located inside a pavilion at Fira de Barcelona and they will thus be in accordance with its general self-protection plan.

**1. FIRE SAFETY**

**1.1. Material Specification**

All materials used shall have the CE marking (European Community) as far as possible. If any materials do not have it, this will require a certificate of material testing and classification issued by an accredited laboratory in the last 5 years. The technical team at Fira de Barcelona reserves the right to request the corresponding certificates.

According to Table 4.1 of DB-SI 1 (Basic fire safety document). Fire resistance of coverings.

- For walls and ceilings: C-s2 and d0.
- Suspended textile items: Class 1 according to the standard UNE-EN 13773: 2003.

**1.2. Calculating occupancy**

According to Table 2.1 of DB-SI 3 depending on the net area of each zone:

Areas designed for seated spectators: 1 pers./seat.

For more than one exit: the distribution of occupants between them shall for calculation purposes assume that one is not used, under the worst case scenario.

**1.3. Number of exits and length of escape routes**

According to Table 3.1 of DB-SI:

- 1 evacuation exit if occupancy <100 people. For occupancy  $\geq 100$  people, two or more exits.
- The escape route length to an exit is 25 m.

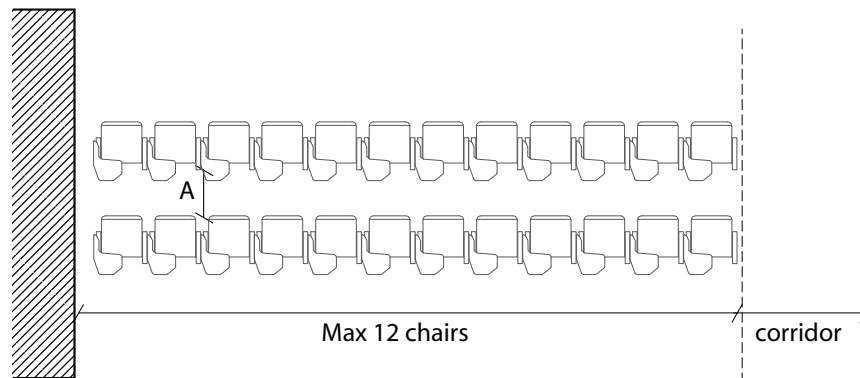
**1.4. Evacuation item measurements**

According to Table 4.1. DB-SI 3:

- Doors and passageways:  $A \geq P / 200 \geq 0.80$  m.
- Door width  $\leq 1.23$  m. Aisles:  $A \geq P / 200 \geq 1.00$  m (A = Width (m) P = Total number of people)

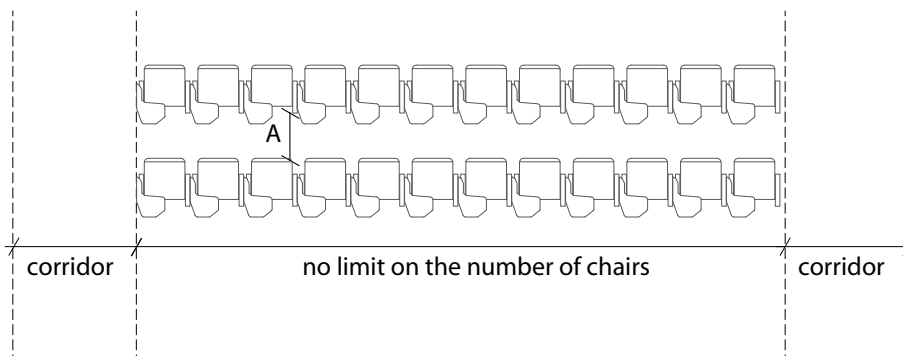
Passageways between rows of fixed seats in halls:

### 1) Rows with aisle only at one end:



$A \geq 30\text{cm}$  for 7 chairs  
2,5cm for each additional chair up to 12 chairs max.

### 2) Rows with exits to aisles at both ends:



$A \geq 30\text{cm}$  in rows up to 14 chairs.  
1,25cm for each additional chair up to 30 chairs max.  
 $A > 50\text{cm}$ : For 30 chairs or more. There is no limit on the number of chairs on each row, as long as the escape route until the door is equal or less than 25 metres.

Seats joined to one another to form monolithic rows in cases 1 and 2: every 25 rows as a maximum will have an aisle between rows with a minimum width of 1.20m.

**According to DB-SUA 9:**

#### Accessibility

Every 100 seats or fraction:  
1 seat reserved for wheelchair users.

Minimum space of 0.80 m x 1.20 m for front access and 0.80 cm x 1.5 minimum for side access.

## 1.5. Doors along escape routes

a) Doors for evacuation of fewer than 50 people: Quick and easy opening device without having to use a wrench or operate more than one mechanism. Opening does not have to be in the evacuation direction.

b) Doors for evacuation of more than 50 people: Doors must open in the evacuation direction, and with a horizontal push or slide bar according to standard UNE EN 1125:2009

Evacuation doors shall not be obstructed at any time by any object during the occupation of the area.

## 1.6. Escape route signage

- Exits from the area will have a sign indicating "EXIT". (UNE 23034:1988)
- The sign indicating "Emergency Exit" shall be used at all exits solely intended for use in an emergency. (UNE 23034:1988)

- Signs indicating route directions shall be provided, visible from all evacuation origin points.
- Signs shall be visible even in the event of a failure in the normal lighting supply.

### **1.7. Fire protection facilities**

- Fixed fire facilities in the pavilion shall remain accessible and visible at all times.
- Extinguishers will be positioned according to the CTE.  
According to Table 1.1 of DB-SI 4. :  
Portable fire extinguishers: One with 21A -113B effectiveness.  
a. 15 m, as a maximum, from any evacuation origin point.  
b. In special risk areas (e.g. Cloakrooms and left luggage facilities, kitchens...)
- No fire detector in the pavilion shall be obstructed. Consult Fira de Barcelona if necessary,
- Halls with covered roofs: Consult Fira de Barcelona.

### **1.8. Signs for manual fire protection facilities**

1. Signs shall be according to standard UNE 23033-1, the sizes being:
  - a) 210x210 mm when the viewing distance is  $\leq 10$  m;
  - b) 420x420 mm when the viewing distance is 10-20 m;
  - c) 594x594 mm when the viewing distance is 20-30 m.

## **2. SAFE USE AND ACCESSIBILITY.**

### **2.1. Flooring discontinuities.**

- According to DB-SUA 1: The floor shall meet the following conditions:
- It will not have joints with a projection of more than 4 mm.
- Isolated, small items protruding from the flooring level shall not stick out by more than 12 mm.
- Projections of more 6 mm on surfaces facing the flow of people shall not form an angle with the flooring exceeding 45°.

## **3. PLATFORMS AND ELEVATED WALKWAYS**

According to DB-SE Structural Safety, DB SUA –Safe use and accessibility.  
Any item or construction passable at a height of 50 cm or less, without access to the bottom:

- Platforms and elevated walkways shall have adequate strength and stability for their construction and subsequent use considering floor load limits.
- Platforms and elevated walkways for public access shall have a minimum railing height of 90 cm.

According to DB- SUA 3 3.1 Barriers incompatible with the intended use Guardrails are not required in those areas where certain activities are carried out that are incompatible with their use. They will be reserved for personnel who know the risk of falling in these areas.

### **3.1. Documentation required in platforms and elevated walkways**

- Specification, explaining the construction system, structural materials, measurements and thicknesses of these, impact of loads on hall floors, taking into account locations and heights.

- “Asume” Official Spanish Certificate drafted by qualified technical staff certified by authorised Official Association in Barcelona, being submitted to the Fira de Barcelona Safety Department. (See Fira general rules).
3. Solidity Certificate upon completion of the work.

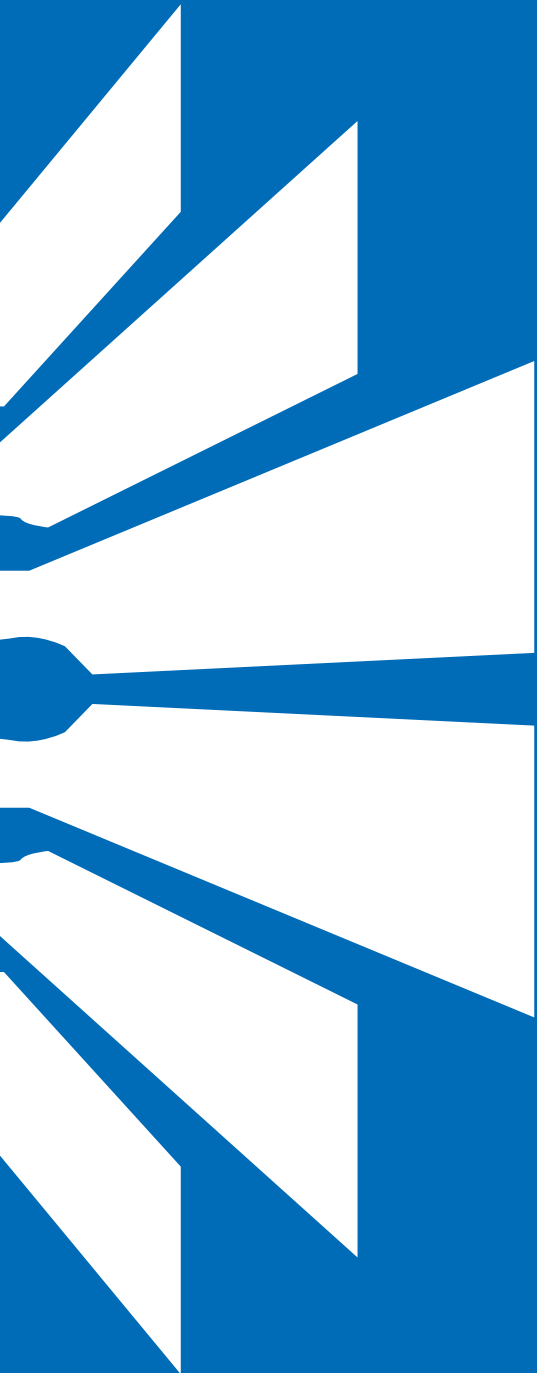
#### **4. TIERED SEATING**

- The tiered seating shall have adequate strength and stability for their construction and subsequent use considering floor load limits.
- They shall comply with CTE standards and in particular DB-SE and DB-SUA 5

##### **4.1. Documentation required for tiered seating**

1. Specification, explaining the construction system, structural materials, measurements and thicknesses of these, impact of loads on hall floors, taking into account locations and heights.
2. Structural calculations, justifying their stability for construction and subsequent use taking into account the specific characteristics of the pavilions at the Fira de Barcelona.
3. Solidity Certificate upon completion of the work.

All these documents shall be drafted by qualified technical staff certified by authorised Official Association in Barcelona, being submitted to the Fira de Barcelona Safety Department



## **SAFETY & SECURITY**

## **Introduction**

Fira Barcelona takes its responsibilities, with regards to the safety, of staff, contractors and participants very seriously. It will ensure, so far as reasonably practicable, that no one is put at unnecessary risk as a consequence of its actions.

An experienced management team has been formed to ensure that Fira Barcelona manages/mitigates those situations that can cause unforeseen risks, or to manage the residual risks posed by the event. In addition to this, it will also ensure liaison with a number of authorities and agencies that may be affected by the actions of Fira Barcelona. These include, but are not limited to, the Barcelona Police Force and the Barcelona Fire Authorities.

Fira Barcelona is responsible for liaising with the local authority, onsite and offsite police and emergency services, for raising the alarm in the event of an emergency situation and will also be responsible for all venue specific actions.

## **Emergency Team**

The structure is based on the personal protection manual issued by Civil Defense and organized as follows:

- Emergency Chief
- Head of Security
- Intervention teams
- Medical Services

Their generic functions are described below:

### **Emergency Chief**

The Emergency Chief will be the FIRA staff member with the highest authority, or the person he/she delegates to act as a deputy.

His/her functions will be as follows:

- To be the maximum authority for the FIRA in emergency situations and decide on the actions to be undertaken, including evacuation should this be necessary, in accordance with the procedures outlined in the Emergency Plan and in conjunction with the Head of Security.
- To direct, in conjunction with the Head of Security, the actions to be taken by the Intervention Teams in any incidents which may occur.
- To oversee the existing protective systems and installations in the FIRA and ensure they are updated and that the personnel forming the emergency teams are sufficiently well trained to undertake their exercises and practices.
- In emergency situations, to liaise with the senior individual from the Police, Fire and Ambulance Services who respond to the incident, offering them the maximum possible co-operation.

### **Head of Security**

This task will be assigned to an individual working for the FIRA who will report directly to the Emergency Chief. The Head of Security will have a deputy at all times. His/her functions will be as follows:

- Co-ordinate the resources acting at the incident zone and maintain direct contact with the Emergency Chief.
- Oversee the maintenance of the fire fighting installations and follow the instructions laid down by the Emergency Plan with regard to Fire Prevention.
- Regularly instigate and, where applicable, organise simulated evacuation procedures.
- Collaborate with the Emergency Chief in any assignments he/she may be given.
- Take responsibility for the inventory of material and human resources relating to the teams under his/her control, ensuring that any vacancies that may result from transfers, illness, holidays, etc., are covered.
- Take note of any recommendations or suggestions from members of his/her team relating to the maintenance and conditions of installations and convey these to the Emergency Chief.

A Head of Security must be present at all times in the FIRA. In situations where the general public is involved, each Hall will have its own Hall Manager who will initially stand in for the former until such time as he/she arrives, at which point he will concentrate on evacuation procedures.

### **Intervention Teams**

The fire and evacuation security teams will be made up of the following groups:

- First Intervention Teams (EPI)
- Second Intervention Teams (ESI)
- Alarm and Evacuation Support Teams (EAE)

The generic functions of the Intervention Teams are described below:

#### **First Intervention Teams (EPI)**

These teams will be mainly made up of stand personnel or FIRA staff, depending on the particular circumstances at the venue (assembly, exhibition, dismantling, no activity, etc.). They will report directly to the Head of Security and their functions will be as follows:

- Indicate any anomalies that may occur in the FIRA's fire protection systems (detection, alarms, extinguishing and evacuation).
- Detect and identify any smoke, burning smells, abnormal heating of electrical installations, whether lighting or cooking, and being able to recognise and interpret crackling noises, gas leaks and other abnormal noises in the operation of standard FIRA equipment.
- Eliminate the causes giving rise to the anomalies detected without delay, whether by indirect action, such as sounding the alarm, or by swift direct action, such as turning off the electrical equipment at source, isolating inflammable materials, etc.
- Go to the incident zone when notified by the Control Centre or by directly observing an outbreak of fire.
- Prevent the fire spreading by closing doors and windows and by moving inflammable or combustible products away from the focus of the fire or cooling them down.
- Follow the instructions of superiors or any other qualified persons mentioned in the Emergency Plan (Firemen, etc.).

#### **Second Intervention Team (ESI)**

This team will be mainly made up of FIRA maintenance and security staff and will have the category of an In-House Fire Department as authorised by the Fire Service College of Catalonia in accordance with Decree 374/1996. They will report directly to the Head of Security. Their functions will be as follows:

- Indicate any anomalies which may arise in the FIRA's evacuation routes.
- Detect and identify any smoke, burning smells, abnormal heating of electrical installations, whether lighting or cooking, as well as being able to recognise and interpret crackling noises, gas leaks and other and abnormal noises in the operation of standard FIRA equipment.
- Eliminate the causes giving rise to the anomalies detected without delay, whether by indirect action, such as sounding the alarm, or by swift direct action, such as turning off the electrical equipment at source, isolating inflammable materials, etc.
- Go to the incident zone when notified by the Control Centre or by directly observing an outbreak of fire.
- Prevent the fire spreading by closing doors and windows and by moving inflammable or combustible products away from the focus of the fire or cooling them down.
- Follow the instructions of superiors or any other qualified persons mentioned in the Emergency Plan (Firemen, etc.).

The Second Intervention Team (ESI) will be activated during the Assembly, Dismantling and Exhibition periods. When the FIRA is in a normal situation, i.e. the halls are empty and there are no people present, there is no need for the ESI to be activated.

### **Alarm and Evacuation Support Teams (EAE)**

In view of the characteristics of the building, the public address system, emergency signage and the construction materials, these teams have a very important role to play in assisting in sounding the alarm and evacuating.

The teams will mainly be formed from stand and service personnel, depending on the occupancy situation of the FIRA at the time, and their functions will be as follows:

- Indicate any anomalies which arise in the evacuation routes in the FIRA:
- In the event of evacuation, eliminate the causes giving rise to any anomalies detected in their assigned areas without delay, clearing evacuation routes and opening exit doors between the different sectors and the outside.
- In the event of an emergency, using the available resources of the FIRA to convey the alarm to the Control Centre.
- Conduct and direct the orderly evacuation of their assigned area and leave it once they have checked that nobody is trapped or hurt, prevent people from using the lifts and service lifts (in corner buildings and slopes).
- Possess a basic knowledge of crowd control and how to respond in panic situations.
- Follow the instructions given by superiors or any other qualified persons mentioned in the Emergency Plan (Firemen, Police, etc.).

### **Surveillance Team**

These teams will be mainly made up of door control staff from the FIRA and their functions will be as follows:

- Completely open the FIRA doors when they receive notification from the Control Centre or hear the Tannoy message to evacuate.
- Free all access areas of obstacles that may hinder the evacuation process.
- Prevent people from entering the FIRA during the evacuation process.
- Maintain order and prevent bottle-necks during the evacuation process.
- Put external emergency services in contact with the Control Centre.



## **First Aid Team**

This team will be made up of personnel from the FIRA's Medical Service, if they are present in the building at the time, or by personnel with a knowledge of First Aid if they are not. Their functions will be as follows:

- In the event of emergency, offer first aid to the injured with the resources available to them at that time.
- Collaborate with the rescue and medical services when asked to do so.
- Collaborate with external emergency services in monitoring the transfer of incapacitated individuals.

## **Medical service**

Gran Via venue has a medical first aid center with one nurse located between Halls 2 and 3. It is open during the official hours of build up, show and dismantling.

The first aid center could be moved to another location if needed and upon request, but it might have a relocation cost.

## **Regulation regarding onsite compulsory ambulance**

All events with more than **2000** attendees need a properly equipped ambulance according to the Spanish self-protection regulation (82/2010 29th June). In case of an emergency, an extra first aid staff needs to remain onsite.

## **IN THE EVENT OF AN EMERGENCY**

### **Colour codes:**

The code corresponding to the situation should be given:

AMBER: fire outbreak which looks as if it can be controlled by extinguishers

RED: entails the use of B.I.E (hydrants) and outside assistance (Fire Brigade, Police, Ambulance, etc)

BLACK: bomb threat

GREEN: emergency over

### **Onsite coordination**

During an emergency situation, the Hall Manager will be the person responsible for carrying out the following functions until such as the time the Emergency Chief/ Head of security arrives:

- Co-ordination of fire fighting tasks
- Briefing of teams (first intervention, second and evacuation intervention)
- Permanent report to the Control Room
- The Head of Security will be responsible for meeting the outside assistance (Fire Brigade, Ambulance, etc)

### **How attendees should process in the event of an emergency:**

- Stay calm and avoid spreading panic
- Inform Fira Barcelona personnel or call our control centre (+34932334100) or use the emergency buttons if any object, situation or incident which in their opinion might have serious security implications.
- Do not block the emergency exits
- Evacuating the area using the evacuation routes to reach the emergency exits.
- Walk, do not run
- Follow the instructions given over the tannoy system, and by the uniformed

- personnel.
- Do not use elevators
- Remain at the specified meeting point and await instructions. If you notice that someone is missing, inform the emergency personnel

### Emergency exits location



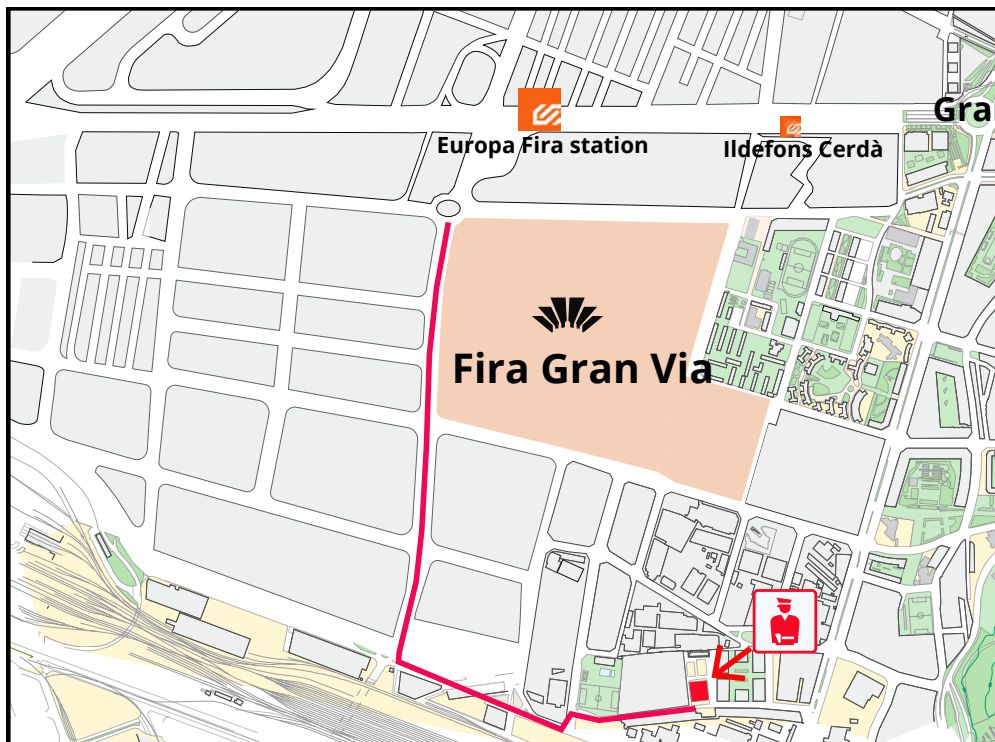
## **CCTV systems and footages policy**

The Venue is equipped with CCTV systems as part as the self protection plan and their footages are kept for a period of time according to the self protection plan established by the local authorities.

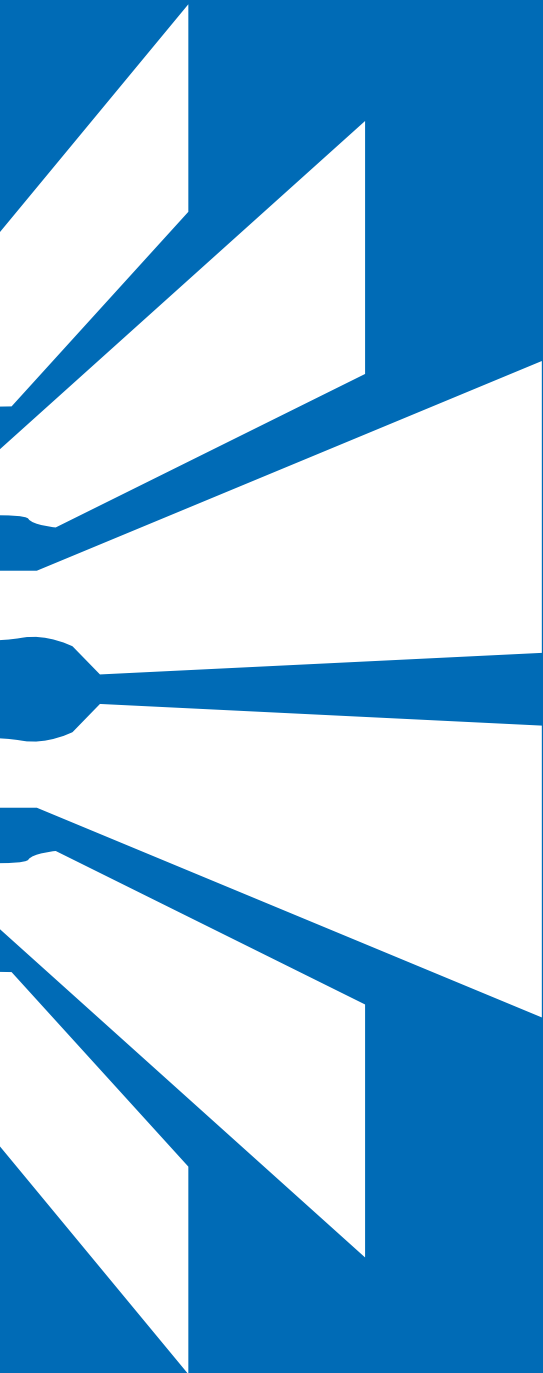
Therefore, in the event of an incident such as theft and in case the CCTV systems have recorded it, the footages can only be delivered to the local police bodyguard upon request, according to the Spanish data protection law ("Ley orgánica de protección de datos 15/1999").

## **Location of closest Police Stations**

If any attendee is involved in any incident and he/she may need to report it to the police, the nearest police station from Gran Via Venue is located according to the map below.



COMISSARIA DELS MOSSOS/ POLICE STATION  
C/ ULLDECONA, 35  
08038 BARCELONA  
TELF.: 93 267 56 00



## HEALTH & SAFETY

## **PROCEDURE FOR COORDINATION OF PREVENTIVE ACTIVITIES**

Information for risks, preventive measures and emergency action measures

### **Risks**

- **Falling of persons to a different level**, while using stairs and scaffolding.
- **Falling to the same level** because of objects in the passageways.
- **Falling of objects by collapse** caused by the installation of stands, suspended loads, etc.
- **Running into stationary objects**.
- **Stepping on objects** such as planks, wood, nails, etc. from assembly and dismantling.
- **Flying fragments or particles** due to assembly and dismantling tasks.
- **Cuts or bangs from objects and/or tools**.
- **Electrical contact** from work with electric tools or lighting installations.
- **Fires and explosions**.
- **Exposure to noise** due to using manual tools and machine tools.
- **Crashes and collisions** with moving vehicles throughout the grounds.

### **Preventive measures**

Operators that work at high altitudes shall be provided with sufficient prevention material to eliminate risk of falls (safety belts, ladders, scaffolding, etc.):

- Stairs and ladders must be equipped with anti-slip shoes, a locking device and be in good condition.
- Scaffolding must bear EC marking and be correctly assembled (with platforms at least 60 cm wide and handrails 90 cm high with an intermediate bar and skirting boards).
- Offices and work spaces must always be clean and hygienic and free from debris.
- Fire extinguishers and emergency exits must always be visible and free from obstacles.
- All chemical products must be visibly labelled, in such a way that the substance can be clearly identified (paints, solvents, oils, degreasers, etc).
- Flammable products are not permitted on the grounds.
- A special work permit is required for soldering. Soldering equipment cannot be used without prior FIRA authorisation.
- All equipment to be used in electric soldering works must be in safe usage conditions: overall protection, insulated cables without fissures and proper connections.
- All load lifting equipment, cranes, forklifts, etc., must be fully equipped with safety elements and be adapted to current legislation:
- This equipment can only be operated by authorised and qualified personnel who are responsible for their actions.
- Suspended loads shall not be passed over people.
- The maximum traffic speed on the Fira de Barcelona grounds is 10 km/h.
- All equipment for work with electrical equipment must be in good condition, including protections, plugs, cables, fuses, earth, etc.
- Only qualified persons can perform electrical tasks.
- Saw discs and cutting parts and carpentry equipment must be protected.
- Safety shoes, work gloves and protective glasses must be worn.
- Reflective vests must be worn when there is vehicle traffic and for work outside.

## **EMERGENCY MEASURES AND FIRST AID**

Emergency Notifications: Advise security personnel at the Fira de Barcelona, present in the centre.

**Telephone: 93 233 31 00 MONTJUIC**

**Telephone: 93 233 41 00 GRAN VIA**

- Permanent First Aid Attention Centres.

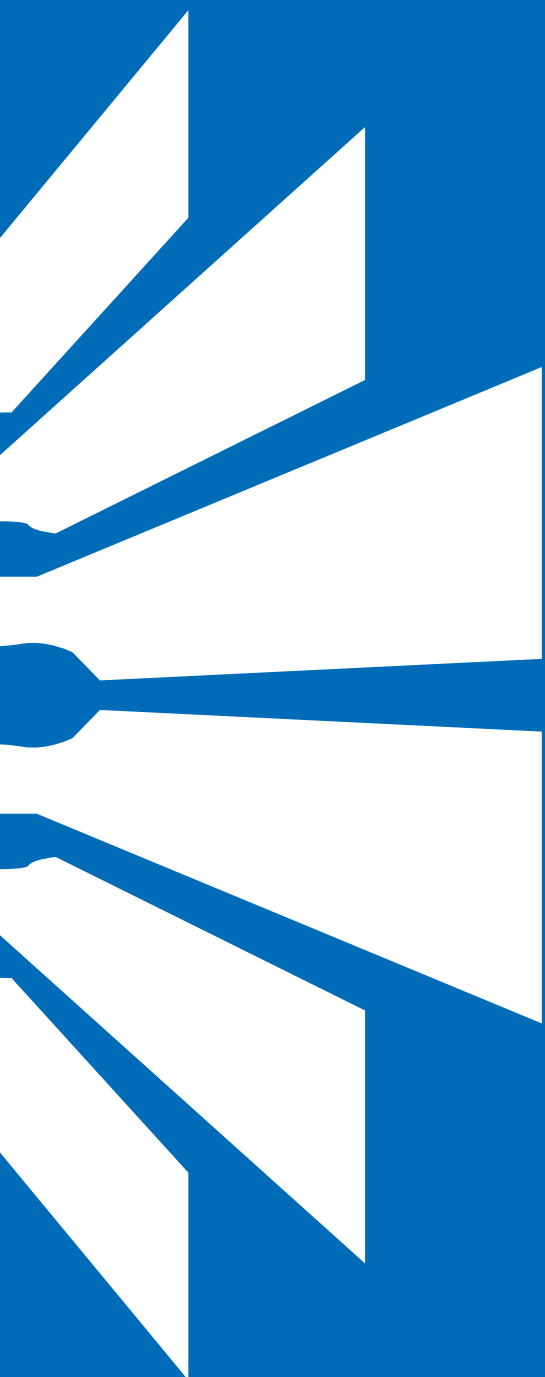
First Aid at the Fira de Barcelona facilities located in the Montjuic grounds, Plaza Universo (Open from 9 am to 8 pm)

**Telephone: 93 233 21 11 MONTJUIC**

**Telephone: 93 233 40 02 GRAN VIA**

## **INFORMATION AND COMPLEMENTARY MEASURES**

- You must have a work permit / authorisation in order to enter the Fira facilities to carry out work.
- There is no access to restricted areas and you must remain in general use zones and in particular, those areas where work is being done.
- Operating the breakers or any other equipment at the facilities is prohibited except with express authorisation.
- The contracting company shall be responsible for comprehensively notifying its workers, subcontractors and freelancers about the content of these instructions and the complementary Safety Guidelines.
- If you have questions before or during the execution of the works, please contact security personnel at the Fira de Barcelona.



**ELECTRICITY**

## **REGULATION FOR ELECTRICAL SWITCHBOARD'S LEGALIZATION**

All the installations should be carried out according the current ELECTROTECHNICAL LOW TENSION LEGISLATION AND COMPLEMENTARY REGULATIONS, by an official qualified electrician authorised by the Industry Department at the Generalitat de Catalunya, who should fill in the corresponding electrical installation certificate (official certificate).

Those electricians who do not have the official Catalan Electrician License, will have to register themselves mandatorily in person in whichever of their offices. Once this has been carried out, it will be necessary that the electrician is registered with an EIC (Inspection and Control Entity), in Fira's case this is: TÜV RHEINLAND ICT, S.A. – in order to carry out the verification of the electrical installations.

This can only be carried out by E.U. electricians. Therefore, for those non-EU electricians, the electrical switchboards must be ordered directly from ServiFira. If the switchboards are not ordered through ServiFira, then the stand-builder/exhibitor should order this service to an official certified electrician from Catalonia or a European electrician that has carried out the above mentioned procedure beforehand.

It is mandatory for all those exhibitors that do not order a stand or electrical switchboard from ServiFira, to fill out the Electrical Power Request Form in order to have electrical power in the stand. The electrical consumption will invoiced before the exhibition/congress, and payment must be received by Fira in order to obtain the approval of the installation and then have power in the stand.

The electrical connections in the pavilion halls can only be done by Fira Barcelona's Technical Service Department and will be carried out once the electrical installations have been approved and authorised by the Industry Services Department.

The Organization will not be held responsible for any damages or losses that can be originated from the interruptions in the power supply that depends on the electric company. We also remind you that that the electrical connections in the Gran Via venue are carried out using three-phase CEEPLUG connectors.



## **POWER SUPPLY MAIN CABLE**

This segment is the one that goes from the supply box of Fira de Barcelona to the electric distribution switchboard of the stand.

The type of cable used in this segment shall be 0,6/1 kV isolation type. (According to table 1 and 2)

Power supply main conductors will not have any kind of connection. It must be made in one piece, between the Fira supply box and the main circuit breaker of the stand electric distribution switchboard. Connections with Cee Forms, Powerlock or similar are not allowed in this segment.

All the supply boxes and the service chests of Fira must remain accessible.

At Montjuïc venue, the multiple conductor cable will be provided in its tips of ring terminals with a minimum diameter of 6 mm and a maximum of 10 mm. The connection to the supply boxes of the Fira must be performed only by authorized personnel of Fira. Before that, the required documentation needs to be presented (See Legal procedures section).

At Gran Via venue, connections until 63A will be carried out through a Cee form of an appropriate intensity (16, 32 and 63A, three - phase). The connection to the service chest must be made by the stand electrical installer who will note the Fira base number which is used. (See Legal procedures section).

At Gran Via venue, for power higher than 63A, the distribution system TN-C must be used.

## **ELECTRIC SWITCHBOARD OF THE STAND**

The main electrical distribution switchboard must have a main circuit breaker with thermic and magnetic protection. Fuses are not allowed.

The main circuit breaker must agree with the power ordered to Fira de Barcelona. All lighting circuits and outlets of less than 32A shall be protected with 30 mA residual current circuit breaker (RCCB). All electrical equipment that is accessible to the public must be also protected with 30 mA RCCB.

All circuits must be protected against overcurrents with omnipolar cut off (phase-neutral) in its origin.

All switchboards must be opened only with the help of a tool.

For indoor areas, the switchboards will have a minimum protection level of IP 4X and for outdoor areas IP 45.

Switchboards of the stands must be properly fastened to the structure between 1 m and 1.80 m high and must be accessible.

Switchboards and its electrical connections connected to the 24 hour service circuit must be independent than the daytime switchboards (working hours).

## **STAND INSTALLATION**

Conductors to be used in the stand installation must be 0.6/1kV isolation level. Conductors of 450/750 V isolation level can be used with a rubber isolation (Type H07RN-F). Sections must be suitable for tables 1 and 2.

Cables must be fastened correctly and will be protected against mechanical action when needed (i.e. if accessible to the public).

The ground conductor must be of the same section that the phase – neutral conductors until 16 mm<sup>2</sup>. From 16 mm<sup>2</sup> on, it can be reduced by half.

To make ground equipotential connections with protection conductors that are not included in the electrical laying cable, it shall be necessary a minimum of 2,5 mm<sup>2</sup>, if conductors have mechanical protection, or of 4 mm<sup>2</sup> if not.

Metal structures, receptors and, in general, everything that has metal parts and that could become live if a fault occurred, shall be connected to the ground distribution.

In outdoor areas, all the equipment will have a protection level of IP 45, and IP 4X in indoor areas.

All indoor connections/derivations will be made through connection strips or connection type Weiland. No twisting connections will be allowed and the connection strips must be into supply boxes.

Lights at less than 2,5 m height shall be firmly fastened.

Sockets placed at ground level shall be protected against water. Its protection level against impacts must be of IK10.

Electronic equipment that can reach high temperatures (i.e.: lights, projectors, etc.) must be kept off combustible material (i.e.: wood, cloth, etc.).

Sockets placed outdoors (Cee form, Shucko, etc.) must be at a minimum height of 30 cm of the ground level.

Emergency lights must be installed in stands over 100 people gauging.

Big restaurant installations must follow the specific rules for public locals: emergency lighting, free halogen conductors, and with opacity and smoke emission reduced (Afumex type RZ1), and 3 independent lighting circuits (circuit breaker switch and independent differential switch).

## **LEGAL PROCEDURES**

Power distribution within a stand must be legalized by a single and unique owner. Legalizations are made stand by stand. Power legalization must be the sum of the powers of all the switchboards in the stand.

Installations must be standardized and certified by a licensed electrical installer authorized by the Autonomous Catalan Government (Generalitat de Catalunya) who draws up the necessary documentation.

Installations will not receive power from Fira de Barcelona if it is not finished and the needed official documentation is not submitted. This documentation is validated by a collaborating entity of the Generalitat de Catalunya (TÜV Rheinland ICT). Such entity is located in the Customer Service Office of Fira de Barcelona.

Stands up to 50 kW require a the Technical Design Memory. The following must be included:

- Electrical Installation certificate (Form).
- Electrical scheme with calculations.
- 

Stands with more than 50 kW power must be legalized through a technical project conducted by a collegiated engineer. This means:

- One project stamped by the Engineers' Association (Col·legi d'Enginyers de Catalunya).
- Stamped end of works certificate.
- Electrical Installation Certificate (Form).
- 

For any other case not explained before, please follow the current Regulation of Low Voltage (Reglamento Electrotécnico de Baja Tensión) published in the Royal Decree 842/2002 (Real Decreto 842/2002). Only Spanish regulation will be accepted.

**TABLE 1**

Minimum section of the conductors depending on the protection installed:

MCCB (Ampere s)	minimum section (mm <sup>2</sup> )
6	1,5
10	1,5
16	2,5
20	4
25	6
32	6
40	10
50	10
63	16
80	25
100	35
125	50 ( 35 for conductor in the open air)
160	70 (50 for conductors in the open air)

Color code to identify the phase conductors is: black, brown or grey. Blue is identified for neutral conductor ant the green / yellow for ground conductor.

**TABLE 2**

The following table describes the maximum length of lines, depending on the type of wire installed, connection type (single or three-phase) and the installation or use made of it.

- DI: individual branch segment (Exhibitor's switchboard to supply box of Fira de Barcelona).
- IL: lighting circuit.
- FUE: power circuit (power point, machinery, etc)

PIA (A)	Section line (mm <sup>2</sup> )	Maximum Length (m) , copper conductor						Wire types (rated voltage )	
		Single - phase			Three - phase			450/750 V	0.6/ 1 kV
		DI	IL	FUE	DI	IL	FUE		
6	1,5	8	48	80	16	96	128	RV (Rubber insulation and polychloroprene cover)	W (PVC insulation and PVC cover)
	2,5	13	80	134	26	161	214		
10	1,5	4	28	48	9	58	77		
	2,5	8	48	80	16	96	128		
16	2,5	5	30	50	10	60	80		
	4	8	48	80	16	96	128		
20	4	6	38	64	12	77	103		RV (Polyethylene reticulated insulation and PVC cover)
	6	9	57	96	19	116	154		
25	6	7	46	77	15	93	123		
	10	12	77	128	25	155	206		
32	6	6	36	60	12	72	96		
	10	10	60	100	20	121	161		
	16	16	96	161	32	193	257		
40	10	8	48	81	16	97	128		RZ1 (Polyethylene reticulated insulation and polyolefin thermoplastic cover)
	16	13	77	129	26	155	204		
50	10	6	39	64	13	78	102		
	16	10	62	103	21	124	164		
63	16	8	49	82	16	99	130		
	25	13	77	128	26	154	203		
80	25				20	121	160		DZ1 ( Isolation of ethylene propylene and polyolefin thermoplastic cover)
	35				28	170	224		
100	35				23	136	179		
	50				32	194	256		
125	35 **				18	109	143		
	50				26	155	204		
160	50 **				20	121	160		
	70				28	170	224		

\*\* This is allowed if conductors are installed outdoors. Not valid in an installation stapled to the wall.

## FREQUENTLY ASKED QUESTIONS

### How do I know what kind of electrical panel I need?

You need to add up the total number of watts you need for your stand, including: lighting, machinery, computer equipment, audiovisual equipment, etc.

If you have contracted a stand through ServiFira, you do not need to add the power consumption from lighting as the stand includes the lighting panel.

If you will be exhibiting machinery, you need to consider whether it operates on a single-phase (230 V) or three-phase (400 V) system.

### What times will you need to be connected?

- **Daytime electrical panels:** these are connected each day 1/2 hour before the event opens and disconnected 1/2 hour after the closing time.

- **24-hour electrical panels:** these supply power throughout the whole event, 24 hours a day, and are recommended if you have fridges or machinery that needs to be permanently connected.

### If you contract a three-phase electrical panel with CBs, how many single-phase outlets will it have?

The number of CBs installed should always be in accordance with the following ratio:

Panel	Amps	Nº CB
8 kW	16 A	3
15 kW	32 A	6
20 kW	40 A	9
30 kW	63 A	12

- CB = Circuit Breaker
- 1 kW = 1,000 Watts

Remember that the socket cannot bear more electrical power than the power indicated in the CB.

### When is it necessary to provide an ELECTRICAL PLAN when contracting an electrical panel?

If the total kilowatts contracted through electrical panels is more than 50 kW, it is compulsory to submit an electrical plan in accordance with the regulations of the Department of Industry of the Generalitat of Catalunya.

### Electrical project is needed:

- For a switchboard superior to 50 kW
- For the sum of several switchboards (superior to 50 kW) in the same stand.

### When do I pay for my electricity charges?

Payments for electricity must be made before the assembly starts, and will be invoiced together with the electrical panel.



### VERY IMPORTANT INFORMATION

- The prices for renting electrical panels during the event include their official certification, but not consumption costs or the cost of the electrical plan if you are using more than 50 kW on your stand.
- Under no circumstances will be exhibitor's machinery be connected by our technicians. Likewise, electrical connectors are not supplied (cables, extensions, adaptors, etc.).
- Payment of industry taxes is mandatory as from the second electrical panel, or from the first electrical panel for events held at Fira de Barcelona venues but not organised by the Fira Barcelona.

If you hire and electrical switchboard there is no need to fill in form A as the electrical consumption will be automatically invoiced.