

## IFSC CLIMBING WALL REQUIREMENTS

The document outlines the baseline specifications and technical guidelines for the climbing walls and surrounding key elements on the Field of Play (FOP).

The provided information is subject to further consultation with the IFSC and shall be read together with the latest IFSC rules and relevant regulations where applicable (<https://www.ifsc-climbing.org/>).

### 1. WALL SPECIFICATIONS (MINIMAL)

Area / Space	Technical specifications
<b>Lead Wall</b>	<ul style="list-style-type: none"> <li>○ Height: min. 15m. Shall be as high as the Speed wall. It can be higher if it aesthetically makes sense in the context of the venue design or if the space is used for the Look of the event.</li> <li>○ Width: 12m – 15m (capacity for max. 4 routes) subject to the competition format</li> <li>○ Profiles: varying inclinations from a minimum of 15° up to 60°</li> <li>○ Overhang: average 8-9m</li> <li>○ Orientation (if outdoor): Subject to season/country, it shall be north or northeast in the northern hemisphere; south or southeast in the southern hemisphere. Sun exposure is to be avoided.</li> <li>○ Cover: Wall must be protected from heat/rain with FOP roof</li> <li>○ Hanger: Easily removable (preferred), fixed hanger (acceptable)</li> <li>○ Hanger covers: mandatory for competition</li> <li>○ Friction: uniform and medium range</li> <li>○ Alignment between panels displaying flatness and no visible gap (max. tolerance 1mm)</li> <li>○ Comply with EN 12572-1</li> </ul> <p><i>Note: Wall size and other specifications are subject to competition format and consultation with IFSC.</i></p>
<b>Boulder Wall</b>	<ul style="list-style-type: none"> <li>○ Height: 4.5m Measured from the surface of the boulder mat to the TOP signage, 4.5m is the maximum height for routesetting in accordance with EN. The wall may be higher up to 5m if the extra space is intended for the Look of the event.</li> <li>○ Width: 30m (capacity for max. 10 boulders) subject to the competition format</li> <li>○ Profile: 4-5 different profiles with varying inclinations from -5° up to 45°</li> <li>○ Orientation (if outdoor): subject to season/country, it shall be north or northeast in the northern hemisphere; south or southeast in the southern hemisphere. Sun exposure is to be avoided.</li> <li>○ Cover: Wall must be protected from heat/rain with FOP roof</li> <li>○ Access: The top platform shall be accessible for TV operators and photographers to install the remote cameras. It shall be possible for the athletes to top out in a safe manner and allow them to form a standing position and be able to get down from the top platform in a safe and efficient manner (e.g., stairs) to the behind the wall.</li> <li>○ Inserts: Recommended to avoid t-nut inserts on the panel (especially on the slab/vertical profile). T-nuts acceptable on overhang profiles.</li> <li>○ Friction: uniform and low range</li> <li>○ Alignment between panels displaying flatness and no visible gap (max. tolerance 1mm)</li> <li>○ Comply with EN 12572-2</li> </ul> <p><i>Note: Wall size and other requirements subject to competition format and consultation with IFSC.</i></p>

<p><b>Boulder Mat</b></p>	<ul style="list-style-type: none"> <li>○ Thickness: average 40cm</li> <li>○ Length: Comply with Standard EN 12572-2 with a min. 1.5m on the side of the wall and a min. 2.5m backward from the most advanced point of the edge on the floor. The mat dimension is subject to the wall profiles, applicable national standards if any, and further consultation with the IFSC to ensure the safety of the athletes. The mat design should anticipate possible swing movement or momentum to prevent a fall outside the matted area, and to minimize the mat from being shifted due to the movement.</li> <li>○ Cover: Must be protected from heat/rain with FOP roof. A separate mat coverage for protecting the surface when it is not in use. Possibility to place the Look of the event on the mat cover.</li> </ul>
<p><b>Curtain (Boulder)</b></p>	<p>Installation of the curtains to cover the entire Boulder wall to create a secluded environment and protect the confidentiality of climbing movements that are created during route setting. Required for the outdoor, and for indoor venue where the curtain is deemed necessary.</p>
<p><b>Warm up walls at Isolation Zone</b></p>	<ul style="list-style-type: none"> <li>○ Height: The wall should not be higher than 4.5m in accordance with EN and an absolute minimum of 3m height.</li> <li>○ Width: minimum 15m subject to the competition format and the athlete's quotas</li> <li>○ Must be equipped with matting</li> <li>○ Profile: 4-5 varying profiles with similar steepness of the competition wall</li> <li>○ Orientation (if outdoor): subject to season/country, it shall be north or northeast in the northern hemisphere; south or southeast in the southern hemisphere. Sun exposure is to be avoided.</li> <li>○ Cover: Wall must be protected from heat/rain with roof.</li> <li>○ Holds (Boulder and Lead events): similar quality and shapes of holds, including small and micro holds, macros, and volumes used at the competition wall (at least 50% proportion is recommended).</li> <li>○ Holds (Speed event): Official IFSC Speed holds and speed footholds should be added for the warm-up wall, in addition to additional jugs</li> <li>○ Comply with EN 12572-2</li> </ul> <p>Availability of the Lead and Speed walls for the warm-up (or training where applicable) are optional and may depend on the existing training facilities in the host city or EO's legacy plan.</p>
<p><b>Speed Wall</b></p>	<ul style="list-style-type: none"> <li>○ Height: 15m Starts 20cm above the ground. Ceiling height is 16.7m with top protection point.</li> <li>○ Width: 6m (2 lanes, 3m each)</li> <li>○ Profile: 5° overhang inclination</li> <li>○ Orientation (if outdoor): subject to season/country, it shall be north or northeast in the northern hemisphere; south or southeast in the southern hemisphere. Sun exposure is to be avoided.</li> <li>○ Cover: Wall must be protected from heat/rain with FOP roof</li> <li>○ Friction: uniform and low range</li> <li>○ Alignment between panels displaying flatness and no visible gap (max. tolerance 1mm)</li> <li>○ Comply with Standard EN 12572-1 (no hanger)</li> </ul> <p><i>Note: Must meet speed regulations according to <b>IFSC Speed License Rules</b> and the <b>IFSC Recognised Speed Wall Manufacturers</b>. Subject to IFSC homologation and approval where necessary.</i></p>

<p><b>Wall Panels</b></p>	<p><u>Quality</u></p> <p>When deciding the level of plywood quality, considerations shall be made together with the local climate conditions (if outdoor venue) and EO's or host city's legacy plan, to evaluate long-term maintenance prospects of panels. The manufacturer shall respect EN636 Plywood Classification (EN636-1 Dry Environment; EN636-2 Humid Environment; EN636-3 Exterior Environment). Testing and samples may be required to minimize traces of the rubber of the climbing shoes.</p> <p><u>Friction</u></p> <p>Panel is layered with coating, sand and paints that must ensure to achieve long-lasting friction and that could easily be cleaned. Sample with 3 different ranges of friction (low, medium, strong) shall be provided during the manufacturer evaluation process.</p> <p><u>Coloration</u></p> <p>Painting process to ensure even color and consistent uniformity across all panels for a clean visual display of the wall when the panels are assembled.</p>
<p><b>Roof/Cover (FOP)</b></p>	<p>For outdoor venues, the roof is essential to protect the competition walls and surrounding elements on the FOP from the weather conditions such as heat and rain. For rain protection, an inclination of 15° in any direction must be consider. The climbers, the entire surface of climbing mats and the start of the route must stay protected and dry.</p> <p>When designing the roof, important criteria to consider include, but not limited to:</p> <ul style="list-style-type: none"> <li>○ Architectural designs and its aesthetics in relations to overall venue concept</li> <li>○ Dimension according to the wall specifications and the FOP stage</li> <li>○ Maintaining back of the wall space and access from the behind</li> <li>○ Resistance to the wind according to the weather data and recommendations provided by the local sources</li> </ul> <p>More technical details to be defined according to the venue layout and the latest technology available.</p>
<p><b>Platform (FOP Stage)</b></p>	<p><u>Height</u></p> <p>An elevated platform with average 1m (min 0.8m up to max 1.5m) in height to stage the climbing walls and ensure good visibility of the competing athletes from any point in the spectator seats.</p> <p><u>Dimension</u></p> <p>Subject to the competition format, wall structures and design, and anticipated technical equipment presence (e.g., cameras, lights, timing and scoring screens). In general, the stage should be wide enough to receive the landing athletes in a safe manner, with the following discipline-specific considerations:</p> <ul style="list-style-type: none"> <li>- Speed: Bottom of the wall must be kept free of objects to ensure starting position.</li> <li>- Lead: Extra meters according to the most overhang profile to receive the landing athletes.</li> <li>- Boulder: min. 1m of the footpath space between the edges of the boulder mats and the end of the stage to ensure safe flow of circulation.</li> </ul> <p><u>Stairs</u></p> <p>Placement of stairs, usually front, back or side of the stage subject to the venue design.</p> <p><u>Athletes' Gates</u></p> <p>Placement of athletes' gates, within average 4-5m distance between each wall</p>

<p><b>Wall Structures</b></p>	<p><u>Main steel structures</u></p> <p>Designing, manufacturing, and installing main steel structures in compliance of local regulation. The structures can be attached to an existing, self-standing infrastructure or be fixed to the ground. The weight of the walls and reaction forces that the ground can support must be well studied in the planning, to evaluate the construction method and the option of creating an elevated platform (FOP stage). The advance planning helps ensure the necessary materials are sourced and thus avoiding unexpected material shortage.</p> <p>In general, the average weight of the Speed wall is 30 tons. The Lead wall can be up to 75 tons and the Boulder wall in 15-20 tons. However, these measurements should be used as an initial reference and more precise estimation will depend on the dimension of the wall and the materials used.</p> <p>Back and side of the steel frames to be covered for weather protection and broadcasting requirement.</p> <p><u>Supporting structures</u></p> <p>When designing the wall, the manufacturers shall consider main structures and secondary structures that would allow necessary optional interventions (e.g., attaching remote camera and other equipment, coverage operation of the event Look around the scaffolding) in an efficient way.</p> <p>It is necessary for the manufacturer to present sufficient technical explanation and knowledge how the wall should be installed and dismantled, and a contingency plan to protect the wall in case of the postponement of the event or weather occurrences.</p>
<p><b>Lift parking</b></p>	<p>Arial lift parking spaces to be reserved immediately behind or side the FOP walls. The circulation path should consider 3m width.</p>
<p><b>Look of Walls</b></p>	<p>In an event which the format features three or more disciplines of Sport Climbing, the look and feel elements of the wall across three walls must be aligned to achieve the highest consistency in aesthetics. This refers to having a good visual matching of the three walls, consistent quality of finish, and lighting reflection on the panels, to achieve optimal tones and presentation of the Field of Play for broadcasting.</p>

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## 2. WALL MANUFACTURER QUALIFICATION

### Safety

In principle, the company must prioritize the safety of the athletes who will climb on the walls and the IFSC officials and operational staff who are present around the FOP. All climbing walls must comply with the European Standards (EN 12572-1 / EN 12572-2 / EN 12572-3) as specified in the [IFSC Rules](#) and the [IFSC Speed License Rules](#).

### Foundation

The company must have significant experience in producing and installing climbing walls. Their experiences can be reflected through:

- Sufficient financial liability defined by the Event Organiser (EO) contract and relevant Host City regulations where applicable;
- The legal and financial implications of the contracts with similar entities such as EO;
- Experience in international shipping and a dedicated installation team that can be projected in any country or pursue an agreement with the respective local installers;
- Dedicated project personnel for engineering the wall design and the availability of 3D modelisation.

### Experience in supplying competition walls

The company must have their experiences on the competition-level walls successfully delivered for international events, including the history of their participation in the IFSC events (i.e., IFSC Climbing World Championships, IFSC Climbing World Youth Championships, IFSC Climbing World Cups, Multi-Sport Games) or high-level continental and national events organised by the IFSC Member Federations.

The company must also demonstrate its ability to handle the delivery and installation of the walls with both indoor and outdoor venues. In the case of the outdoor venue, weather protection must be anticipated during the infrastructure planning.

List a minimum of three events, and at least one indoor and one outdoor project that is completed and/or ongoing.

In addition, the company must prove its ability to install the walls on a temporary basis – including the plan to install and dismantle them multiple times if required – on all types of surfaces (e.g., grass, sand, concrete) and provide the IFSC and EO with technical consultation on the FOP stage and infrastructure planning.

### International profile and project management

The company has proficient communication/media management and project implementation experiences in meeting strict deadlines in a multicultural environment.

The company may provide further information on their regional distribution channels and existing factory locations (if multiple) in different regions or countries, as well as the established relations with a team of international (or local) operators and partners.

The ability to assign a dedicated project manager to the event is important, with proven experiences in the similar level of projects. The preferred candidate is to have a proficient spoken and written English level to ensure technical specifications and requirements are well understood by all stakeholders.

### 3D modelisation

In addition to the dedicated personnel for project management, the availability of 3D modelisation of the walls will be requested to ensure good spatial planning on the FOP and adjacent operational areas.



### **Homologation**

The IFSC is responsible for validating the characteristics of the walls, including the wall design validation and technical inspection. In particular, the Speed wall must be provided by the IFSC Recognised Speed Wall Manufacturers according to the IFSC Speed License Rules.

The wall company, the IFSC, and the EO are in close consultation throughout the infrastructure planning process. The wall company needs to closely follow the regulations developed by the IFSC and make technical adjustments if required during the project.