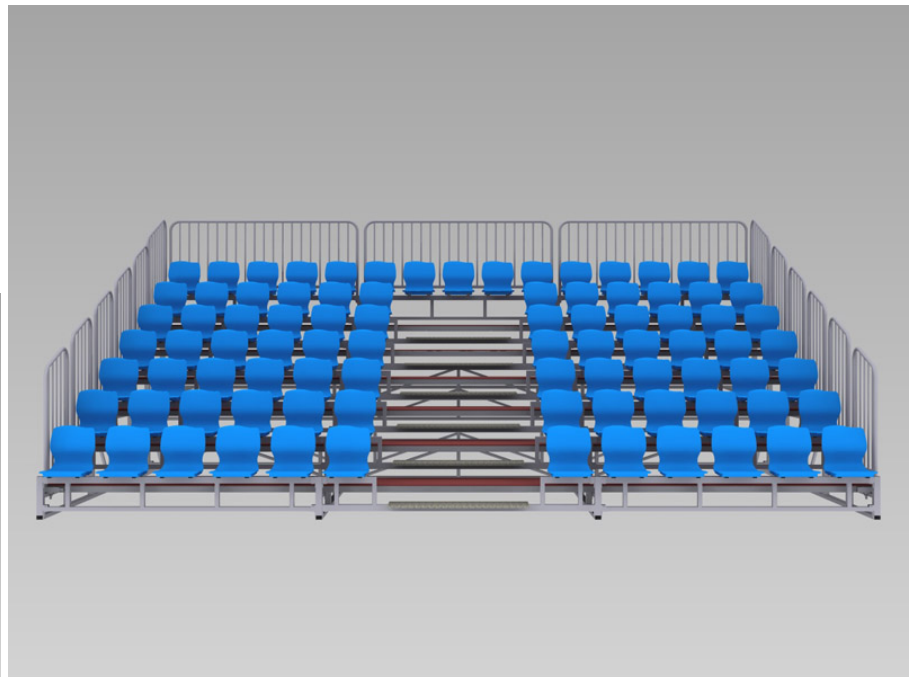
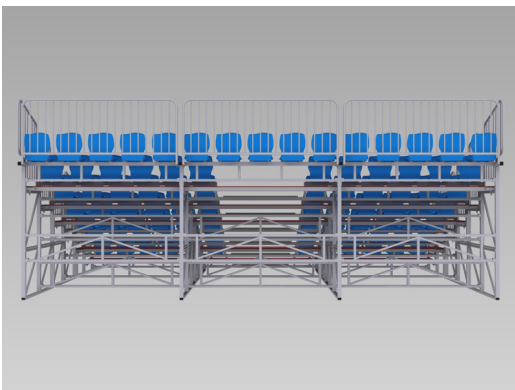
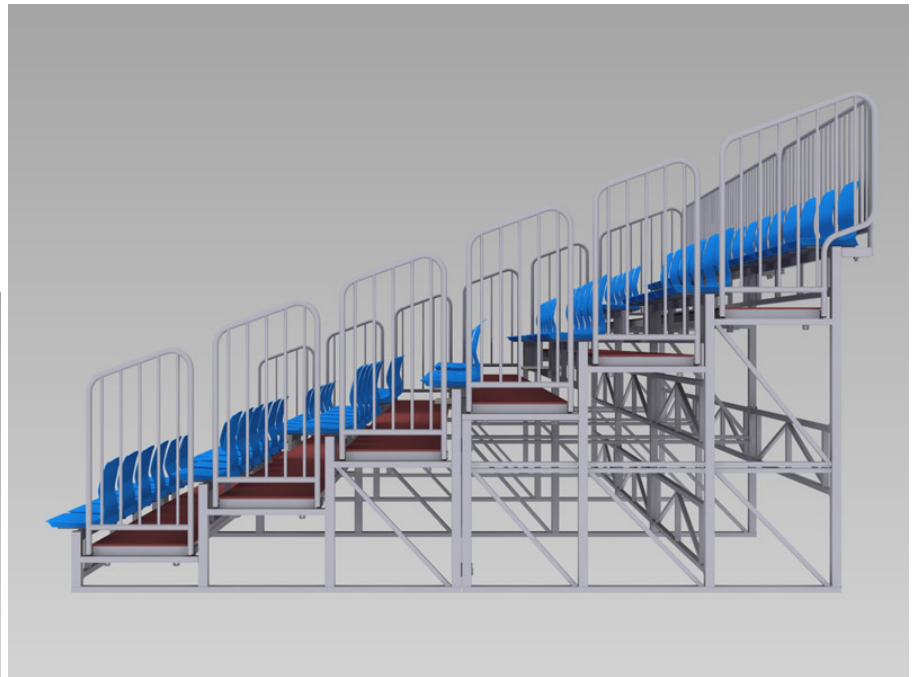
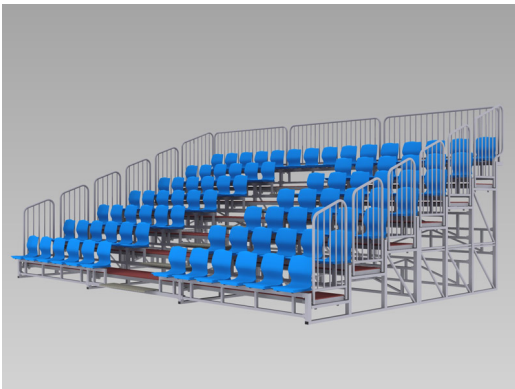
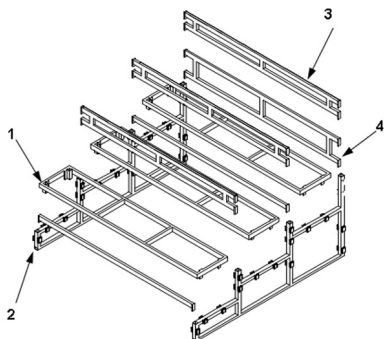


OUTDOOR DISMOUNTABLE BLEACHER





MONDO outdoor dismountable bleachers are designed and manufactured in accordance with ISO 9001 (Quality Management System), ISO 14001 (Environmental Management System) and OHSAS 18001 (Occupational Health Management System).

This product is custom made, designed specifically for each project. The MONDO outdoor dismountable bleacher design is adapted to the dimensions available in the sport facility, carrying out a layout on which all the determining parameters are defined (step distribution, stand access areas, side and front handrails, access and seating spaces, etc.).

Each section of the dismountable bleachers, manufactured mainly in steel, consists of several modules, each of them measuring 2,5 m.

Each module consists of the following basic elements:

- A series of horizontal platforms or independent metal structures, which determine the different rows and passageways that the bleachers will have. They are manufactured in cold rolled steel to prevent deformation. These resistant elements determine the passageways of each row. They are finished on the top with a steel plate non-slip surface, resistant to the different usages and outdoor conditions.
- The platforms support legs are also made in tubular rolled steel (60.40.2, 60.60.2 and 30.30.2 profile dimension), with a 2,5 m separation between each one. These elements are assembled into the other components, therefore they are the main load transmitters to the ground. Every supporting leg has on both sides the right casing system to assemble the other components.
- Seating are installed over a support manufactured in rolled steel, attached to the legs described above with the same procedure. There are different Mondo seating models to choose from depending on the client's needs.
- Internal stiffening elements, which prevent possible deformation or movements of the whole unit, guarantee the structure stability.
- The bleachers are equipped with a series of handrails on the sides of each section and at the front, where necessary (if designed with front aisle), which are made in circular section (of 40 mm diameter) curved steel profile, reinforced with cross bars that also limit the free spaces. The handrails are 1 m high for each passageway and they are designed without any sharp edges to prevent injury.

All these elements can be simply and quickly assembled and do not require any screwed connections.



The structure of each row (1), see drawing above, consists of a steel frame, manufactured in cold-rolled steel required to support the load it will be submitted to. This structure supports the passageway. A non-slip 2 mm thick steel plate is placed on top of it. Each frame and seat rests upon two vertical steel structures (2), which transmit the stress load to the ground where the bleachers are placed. The frames are attached to the pillar with housings (3). The seats also rest on these legs, which are also housed like the frames in the housings added for this purpose. There is a bracing (4) on the inside of the structure, thus making sure the unit does not deform.

As described above, the dismountable bleacher is mainly manufactured in steel elements. All the elements that make up the dismountable bleacher structure are made of S235-JR structure steel. This type of steel is mainly applied in building structures. It presents no difficulty for hot welding. The whole steel structure will be protected against atmospheric agents by hot galvanized treatment. This treatment is carried out according to European Regulation UNE 37-501-88 and UNE 37-508-88. These Regulations specify the materials to be used as well as the characteristics, tests, etc. on the coating. It specifies also the minimum values to have in mass and thickness for the galvanized coating. It contains zinc, which cathodically protects the iron and steel, preventing corrosion.

DESIGN OPTIONS

MONDO outdoor dismountable bleachers are a customized product, adjusted not only to space available but also to customer's needs. Therefore, in order for MONDO technical office to study each project, drawings and plans of the sport facility should be provided to MONDO.

Several options could be done in addition in the design of every single project, in order to meet the customer's final needs:

- Rear passageway: behind the last row of spectators and the rear hand railing, there could be a distribution passageway.
- Front passageway: in front of the first row of spectators, there could be a distribution passageway. This means that the spectators on the first row rest their feet on this passageway, which also includes a front handrail.
- Additional handrails as spare parts (in case of different variation or combinations between the modules).
- Mondoseats monoblock models and color choice.
- Steel painted structure color choice (among the standard range). The product can be painted with polyester powder paint, which is applied after a degreasing treatment in a pressurized phosphate bath and polymerized in oven at 200°C. This application would be done after the galvanizing process.
- Final dimensions of every single module (depending on available space):
 - Number of rows for every module.
 - Number of spectators in each row.
 - Total Number of spectators.
- Number and dimensions of stairs in each section.
- Color of the lateral and frontal canvas.
- VIP Area (special configuration).
- Need of concourse access
- Seat Numbering.
- Instead of galvanized steel material, include the use of phenol plywood (Afrocar) for the passage areas. Birch coniferous wood are used in its composition and design. Phenol resins are used in the sizing process in all the cases where the surface finish is non-slip. This is achieved with special, pressed and hot polymerized, phenol resins. It has a 260 g/m² film on the surface and at the bottom, a 130 g/m² film. The unit has mechanical and abrasion resistance characteristics. This option is highly recommended for regular indoor use, or occasionally outdoor, providing excellent value for money.
- Legal requirements to be considered in the final design (this feature depends on the country where it is going to be used. Some regulations are more strict than others).

The MONDO Group has developed and installed more than 50 bleacher projects in the last 15 years all around the world. They have been used in several high level sport competitions such as the Olympic Games or the Basketball World Championships, Final Four Euroleague, etc.

