TECHNICAL DOCUMENT

PLAYA

Mini-pool above ground "PLAYA"

- *OVERVIEW*
- *GRAPHIC DIAGRAMS*
- *VERIFICATION OF STRUCTURAL ELEMENTS*
- *GROUND LOADS*

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INTRODUCTION

This TECHNICAL DOCUMENT is intended solely for:

- a description of **the geometry** and **assembly methods** of the elements that make up the SUPPORTING STRUCTURE of the mini-pool;
- a description of the model (geometry, loads, constraints) subject to structural verification;
- an illustration of the results of the verification;
- indication of loads on the ground.

Items not relevant to the purposes listed above will not be taken into account.
For the aesthetic and/or functional description of the pool, please refer to the other documents supplied (technical data sheet/assembly instructions/user manual).

OVERVIEW

PLAYA ® is a swimming pool characterized by a compact and light structure made with prefabricated elements, produced at the Laghetto Pools plant and conveniently assembled on site. The materials used are bent sheet metal and metal profiles made of galvanised and powder painted structural steel.

In any case, the mini-pool has a RECTANGULAR shape with four or six vertical supports depending on the models.

Once the perimeter is "closed", the structure houses the **tensile-structural and water containment membrane**: thanks to the presence of a special groove along the upper internal profiles, it is constrained along the entire perimeter of the pool. The various "main pieces" and the individual elements that compose them will be illustrated in detail below.

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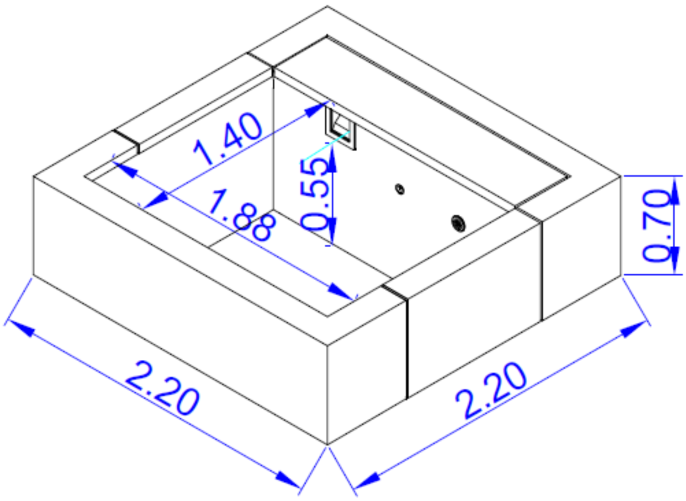
PLAYA is made in 3 versions with the following internal dimensions and external dimensions:

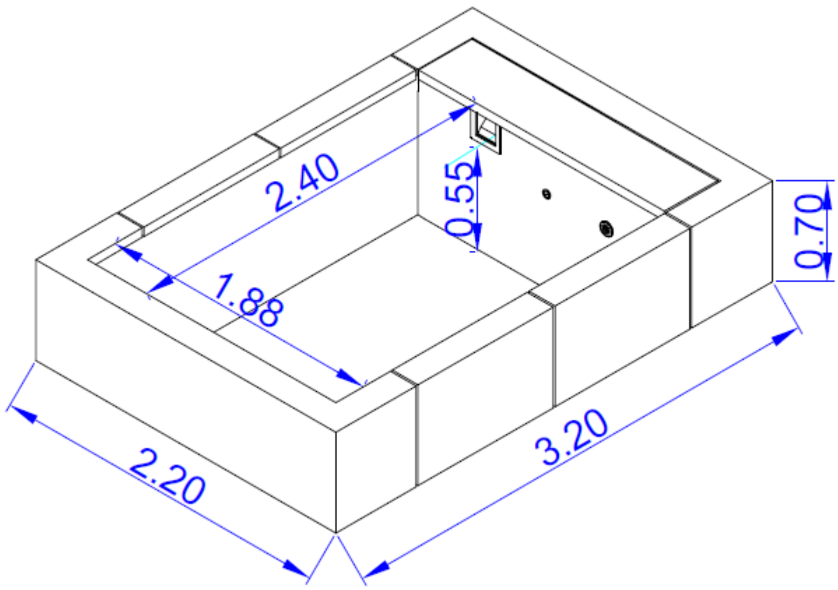
PLAYA 1

INTERNAL DIMENSIONS: 1.88x1.48x0.70 m
EXTERNAL DIMENSIONS: 2.20x2.20x0.70 m



PLAYA 2

DIMENSIONI INTERNE: 1.88x2.48x0.70 m
INGOMBRI ESTERNI: 2.20x3.20x0.70 m



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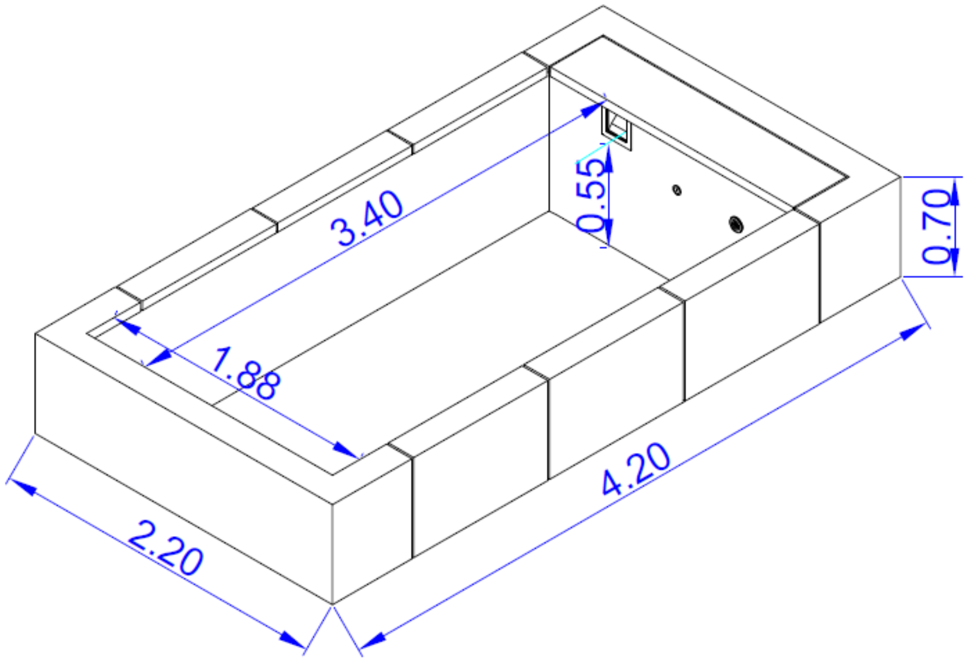
PLAYA 3

INTERNAL DIMENSIONS:	**1.88x3.48x0.70 m**
EXTERNAL DIMENSIONS:	**2.20x4.20x0.70 m**



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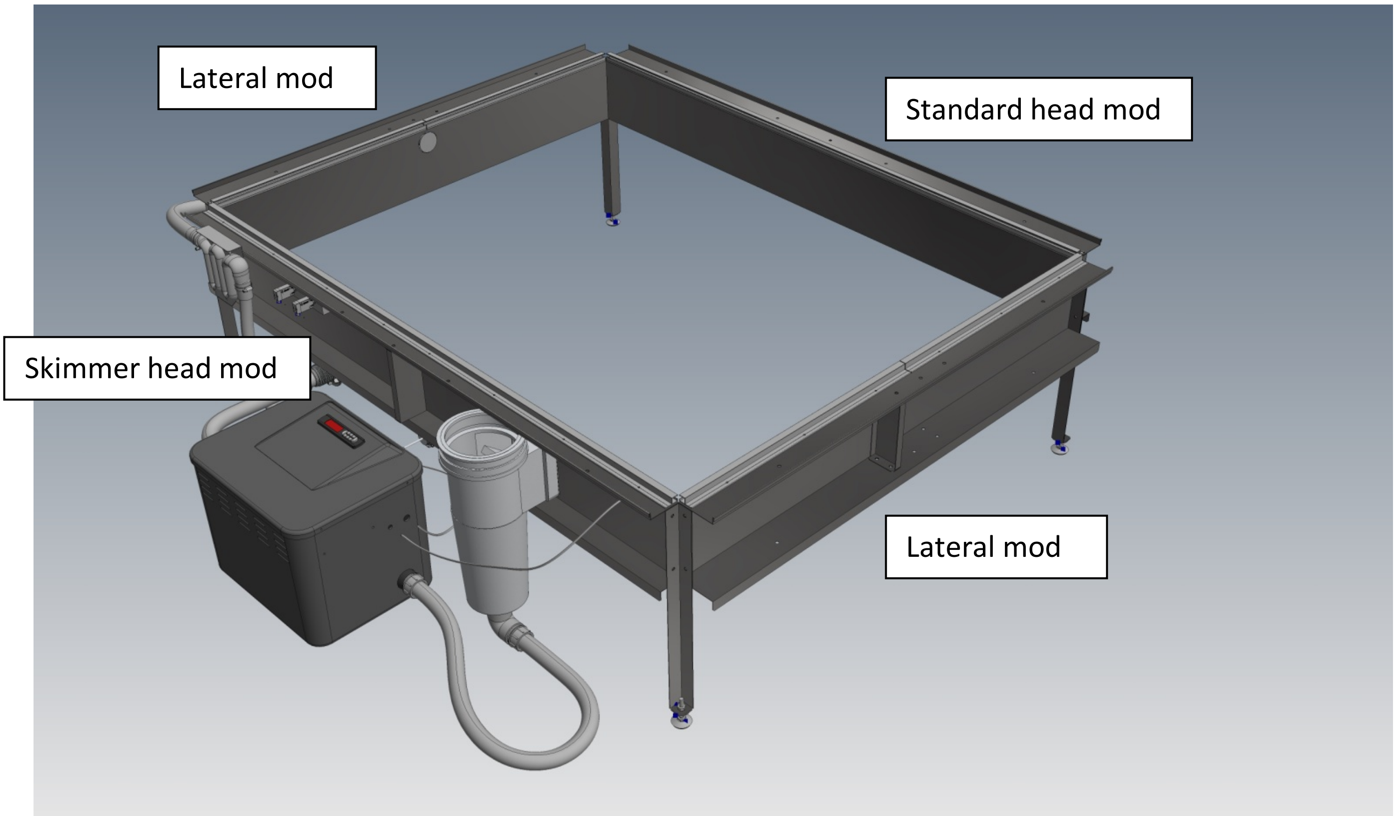
TYPES OF STRUCTURE

There are basically two types of structure:
- Playa 1 structure supported by 4 vertical supports arranged at the corners
- Playa 2 and **Playa 3** structure supported by 6 vertical supports arranged at the corners and in the centre of the two main sides.

Playa 1 is characterised by the following elements:



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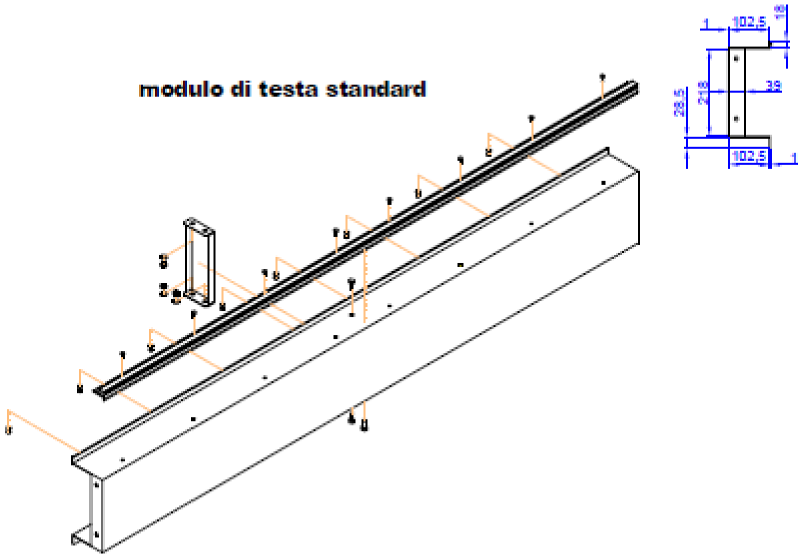
Static characteristics, section properties and resulting stresses:



STANDARD HEAD MODULE PROFILE OMEGA18x104.5X220x104.5x28X1x1883 mm, cold formed, in powder coated structural steel S250GD ZM310:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556 cm3 Resistance module
- Area = 461 mm2
- i = 43.46 mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i$ =43.5
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm2
  - Rupture stress f_u: 330 N/mm2
  - **Design values**

    Design Yield stress $f_{yd} = f_{yk}/\gamma_M$: 250/1.05 = **238N/mm2**

    where $\gamma_M = 1.05$

    2882 X 1.883^2/8= 1277 X 1.5= 1920

    $M_{ed} / Wx < f_{yk}/\gamma_M$ = 1920/16.556= **116N/mm2**< 250/1.05= 238 N/mm2

    Ratio = 0.49 Verified

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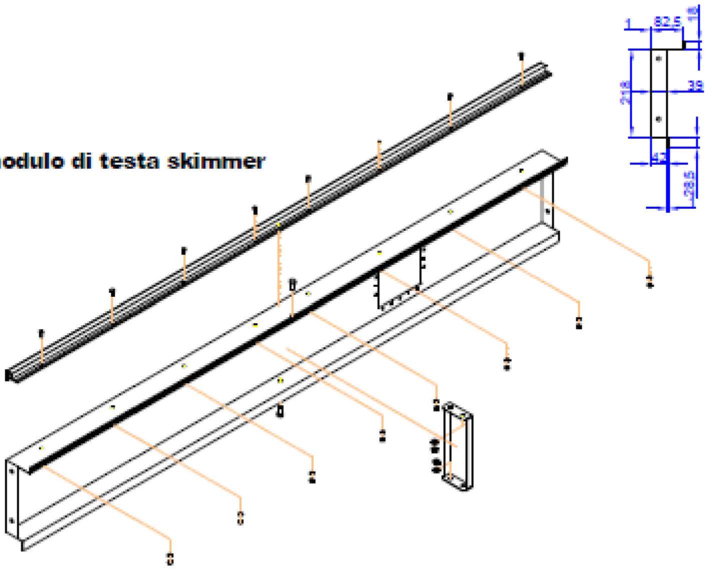

OMEGA PROFILE SKIMMER SIDE HEAD MODULE 18x84.5x220x84.5x28x1883 mm, cold formed, in powder coated AISI 304 STAINLESS steel:

- J = 53.98 cm4 Moment of inertia
- Wx=12,777 cm3 Resistance module
- Area = 421 mm_2
- i = 35. 80mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i$ = 52.58
- Material used for profile: AISI 304 STAINLESS STEEL
  - Yield stress f_y: 210 N/mm_2
  - Rupture stress f_u: 520 N/mm_2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 210/1.05 = **200N/mm2**

    where γ_M = 1.05

    2882 X 1.883^2/8= 1277 X 1.5= 1920

    $M_{ed} / Wx < f_{yk}/\gamma_M$ = 1920/12.777= **150N/mm2**< 210/1.05= 200 N/mm2

    Ratio = 0.75 Verified

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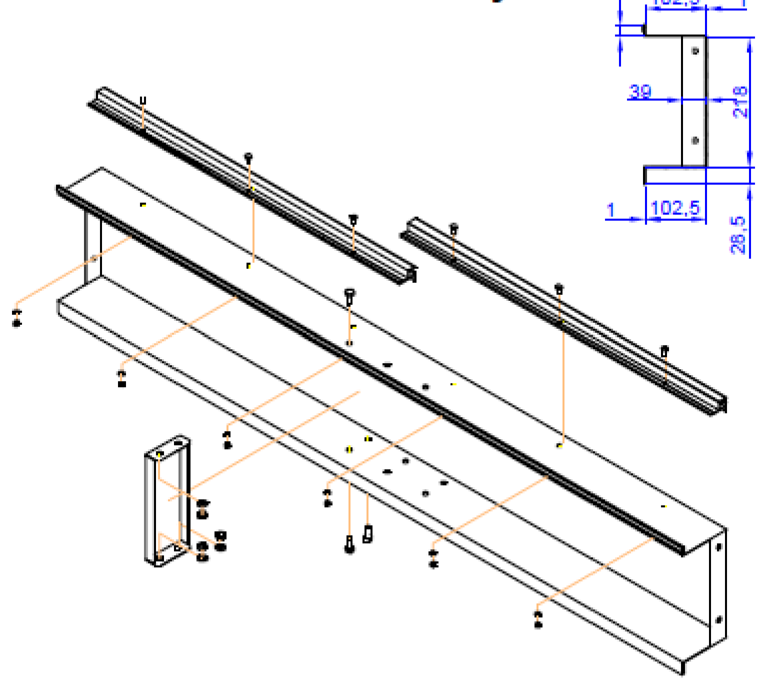
modulo laterale Playa1



OMEGA PROFILE LATERAL MODULE 18x104.5x220x104.5x28x1x1483 mm, cold formed, in structural steel S250GD ZM310 powder painted:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556 cm3 Resistance module
- Area = 461 mm^2
- i = 43.46 mm Radius of inertia
- Free bending length = 1483 mm
- $\lambda = l_c/i$ =41.41
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm^2
  - Rupture stress f_u: 330 N/mm^2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/$mm^2$**

    where γ_M = 1.05

    2882 X 1,483^2/8= 793 X 1.5= 1200

    $M_{ed}/W_x < f_{yk}/\gamma_M$ = 1200/16,556= **73 N/mm2**< 250/1.05= 238 N/mm2

    Ratio = 0.31 Verified

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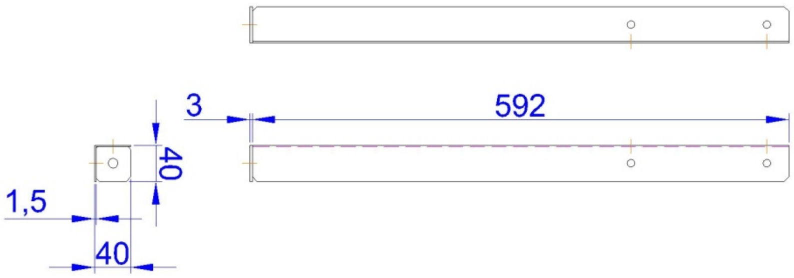

CORNER VERTICAL SUPPORT L 40x40x1.5 mm, cold formed, in powder painted structural steel S250GD ZM310:

- J = 1.89 cm4 Moment of inertia
- Wx=0,642 cm3 Resistance module
- Area = 117 mm^2
- i = 12.67 mm Radius of inertia
- Free bending length = 420 mm
- Material used for profile: structural steel **S250 GD ZM310**
  - Yield stress f_y: 250 N/mm^2
  - Rupture stress f_u: 330 N/mm^2
  - **Design values**
    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/mm2**
    where $\gamma_M = 1.05$
    522 X 1.5 = 7830
    M_{ed} / Wx<f_{yk}/γ_M = 7830/117= **67 N/mm2**< 250/1.05= 238 N/mm2
    Ratio = 0.28 Verified

Peak load verification

Slenderness ratio of the pole **$\lambda = l_c/i$ = 33.2**< 150, for the verification of stability at peak load the slenderness ratio in the structural membranes in presence of significant efforts must be less than 150

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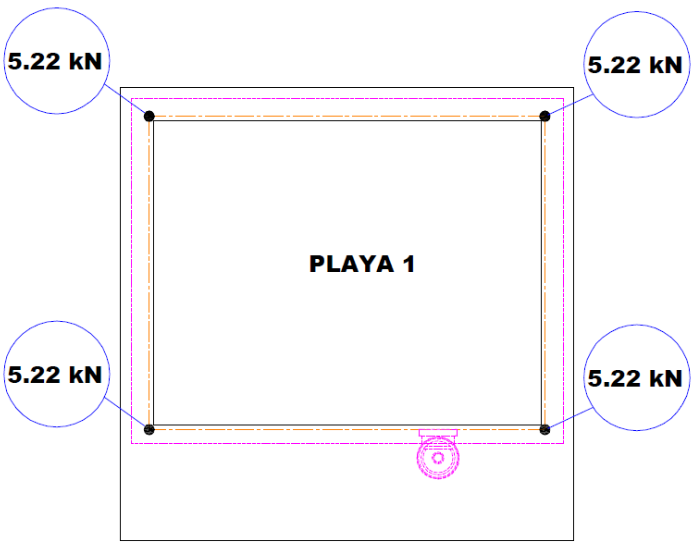
- LOADS CONCENTRATED AT THE SUPPORT POINTS:

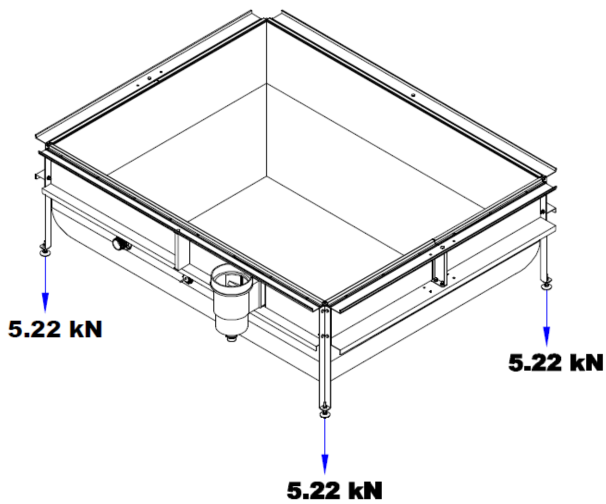
The loads CONCENTRATED ON THE SUPPORTS assume the following MAXIMUM values:

PLAYA 1

- **(2.072 +750) x1.68 x 1.1= 5.22 kN loads on symmetrical angular supports**

- **P1N = 5.22 kN angular** **P3N = 5.22 kN angular**
- **P2N = 5.22 kN angular** **P4N = 5.22 kN angular**





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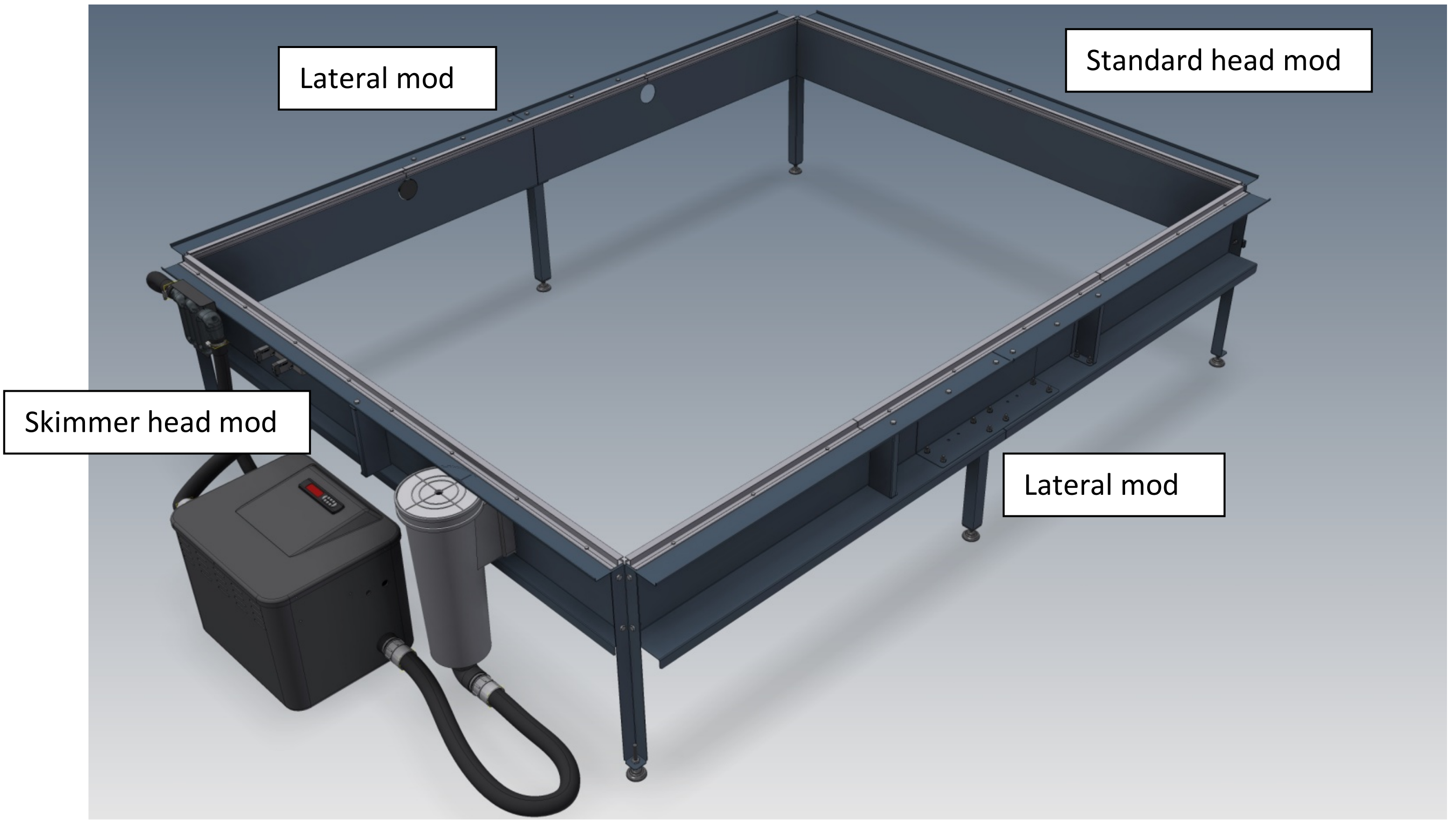
Playa 2 characterised by the following elements:



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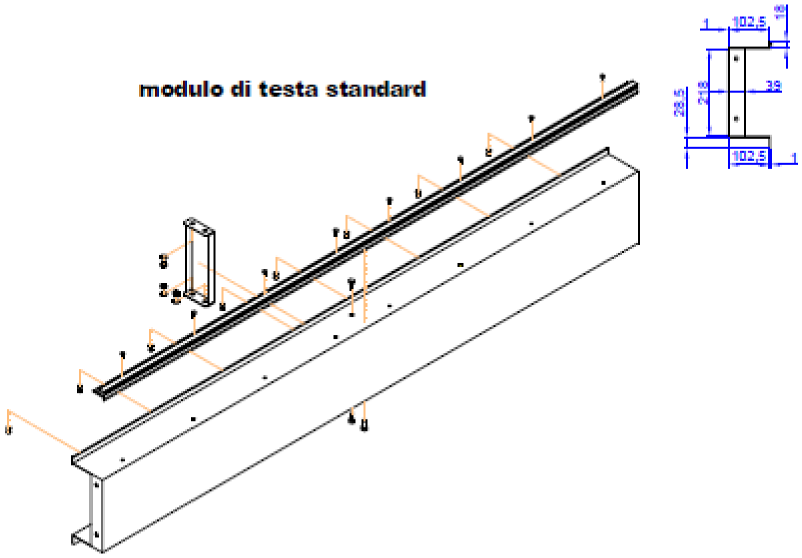
Static characteristics, section properties and resulting stresses:



STANDARD HEAD MODULE OMEGA PROFILE 18X104.5x220x104.5x28x1x1883 mm, cold formed, in powder painted structural steel S250GD ZM310:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556cm3 Resistance module
- Area = 461mm2
- i = 43.46 mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i$ = 43.5
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm2
  - Rupture stress f_u: 330 N/mm2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/mm2**

    where γ_M = 1.05

    $M_{ed} / Wx < f_{yk}/\gamma_M$ = 1920/16,556 = **116 N/mm2** < 250/1.05 = 238 N/mm2

    Ratio= 0.49 Verified

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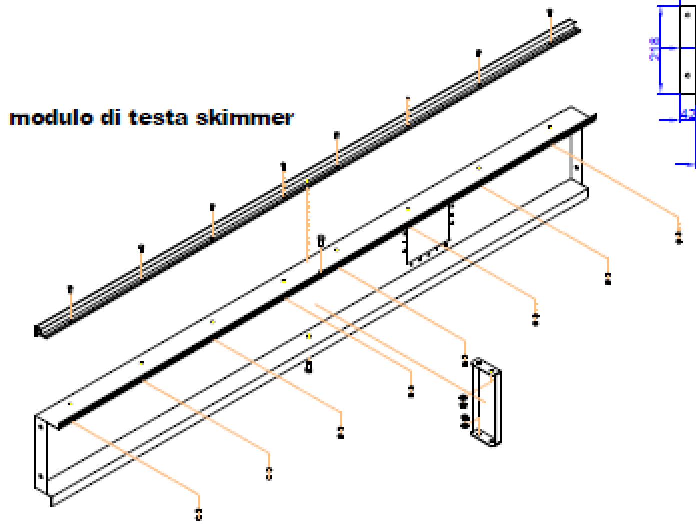

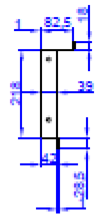

OMEGA PROFILE SKIMMER SIDE HEAD MODULE 18x84.5x220x84.5x28x1883 mm, cold formed, in powder coated AISI 304 STAINLESS steel:

- J = 53.98 cm4 Moment of inertia
- Wx=12,777cm3 Resistance module
- Area = 421 mm2
- i = 35. 80mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i = 52.58$
- Material used for profile: AISI 304 STAINLESS STEEL
  - Yield stress f_y: 210 N/mm2
  - Rupture stress f_u: 520 N/mm2
  - **Design values**

    Design Yield stress $f_{yd} = f_{yk}/\gamma_M$: 210/1.05 = **200N/mm2**

    where $\gamma_M = 1.05$

    $M_{ed} / W_x < f_{yk}/\gamma_M$ = 1920/12.777= **150 N/mm2**< 210/1.05= 200 N/mm2

    Ratio = 0.75 Verified

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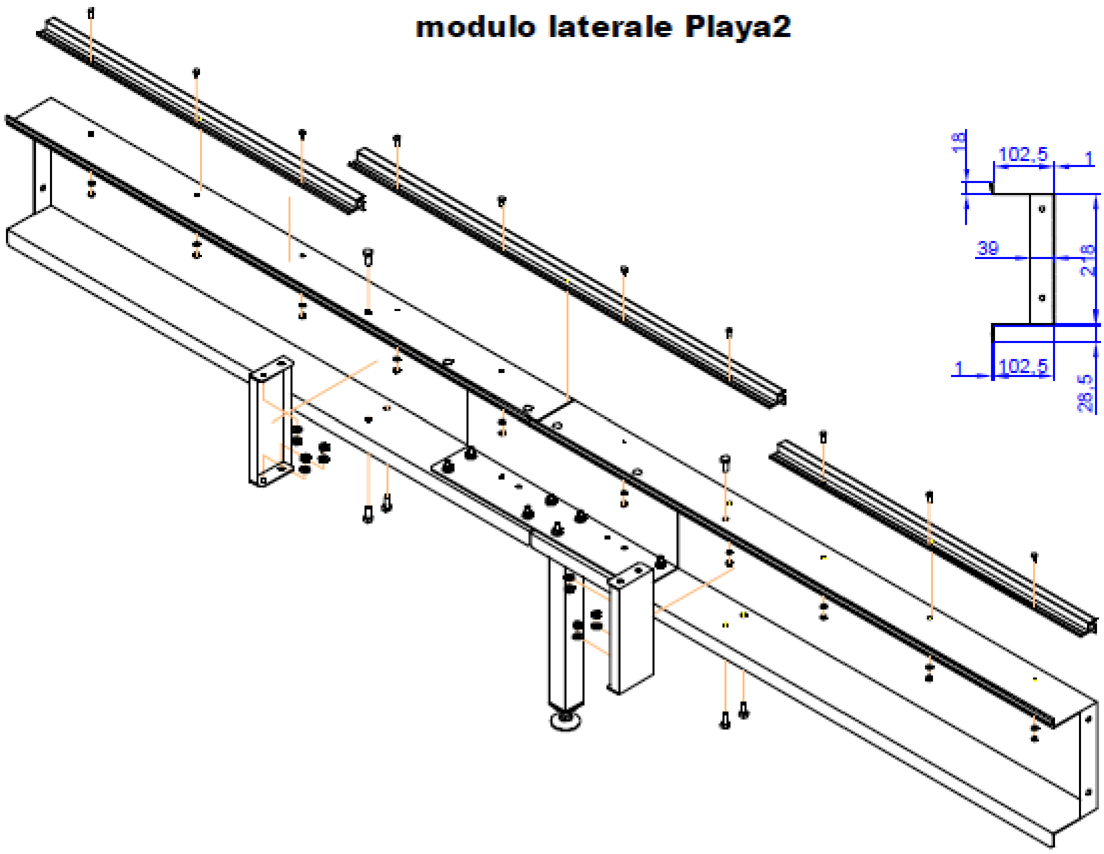

OMEGA PROFILE LATERAL MODULE 18x104.5x220x104.5x28x1x1240mm, cold formed, in structural steel S250GD ZM310 powder painted:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556 cm3 Resistance module
- Area = 461 mm_2
- i = 43.46 mm Radius of inertia
- Free bending length = 1483 mm
- $\lambda = l_c/i$ = 41.41
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm_2
  - Rupture stress f_u: 330 N/mm_2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/$mm_2$**

    where γ_M = 1.05

    2882 X 1,240^2/8= 554 X 1.5= 831

    M_{ed} / Wx<f_{yk}/γ_M = 831/16,556= **51 N/mm_2**< 250/1.05= 238 N/mm2

    Ratio = 0.22 Verified

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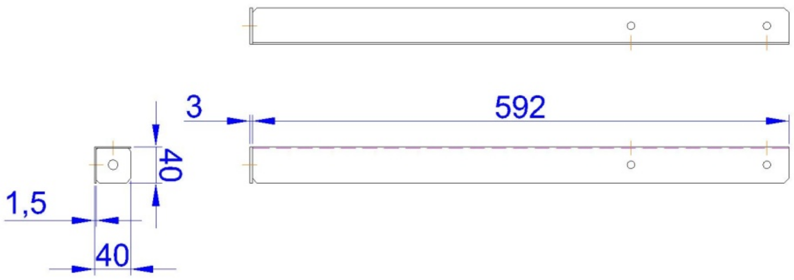

CORNER VERTICAL SUPPORT L 40X40X1.5 mm, cold formed, in powder painted structural steel S250GD ZM310:

- J = 1.89 cm4 Moment of inertia
- Wx=0,642 cm3 Resistance module
- Area = 117 mm^2
- i = 12.67 mm Radius of inertia
- Free bending length = 420 mm
- Material used for profile: structural steel **S250 GD ZM310**
  - Yield stress f_y: 250 N/mm^2
  - Rupture stress f_u: 330 N/mm^2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/mm2**

    where γ_M = 1.05

    4900 X 1.5 = 7350

    F_{ed} / Ax<f_{yk}/γ_M = 7350/117= **65 N/mm2**< 250/1.05= 238 N/mm2

    Ratio = 0.27 Verified

Peak load verification

Slenderness ratio of the pole **λ= l_c/i = 33.2**< 150, for the verification of stability at peak load the slenderness ratio in the structural membranes in presence of significant efforts must be less than 150

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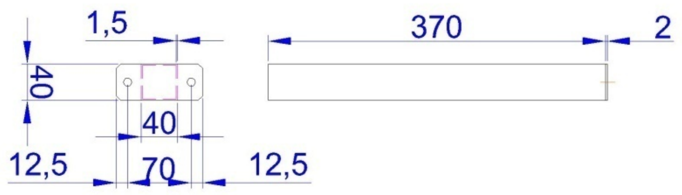

CENTRAL VERTICAL SUPPORT: SQUARE TUBE 40X40X1.5 mm
In powder painted steel E220+CR2S4 Z275 EN10305-5:

- J = 5.49 cm4 Moment of inertia
- Wx=2.75 cm3 Resistance module
- Area = 225 mm2
- i = 15.6 mm Radius of inertia
- Free bending length = 370 mm
- Material used for profile: steel **E220+CR2S4 Z275**
  - Yield stress f_y: 220 N/mm2
  - Rupture stress f_u: 310 N/mm2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\ \gamma_M$: 220/1.05 = **209N/mm2**

    where γ_M = 1.05

    3900 X 1.5 =5850

    F_{ed} / x<f_{yk}/ γ_M = 5900/225= **26 N/mm2**< 220/1.05= 209 N/mm2

    Ratio = 0.12 Verified

Peak load verification

Slenderness ratio of the pole **λ= l_c/i = 24**< 150, for the verification of stability at peak load the slenderness ratio in the structural membranes in presence of significant efforts must be less than 150

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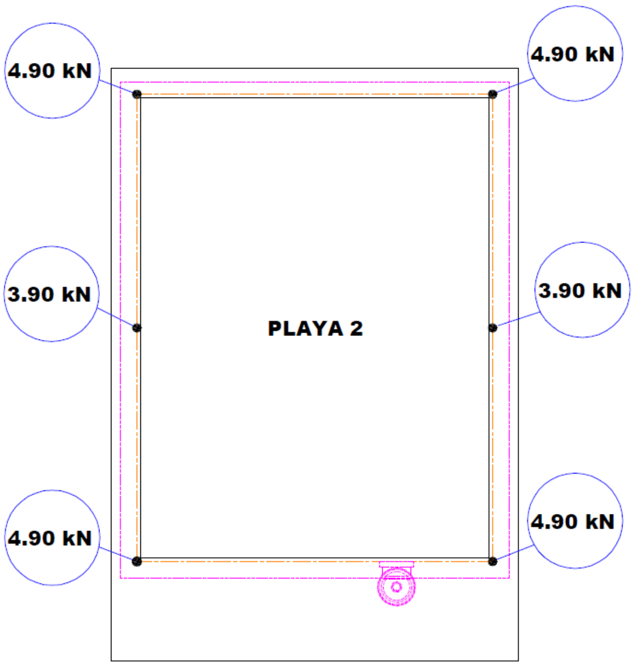
- LOADS CONCENTRATED AT THE SUPPORT POINTS:

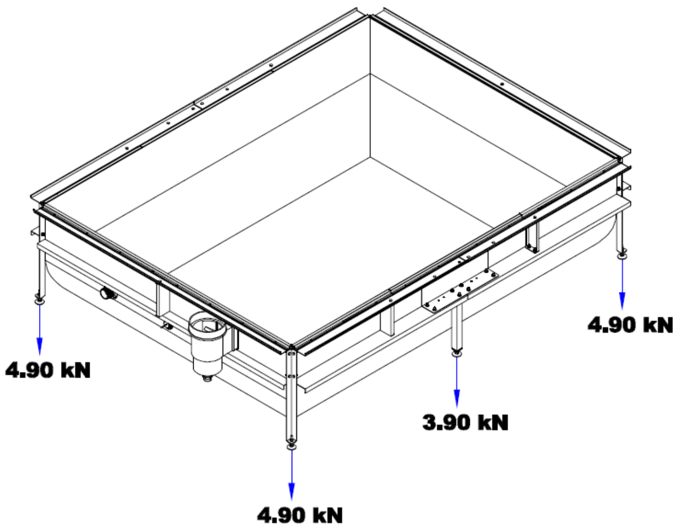
II. **ALONG THE PERIMETER**, the stresses transferred to the ground are PUNCTUAL: these are the loads CONCENTRATED ON THE SUPPORTS. They shall have the following MAXIMUM values:

PLAYA 2

- **(2.072 +750) x1.57x1.1= 4.88 kN loads on angular supports**
- **(2.072 +750) x1.26x1.1= 3.91 kN loads on intermediate side supports**

- **P1N = 4.9 kN angular**
- **P2N = 3.9 kN lateral**
- **P3N = 4.9 kN angular**
- **P4N = 4.9 kN angular**
- **P5N = 3.9 kN lateral**
- **P6N = 4.9 kN angular**





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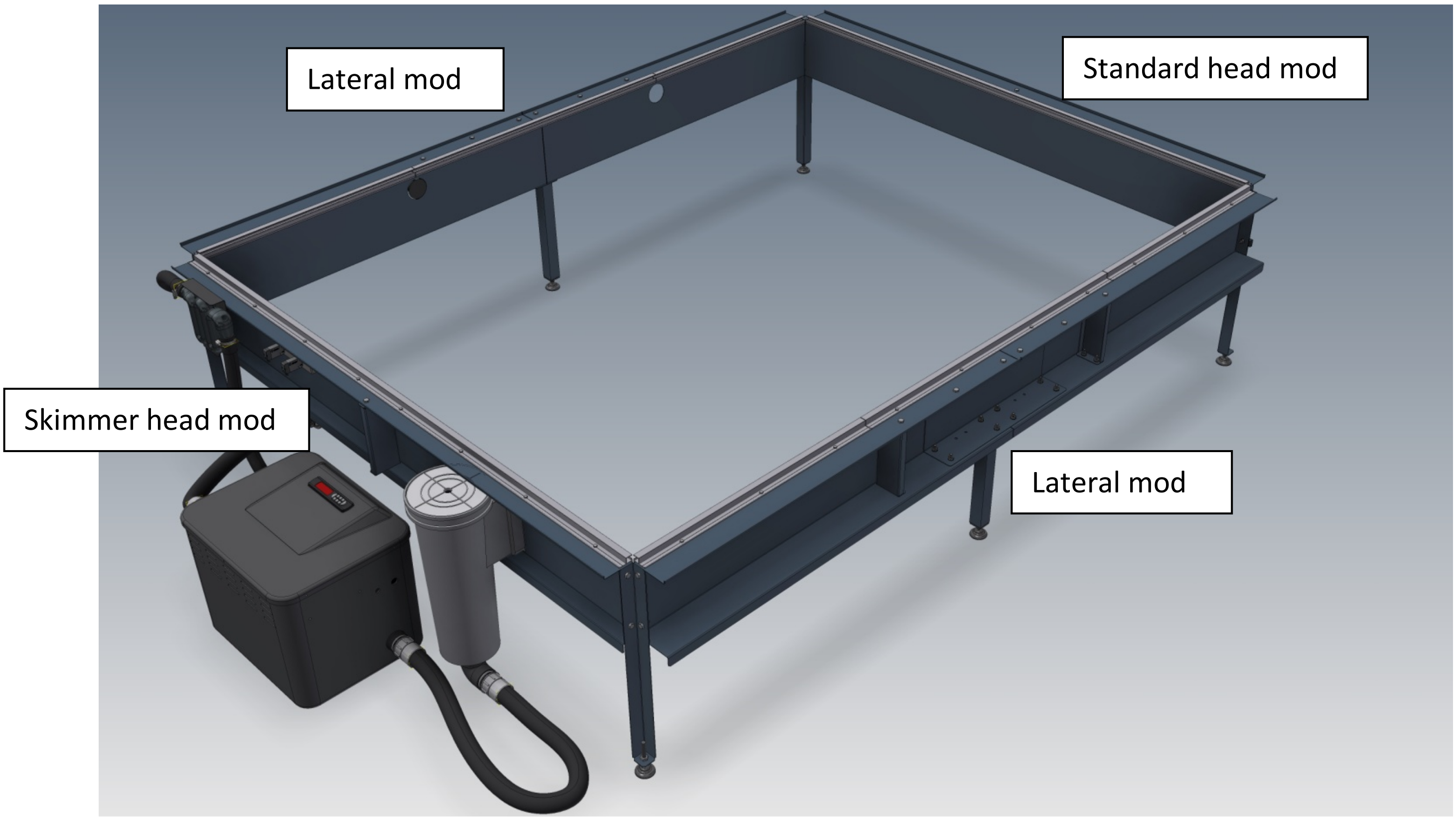
Playa 3 characterised by the following elements:



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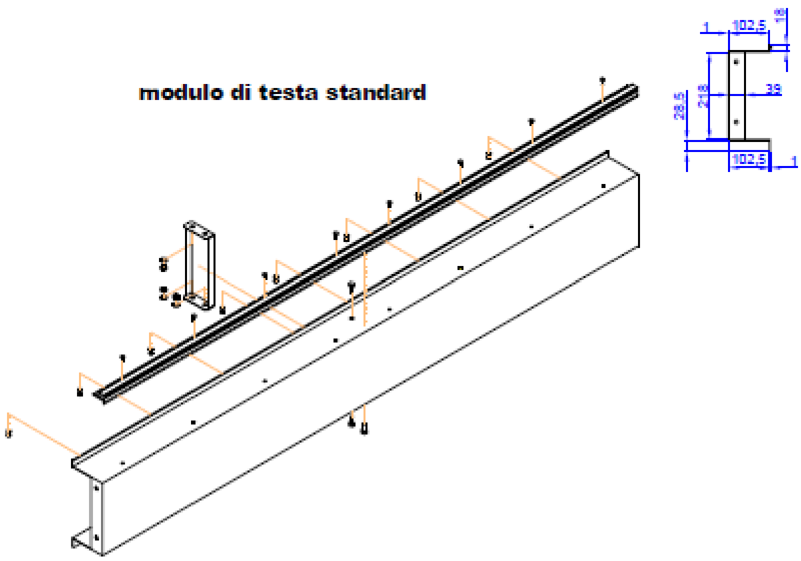
Static characteristics, section properties and resulting stresses:



STANDARD HEAD MODULE OMEGA PROFILE 18x104.5x220x104.5x28x1x1883 mm, cold formed, in powder painted structural steel S250GD ZM310:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556 cm3 Resistance module
- Area = 461 mm^2
- i = 43.46 mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i$ = 43.5
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm^2
  - Rupture stress f_u: 330 N/mm^2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/$mm^2$**

    where $\gamma_M = 1.05$

    $M_{ed} / W_x < f_{yk}/\gamma_M$ = 1920/16,556 = **116 N/mm2**< 250/1.05= 238 N/mm2
    Ratio = 0.49 Verified

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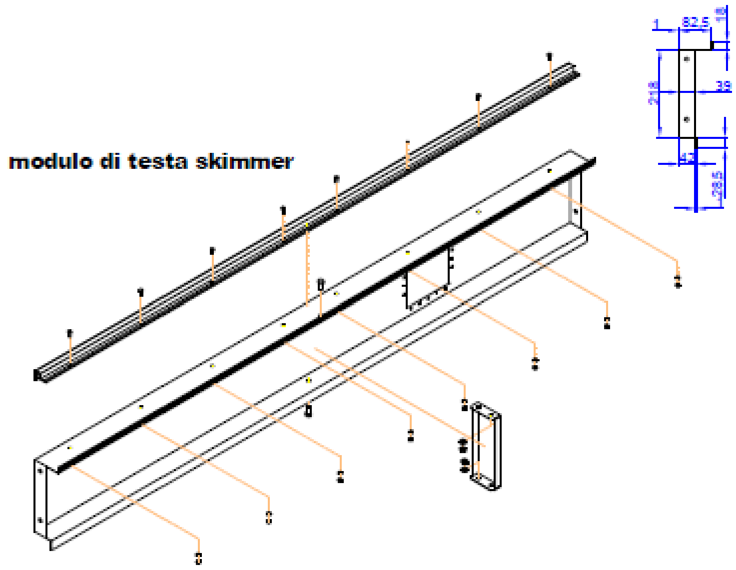

OMEGA PROFILE SKIMMER SIDE HEAD MODULE 18X84.5x220x84.5x28x1x1883mm, cold formed, in powder painted AISI 304 STAINLESS steel:

- J = 53.98 cm4 Moment of inertia
- Wx=12,777 cm3 Resistance module
- Area = 421 mm_2
- i = 35. 80mm Radius of inertia
- Free bending length = 1883 mm
- $\lambda = l_c/i$ =52.58
- Material used for profile: AISI 304 STAINLESS STEEL
  - Yield stress f_y: 210 N/mm_2
  - Rupture stress f_u: 520 N/mm_2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 210/1.05 = **200N/mm2**

    where $\gamma_M = 1.05$

    $M_{ed} / W_x < f_{yk}/\gamma_M$ = 1920/12.777= **150 N/mm2**< 210/1.05= 200 N/mm2

    Ratio = 0.75 Verified

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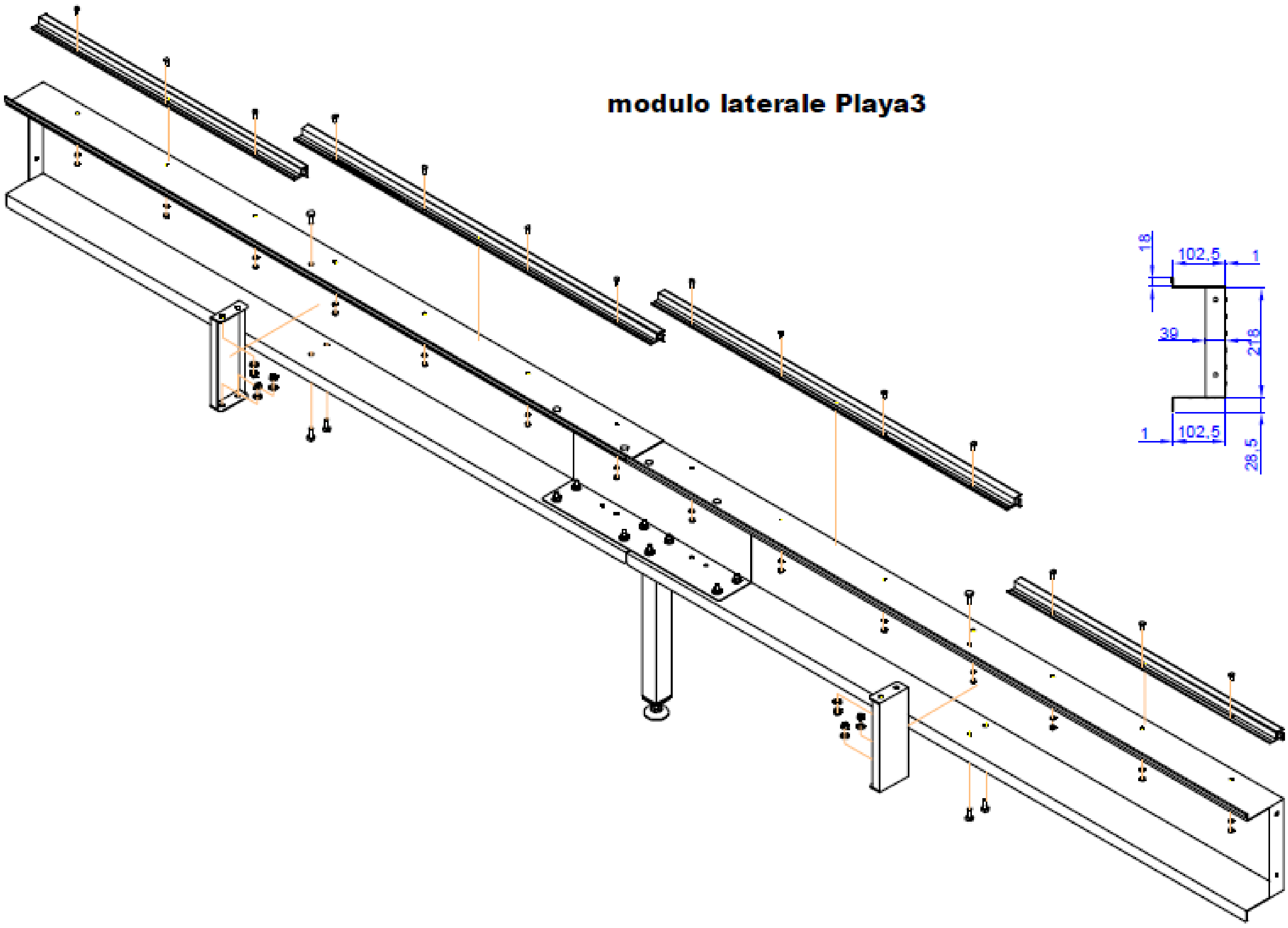

OMEGA PROFILE LATERAL MODULE 18x104.5x220x104.5x28X1x1740.5 mm, cold formed, in structural steel S250GD ZM310 powder painted:

- J = 86.50 cm4 Moment of inertia
- Wx=16,556 cm3 Resistance module
- Area = 461 mm^2
- i = 43.46 mm Radius of inertia
- Free bending length = 1483 mm
- $\lambda = l_c/i = 41.41$
- Material used for profile: structural steel **S2G50D ZM310**
  - Yield stress f_y: 250 N/mm^2
  - Rupture stress f_u: 330 N/mm^2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/mm2**

    where $\gamma_M = 1.05$

    2882 X 1,740.5^2/8= 1096 X 1.5= 1646

    M_{ed} / Wx<f_{yk}/γ_M = 1646/16,556= **99.4 N/mm2**< 250/1.05= 238 N/mm2

    Ratio = 0.42 Verified

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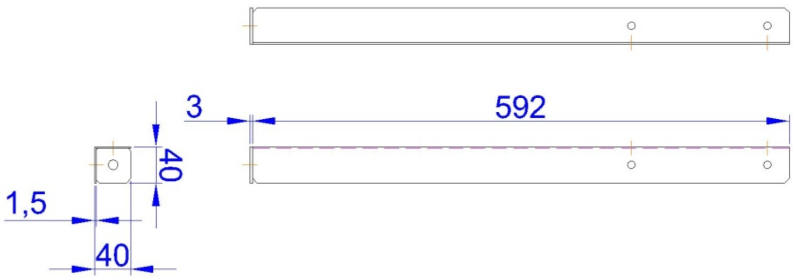
Vertical corner support



CORNER VERTICAL SUPPORT L 40X40X1.5 mm, cold formed, in powder painted structural steel S250GD ZM310:

- J = 1.89 cm4 Moment of inertia
- Wx=0,642 cm3 Resistance module
- Area = 117 mm_2
- i = 12.67 mm Radius of inertia
- Free bending length = 420 mm
- Material used for profile: structural steel **S250 GD ZM310**
  - Yield stress f_y: 250 N/mm_2
  - Rupture stress f_u: 330 N/mm_2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\gamma_M$: 250/1.05 = **238N/$\mathbf{mm_2}$**

    where γ_M = 1.05

    5670X1.5 = 8505

    M_{ed} / Wx<f_{yk}/γ_M = 8505/117= **72.7 N/mm2**< 250/1.05= 238 N/mm2

    Ratio = 0,305 Verified

Peak load verification

Slenderness ratio of the pole **λ= l_c/i = 33.2**< 150, for the verification of stability at peak load the slenderness ratio in the structural membranes in presence of significant efforts must be less than 150

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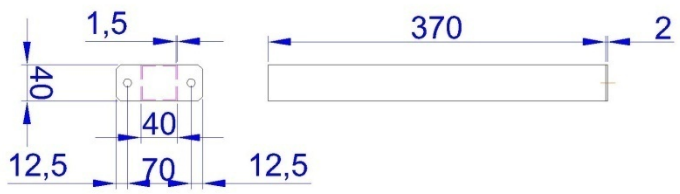
Central vertical support



CENTRAL VERTICAL SUPPORT: SQUARE TUBE 40X40X1.5 mm
In powder painted steel E220+CR2S4 Z275 EN10305-5:

- J = 5.49 cm4 Moment of inertia
- Wx=2.75 cm3 Resistance module
- Area = 225 mm^2
- i = 15.6 mm Radius of inertia
- Free bending length = 370 mm
- Material used for profile: steel **E220+CR2S4 Z275**
  - Yield stress f_y: 220 N/mm^2
  - Rupture stress f_u: 310 N/mm^2
  - **Design values**

    Design Yield stress $\mathbf{f_{yd}} = f_{yk}/\ \gamma_M$: 220/1.05 = **209**$\mathbf{N/mm^2}$

    where $\gamma_M = 1.05$

    5470X1.5 = 8205

    $F_{ed} / x < f_{yk}/\ \gamma_M$ = 8205/225= **37 $\mathbf{N/mm^2}$**< 220/1.05= 209 N/mm2

    Ratio = 0.35 Verified

Peak load verification

Slenderness ratio of the pole $\boldsymbol{\lambda = l_c/i = 24}$< 150, for the verification of stability at peak load the slenderness ratio in the structural membranes in presence of significant efforts must be less than 150

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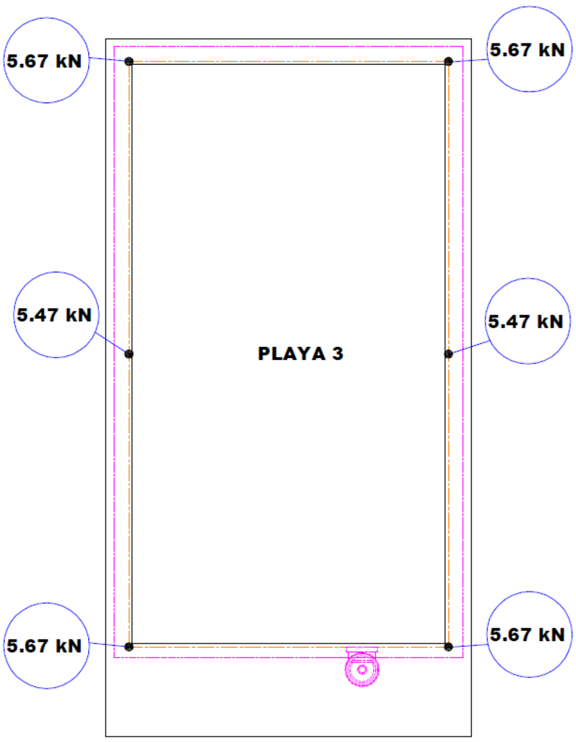
- LOADS CONCENTRATED AT THE SUPPORT POINTS:

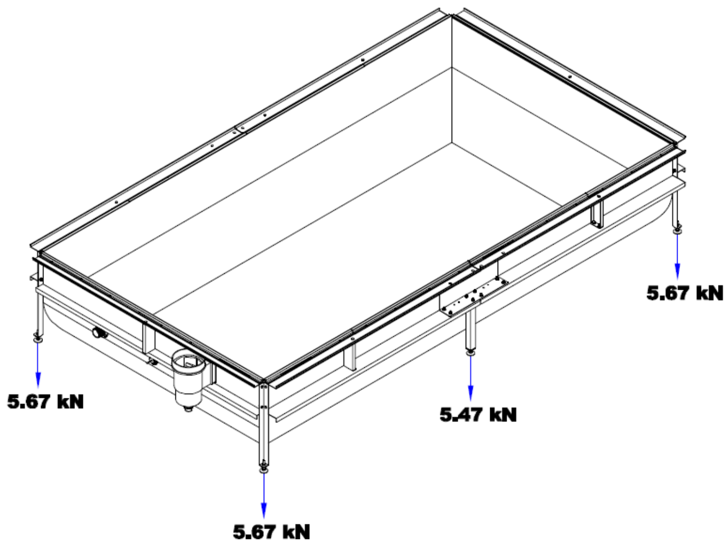
II. **ALONG THE PERIMETER**, the stresses transferred to the ground are PUNCTUAL: these are the loads CONCENTRATED ON THE SUPPORTS. They shall have the following MAXIMUM values:

PLAYA 3

- **(2.072 +750) x1.825x1.1= 5.67 kN loads on angular supports**
- **(2.072 +750) x1.76x1.1= 5.47 kN loads on intermediate side supports**

- **P1N = 5.67kN angular** **P4N = 5.67kN angular**
- **P2N = 5.47 kN lateral** **P5N = 5.47 kN lateral**
- **P3N = 5.67kN angular** **P6N = 5.67kN angular**





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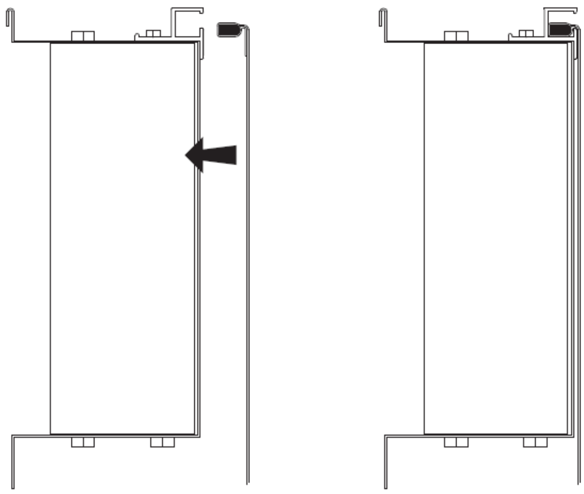
TENSILE-STRUCTURAL AND WATER-CONTAINING MEMBRANE

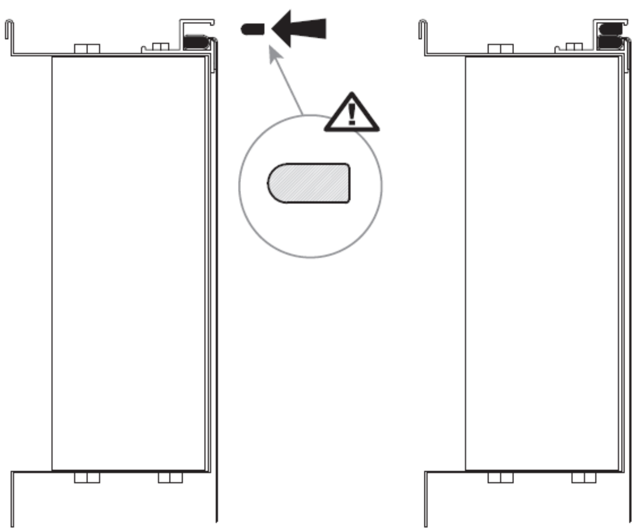
The water containment fabric is made with a weft and warp fabric of polyester fibres coated with PVC on both sides. The material, suitably treated for UV resistance thanks to the use of additives that limit ageing, is tested and certified as resistant to **a tensile load equal to N = 3.50 kN / 5 cm "strip" - according to DIN 53354 standards.**
The edge of the sheet, suitably shaped, is inserted into the groove of the upper connection plate, as shown in the following figure:

PLAYA® - INSERTION OF WATER CONTAINMENT SHEET



Finally, the sheet is fixed in place using an appropriate *plastic extruded PVC profile* that blocks the release of the edge of the sheet from the groove:

PLAYA® - FASTENING OF THE WATER CONTAINMENT SHEET



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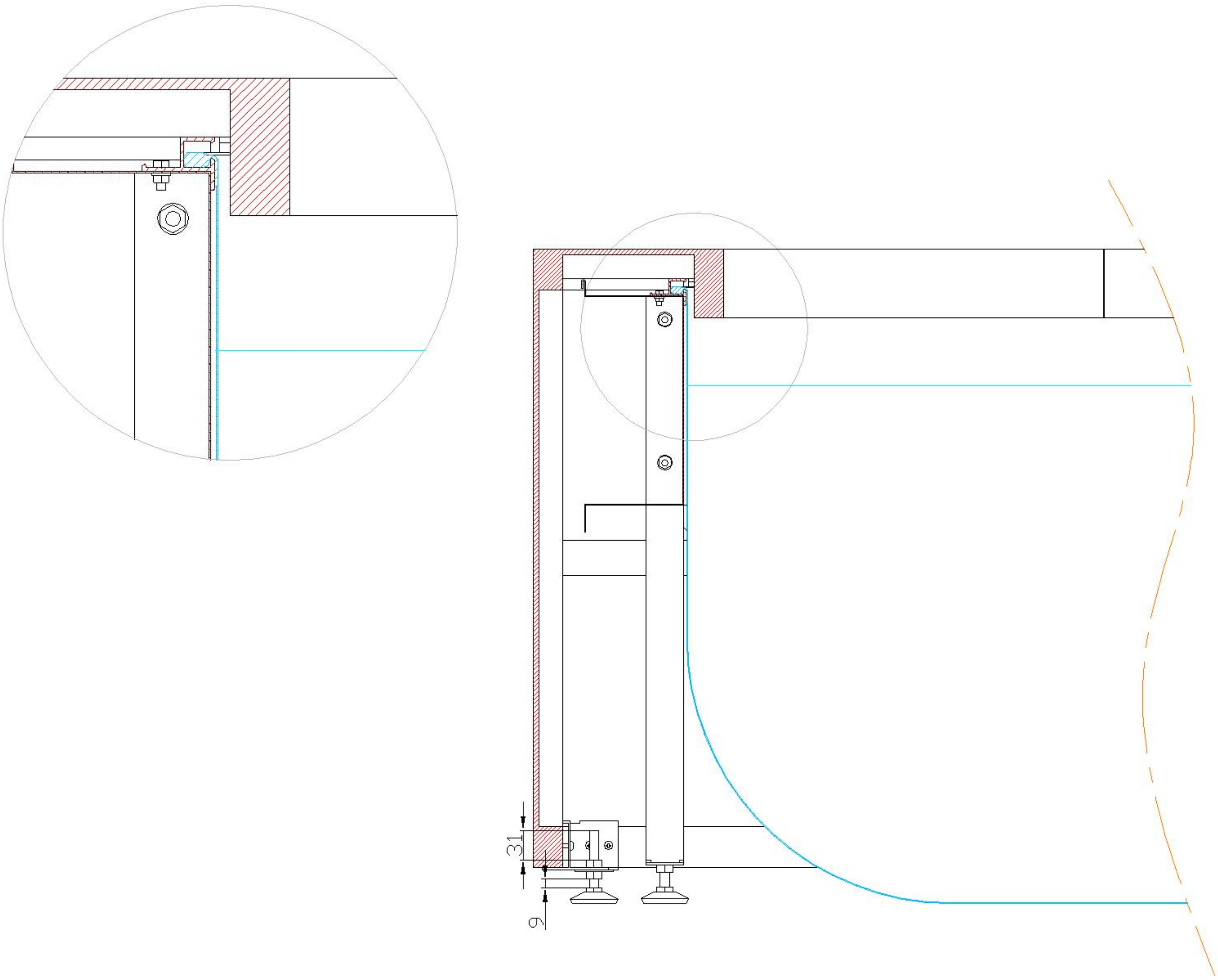
The following figure shows, in section, an overview of the sheet and the fixing point with respect to the lateral module.

PLAYA® – WATER CONTAINMENT SHEET AND LATERAL MODULE



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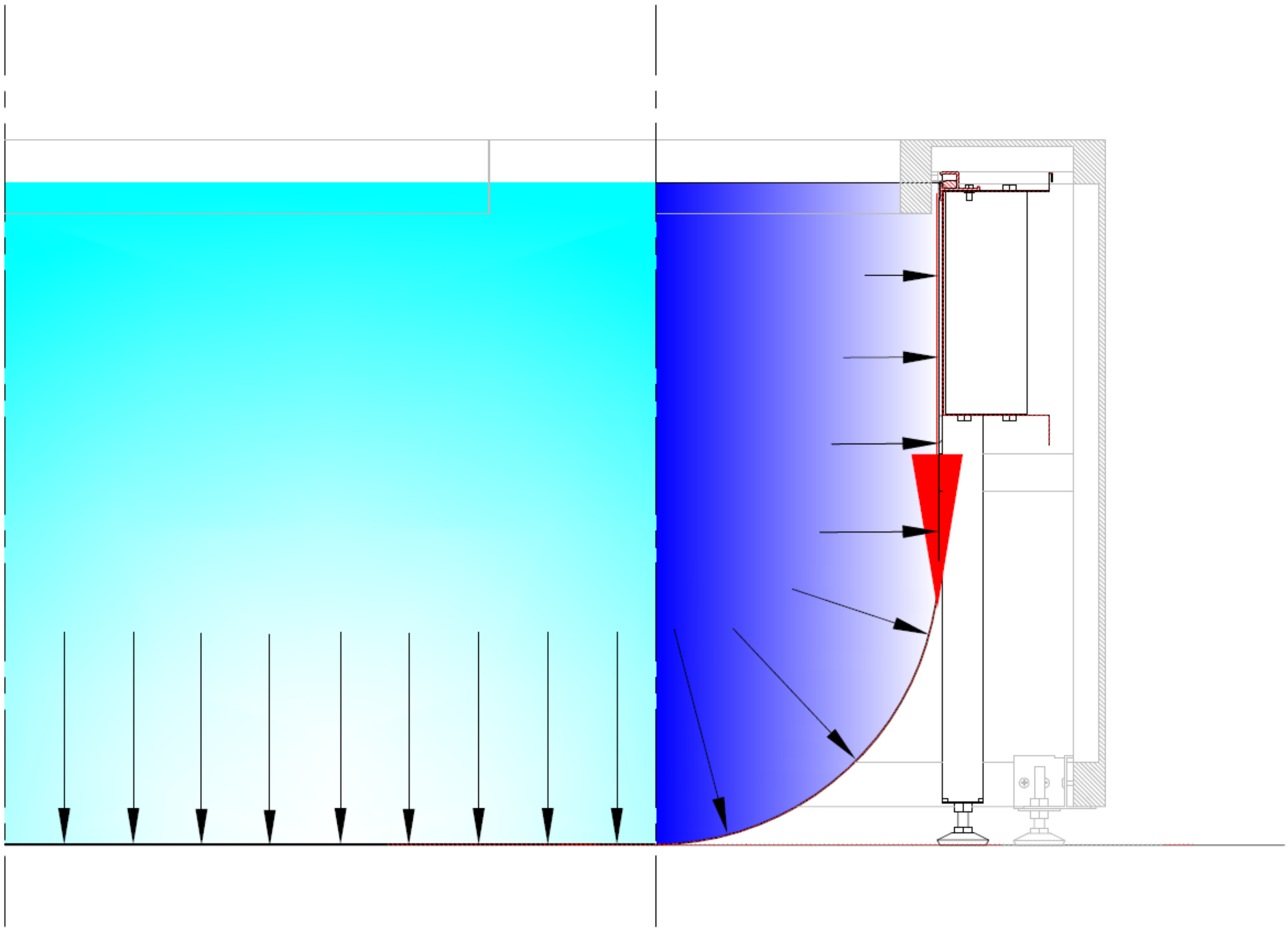
SCHEME AIMED AT STRUCTURAL VERIFICATION

From the section shown in Fig.12, it can be seen that the hydrostatic pressure force is always perpendicular to the surface of the membrane. The sum of the pressure forces acting on the membrane results in a force (load) applied to the point of attachment of the sheet in a direction that we can consider vertical.



With a pool water fill height of 0.65 m, the vertical load exerted by the sheet on the structure is:

Qp= 0.65^2x9810/2 = 2,072 kN/m Load exerted by the sheet expressed per linear m of structure.
The weight of any people sitting by the pool is estimated at **0.75 kN/m**
The sum of the two contributions expressed per m of structure becomes: **2,882 kN/m**

The load that corresponds to each vertical support is determined based on the portion of perimeter supported.

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STRUCTURAL CHECK/INPUT DATA

General structure design criteria, Applied Standards

Eurocode 1 - Loads on structures

- EN 1991 -1 Loads in general.

Eurocode 3 – Design of steel structures

- EN 1993-1-1 - General rules and rules for buildings.
- EN 1993-1-3 - General rules - Additional rules for the use of profiles and thin sheets cold bent.
- EN 1993-1-4 - General rules - Additional rules for stainless steels.
- EN 1993-1-8 - Design of joints.
- EN 1993-1-10 -Design of structures with stretched elements.

Loads acting on the structure:

Max pool water fill height: **Hw = 0.65 m**

Vertical tensile load exerted by the sheet per metre of structure:

Qp = 0.65^2x9810/2 = **2072N/m=2,072 kN/m**
The weight of any people sitting by the pool is estimated at **0.75 kN/m**
The sum of the two contributions expressed per m of structure becomes **2.072 +0.75** =**2.882 kN/m**

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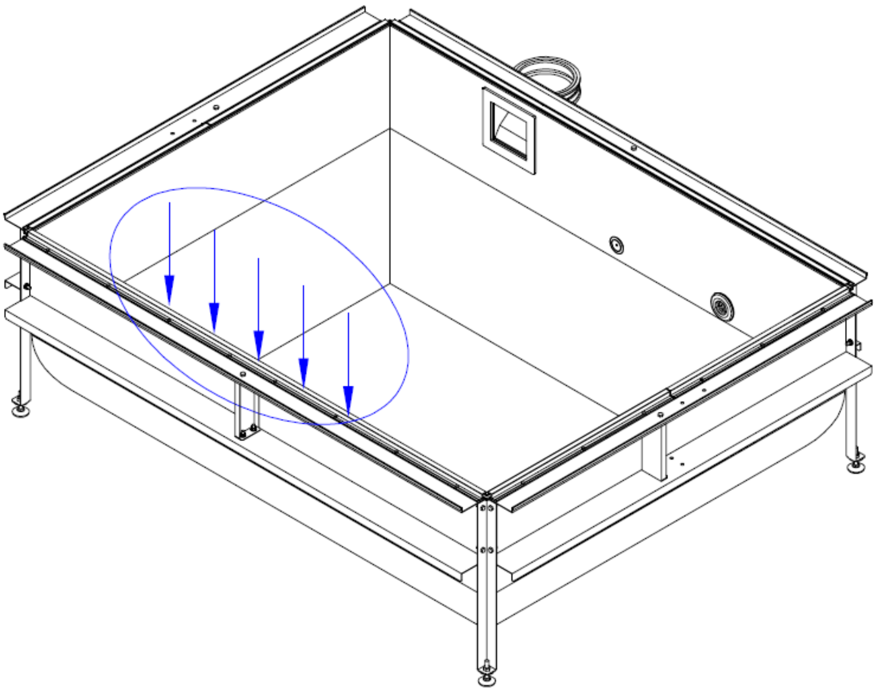

The present load can be defined as a permanent non-structural load, therefore in the structural verification, a combinatorial coefficient of 1.5 is used in the SLU calculation.

2,882 x 1.5 = **4233 kN/m**

The resulting stresses on the various profiles have been reported in the previous descriptive section detailed for each Playa module.

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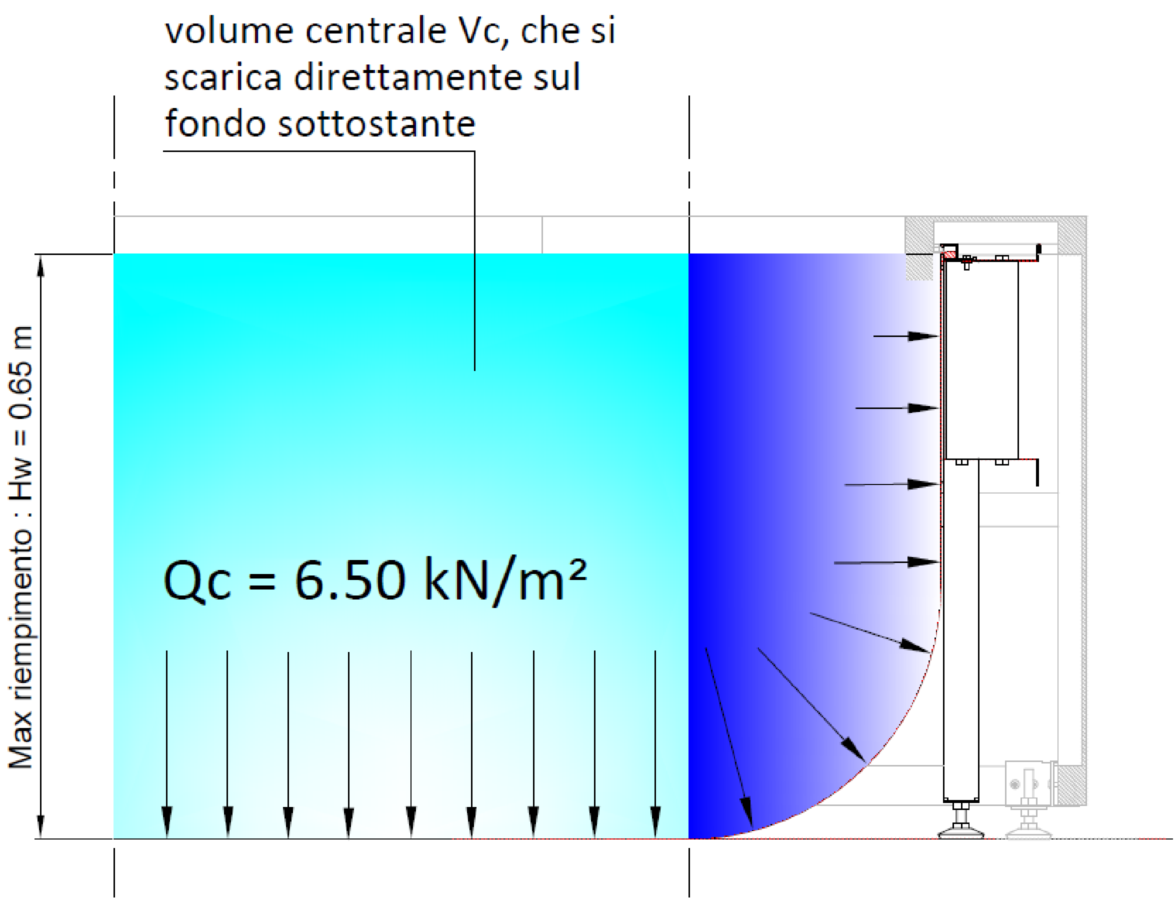
USEFUL RESULTS FOR THE CUSTOMER

Below are some diagrams in which the Customer can immediately have an idea of what are the maximum (static) emissions that the swimming pool in operation transfers to the floor below.

- GROUND LOAD:

I. Below the **CENTRAL VOLUME** (pool surface removed 0.30 m from each side) the base is stressed by a UNIFORMLY DISTRIBUTED VERTICAL load equal to:

- **Qc = 650 kg / m_2 = 6.38 kN/$m_2$for safety we consider 6.50 kN/m_2**
- **This is the direct value of the load, to be multiplied by the combining coefficient prescribed for the structural evaluation of the surfaceor**



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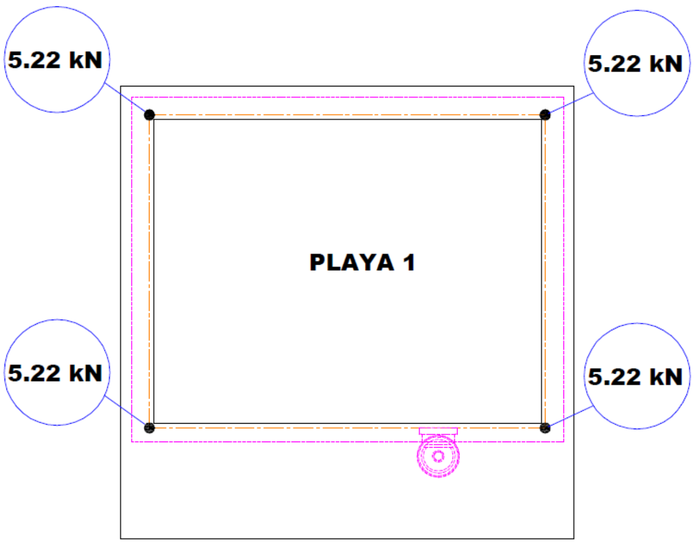
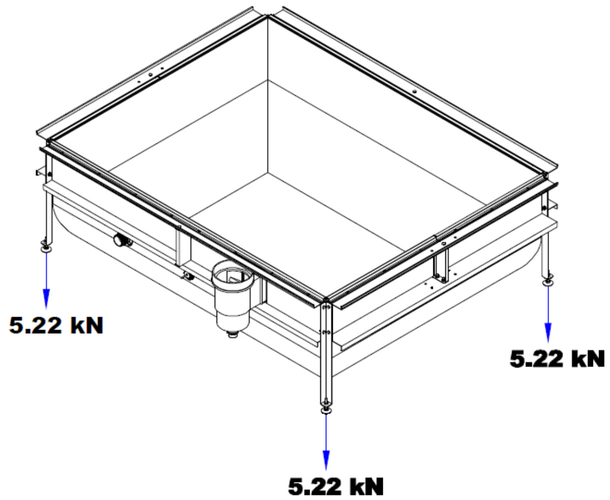
- LOADS CONCENTRATED AT THE SUPPORT POINTS:

- II. **ALONG THE PERIMETER**, the stresses transferred to the ground are PUNCTUAL: these are the loads CONCENTRATED ON THE SUPPORTS. They assume the following MAXIMUM values, detailed in the diagrams below, according to the different PLAYA models and the angular or intermediate position that the supports occupy in the perimeter. The resulting tangential components are considered negligible, therefore the forces present have only a vertical component.
  The feet are only resting on the ground, there are no anchors or permanent anchoring systems

PLAYA 1

- **P1N = 5.22 kN angular** **P3N = 5.22 kN angular**
- **P2N = 5.22 kN angular** **P4N = 5.22 kN angular**





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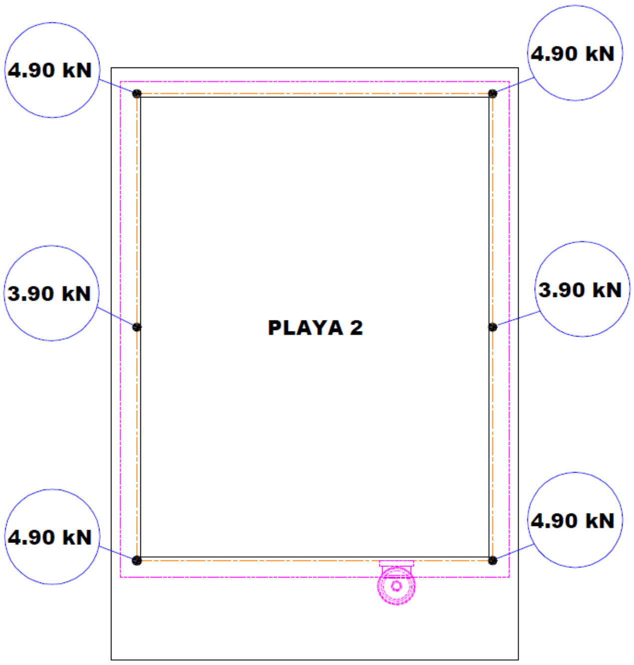
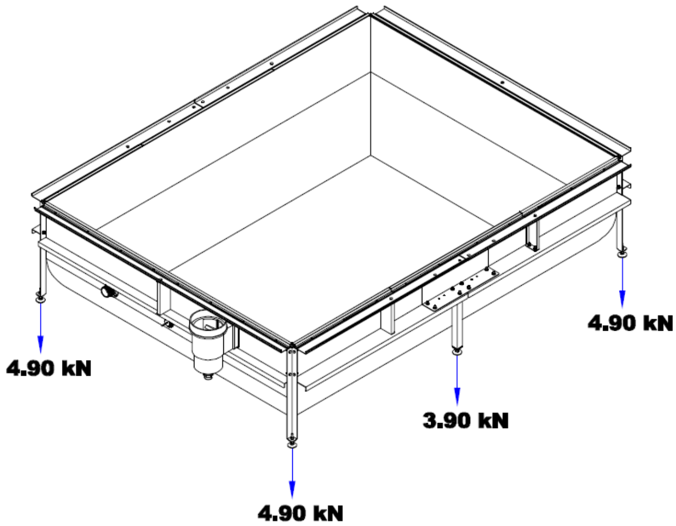
PLAYA 2

- **(2.072 +750) x1.57x1.1= 4.88 kN loads on angular supports**
- **(2.072 +750) x1.26x1.1= 3.91 kN loads on intermediate side supports**

- **P1N = 4.9 kN angular** **P4N = 4.9 kN angular**
- **P2N = 3.9 kN lateral** **P5N = 3.9 kN lateral**
- **P3N = 4.9 kN angular** **P6N = 4.9 kN angular**





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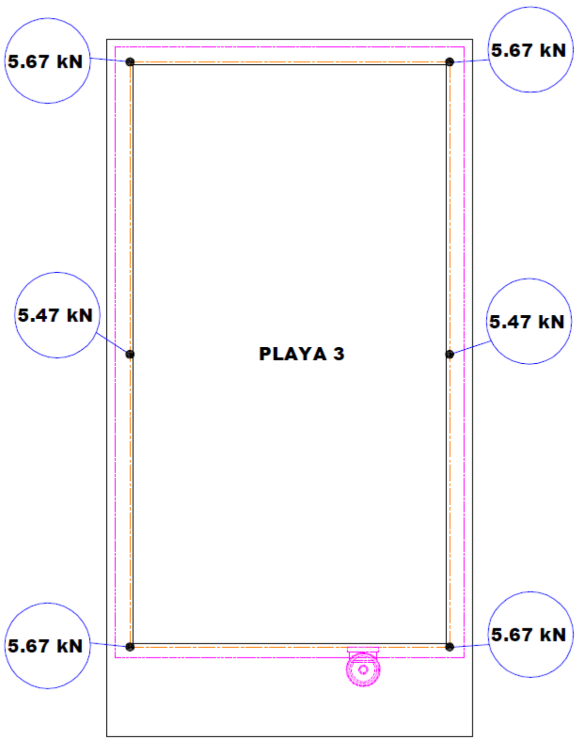
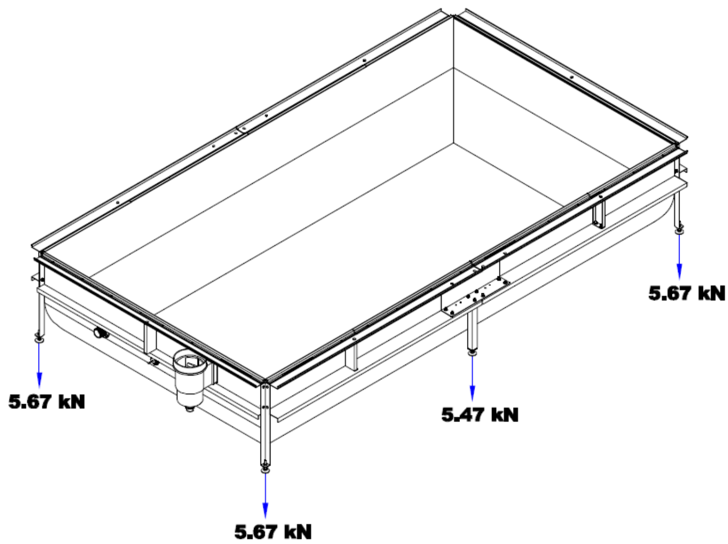
PLAYA 3

- **(2.072 +750) x1.825x1.1= 5.67 kN loads on angular supports**
- **(2.072 +750) x1.76x1.1= 5.47 kN loads on intermediate side supports**

- **P1N = 5.67 kN angular**
- **P2N = 5.47 kN lateral**
- **P3N = 5.67 kN angular**

P4N = 5.67 kN angular
P5N = 5.47 kN lateral
P6N = 5.67 kN angular





- **For the structural evaluation of the surface or load-bearing slab, which is not considered here, the values of the loads listed above must be multiplied by the combining coefficients prescribed by current legislation.**

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