

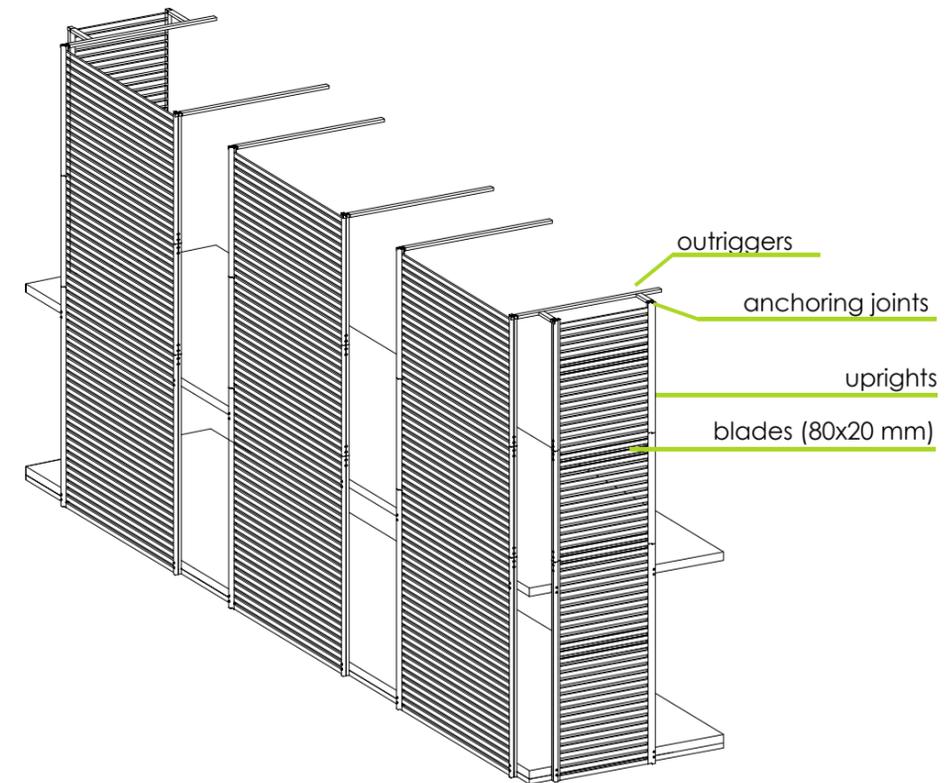
***brise soleil,
pergolas and
cladding***

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Aluscalae aluminium brise soleil have a vast field of application, which ranges from skyscrapers to private dwellings. The building will benefit from an improvement in energy savings. The appealing look of the product allows it to blend in or to enhance architectural projects. Our aluminium brise soleil can have zero environmental impact, natural pigment surface finishes applied to them, which are aesthetically appealing and incredibly long-lasting, such as oxidized varnishes which are matte, glossy or extra-glossy, or varnishing with a sand effect. The type of automation used can be selected according to the Client's needs.

Brise soleil, pergolas and cladding

Aluscalae cladding systems and brise soleil are considered products of excellent quality, not only thanks to the use of specially designed profiles but also to the materials used and the way the joints are made; elements which are often overlooked, with a consequent reduction in the performance of the element itself. Aluscalae considers the installation from both an architectural and a performance point of view, and provides precise solutions when presented with special cases, which designers and fitters can then use as a guideline, improving the quality of life in indoor environments and guaranteeing the necessary energy savings.



Prefabricated beams

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The Alutrabis prefabricated beam system represents an innovative solution for covering wide spans (up to 6 metres) with light structural elements in extruded aluminum which can be mixed and matched, and personalized.

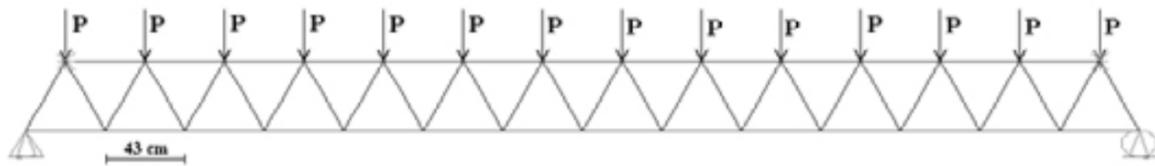
It's composed of 2 connection elements (webs and chords) that can be paired up as needed, creating a structural section which is very resistant but also extremely lightweight.

The webs can be shaped as the Client pleases by leaving the choice of angles up to them, or personalized with patterns. The parts can be supplied untreated or with their surfaces protected with anodic oxidation or varnish in accordance with the RAL table.

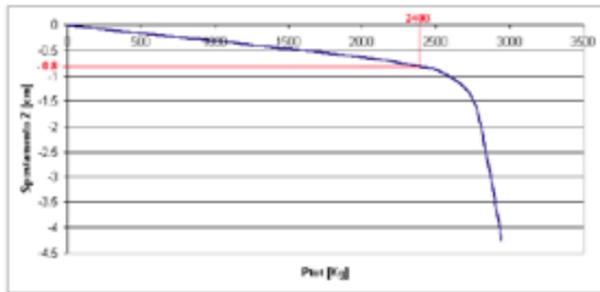
The Alutrabis system – structural analysis

The structural element was styled as a reticular truss:

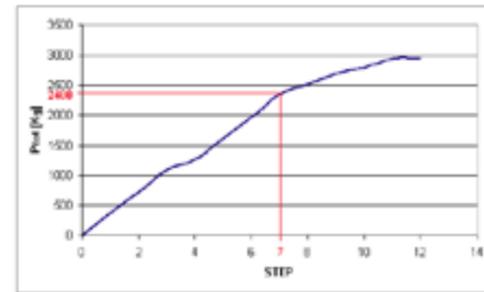
- bound at the end of the lower chord with a hinge and trolley
- with transverse movement prevented at the end of the upper chord. A vertical load "P" was applied next to the nodes of the upper chord, and a horizontal load equal to 30 kg was applied at the halfway point so as to destabilize the truss and thus obtain the maximum stress the truss can withstand.



The diagrams below were obtained by using calculations to analyze the effects of considerable movement on the finished elements:



Movement Z [cm]



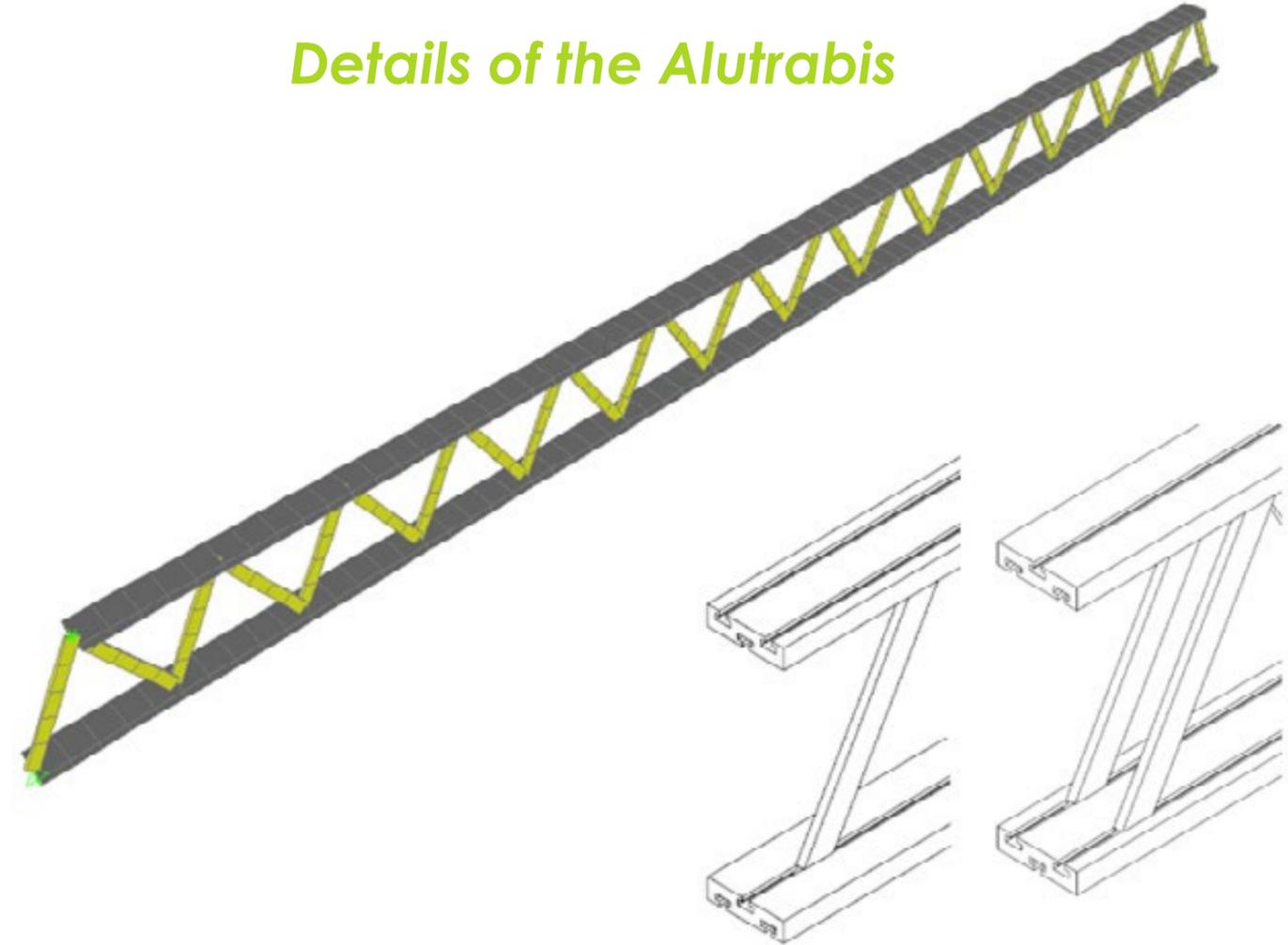
Total Load graph – movement in the direction of Z

When the total load "PTOT" exceeds 2400 kg, the movement curve becomes non-linear. We have therefore taken PTOT=2400 kg as the maximum load that can be applied to the structure.

$P_{max} = 2400 / 14 = 170$ kg: maximum load on each node of the upper chord
 $170 / 0.43 = 400$ kg/ml: maximum load on the truss

We can therefore state that the maximum load that can be applied to the truss is 400 kg/ml with a vertical movement of just 8 mm at the halfway point.

Details of the Alutrabis



Bicycle and pedestrian footbridges and overpasses

Bicycle and pedestrian footbridges and overpasses

Aluscalae Srl supplies bicycle and pedestrian overpasses made entirely in aluminium alloy, which are designed and built in compliance with current legislation. These products are destined for use in the Public Works sector (traffic, railway, nature, flood plains, civil defence etc.) and represent a leap forward in terms of quality in the use of aluminium as an innovative solution for street furniture, parks and gardens. The pedestrian footbridges satisfy both functional and aesthetic requirements; thanks to their minimalist structure and consequent low visual impact, these products can be placed in a variety of environments. Many years of designing, building and installing overpasses has extended their use to the most diverse sectors of architecture. Our company is able to provide all the assistance needed, from the design and simulation phase to the "turnkey" installation; therefore, if there are any specific requests, we are able to supply a draft detailing the feasibility of the footbridge and a quote in a very short space of time. All the products are made in aluminium alloy and assembled with stainless steel fittings. On request, the decking can be covered with polyurethane in order to improve its anti-slip and soundproof qualities. The surfaces can be varnished in any RAL shade, enabling the product to stand the test of time without needing any type of maintenance and preserving the original shine typical of aluminium. The structure is composed of modular elements and is designed and built in observance with the Customer's requirements. The payload is 500kg/m². Ad hoc solutions will be calculated on an individual basis, assessing the needs of each Client or Designer. All the surfaces in view can be natural silver anodized, varnished in any RAL colour or covered with wood or other materials to satisfy any aesthetic requirement.

