

DOMUSφως

Report Intentions

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PREFACE

The project proposal concerns the conception of a show office that represents the icon of the company, a transfiguration of the prototype of the temple of sale, a place that embodies all the values that the "Aedis Homes" wants to convey to its customers.

(DOMUSφως) is this his name: the house of light.

DOMUS: home, a place of aggregation par excellence, the basis of the family's collective agonist, of values;
φως: light, intended as a fundamental element of the entire design.
The theme of living is declined with particular attention to the work and is therefore proposed here a hybrid version of home-office.
The project aims to integrate architecture, ecology and technology into an experimental but concrete product, ready for the new market of living and producing, which can change its functions and therefore its use, now a showroom, now a home, now a job.
We wanted to create an innovative unit, designed and built around the needs of contemporary man: living, working, identifying; integrating principles capable of achieving comfort aimed at social well-being.

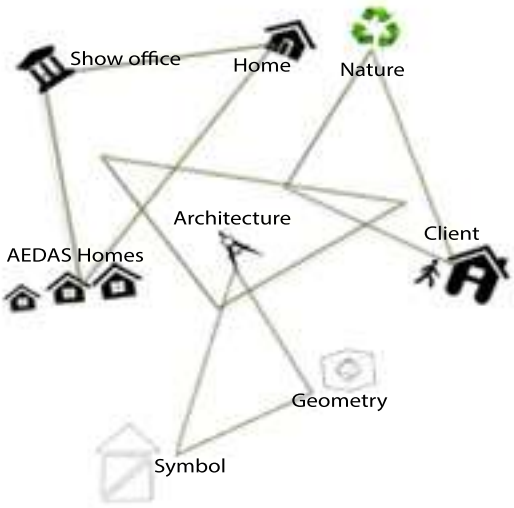


The provocation

was to give her a sense of pronounced individualism, through a building of character, which gathers the attentions, the curiosities and the glances of passers-by, through a captivating and innovative design; a building never equal to itself, which breathes in the folds of its curves, which is transfigured in the light during the day, in its always different prospects.
At the same time we wanted to create an organism capable of integrating with the context and the surrounding nature, bringing together an architectural protagonism inherent in design and a willingness to be able to dialogue with what surrounds it.
The DOMUSφως wants to be a paradigmatic project that aims at the culture of recovery and sustainability: at the beginning there is the firm conviction that using resources sparingly, exploiting renewable resources and adopting a series of "responsible" devices can make it possible to achieve sustainable development that is today the basis of modern construction technologies.



CONCEPT ANALYSIS



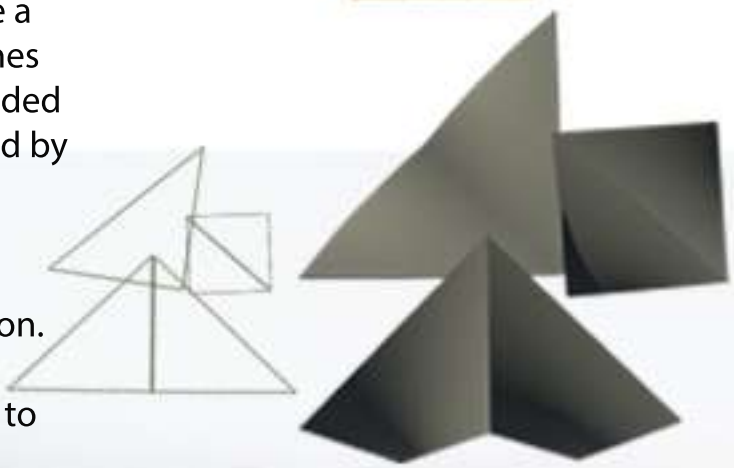
The DOMUSφως is a simple yet complex building, born from the ancestral idea of a house as a child would design it: a double-sloping roof, two vertical side walls and a flat base; that we wanted to reinvent.



The initial idea then starts from elementary geometric elements such as the square and the triangle, which aggregate and shape, meet and collide to form a space articulated by full and empty spaces, in which the material disappears and reappears in forms and different functions.



Looking at the final design, we can only have a vague memory of this image, because the lines have become more complex, the roof has folded and the side walls have disappeared, replaced by large glass walls that let nature enter inside. The main façade is dominated by the large entrance portal that pierces the building in length and denounces its internal composition. Cells are thought of as basic elements for complex aggregations, capable of giving life to multi-cellular, modular buildings that can be modeled according to specific needs.



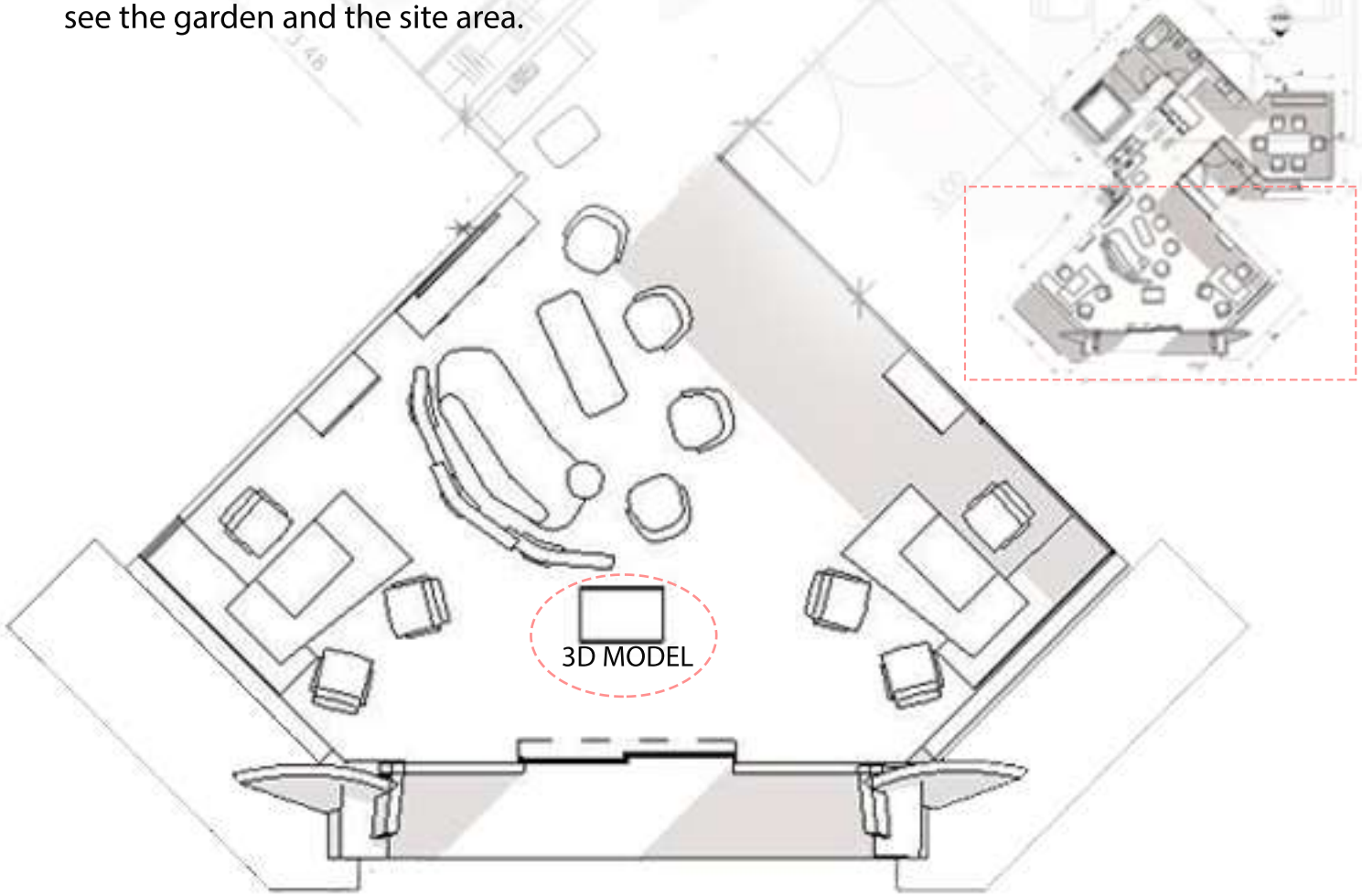




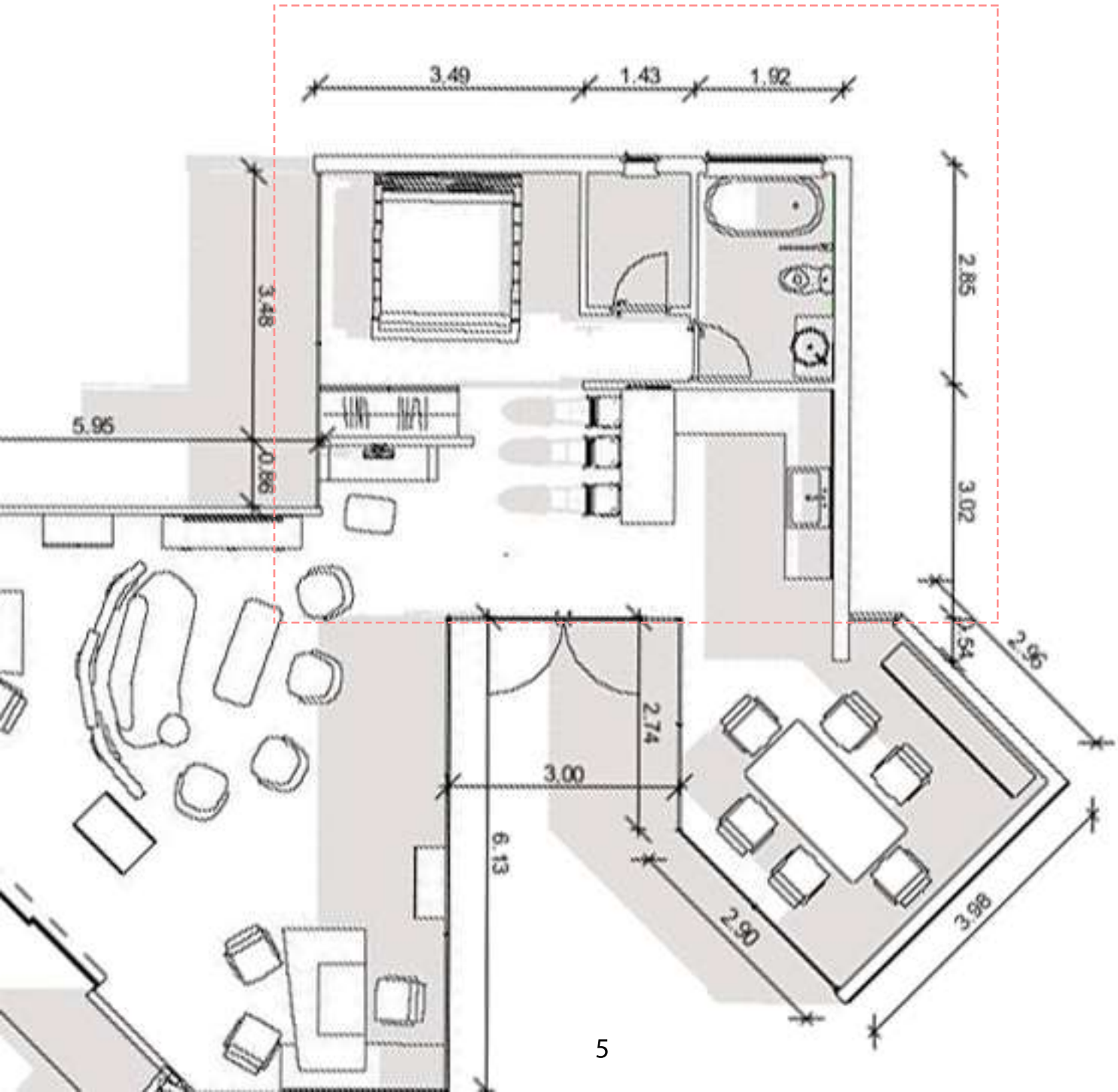
THE PLANT

The internal setting wanted to be dynamic, adaptable to the practical needs of the building and give a perception of continuity.
The succession of glazed fronts and the richness of outlook towards the outside, give a sense of consequentiality of the envelope in its entirety.
The search for a cohesion with nature is also ensured by the use of a natural material such as wood, to play a decisive role in the generative idea of the building.
The interior space plays with the clean geometry of 3 different squares, which interpenetrate in a common corner, creating an open space overall.
Each square has a different function, which integrates and is completed with the others.

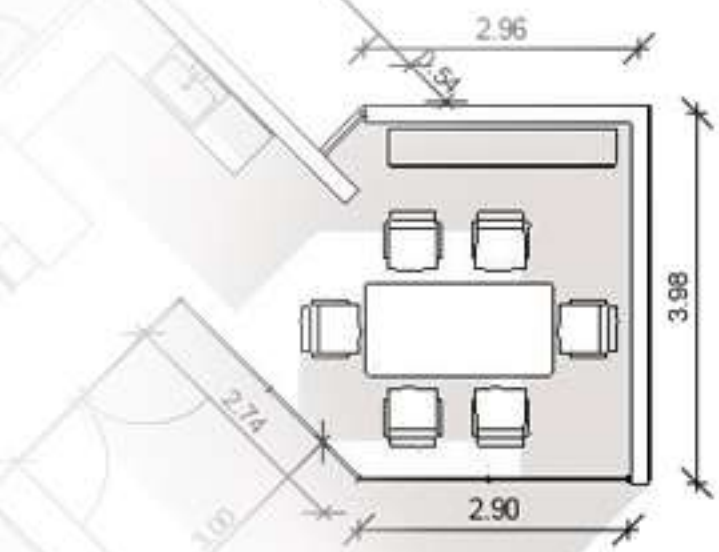
The plan provides for the reception space of the customers placed at the entrance of the first square: it is an open environment, from which the rest of the building can be glimpsed.
In the middle of the hall, a large display table houses the 3D model of the buildings for sale; on the sides of the areas of relationship with the show office staff; and finally a waiting room reserved for customers and separated by movable walls, equipped with screens on which presentation videos are projected.
The orientation of the latter area has been carefully focused outwards, so you can see the garden and the site area.



In the second cell / square the intention was to instill an idea of home; the space is fragmented into two functions: in a wing the bedroom hidden from view by a wall, served by a large bathroom with a bathtub and a closet, both placed at the corner of the square in a more private area; on the other a kitchen / dining area open and permeable to view. The service and the kitchen are placed in an adjacent way so as to facilitate the position of the pipes, in particular for the rainwater recovery system.
At the point of contact between this last environment and the first cell, an area dedicated to children has been set up.
The connecting element becomes a critical point, in which the walls meet and meet, but the visual continuity is ensured by the glazed element.



To close the building a third square used as a meeting room, which on occasion can be isolated from the rest through the glass doors.



The internal cut-outs also guarantee areas protected from the outside, which can become, if necessary, extensions of the internal spaces of the building on both sides, among which it is always possible to choose between shade and sun.
The unity of the environments is emphasized by the use of a single flooring but at the same time it can foresee the application of different designs depending on the intended use of the rooms.



ANALYSIS OF PLANT



Work area 14 mq

Meeting room 14.8 mq

Entry 5 mq

Living room 31.2 mq

Bedroom 12.4 mq

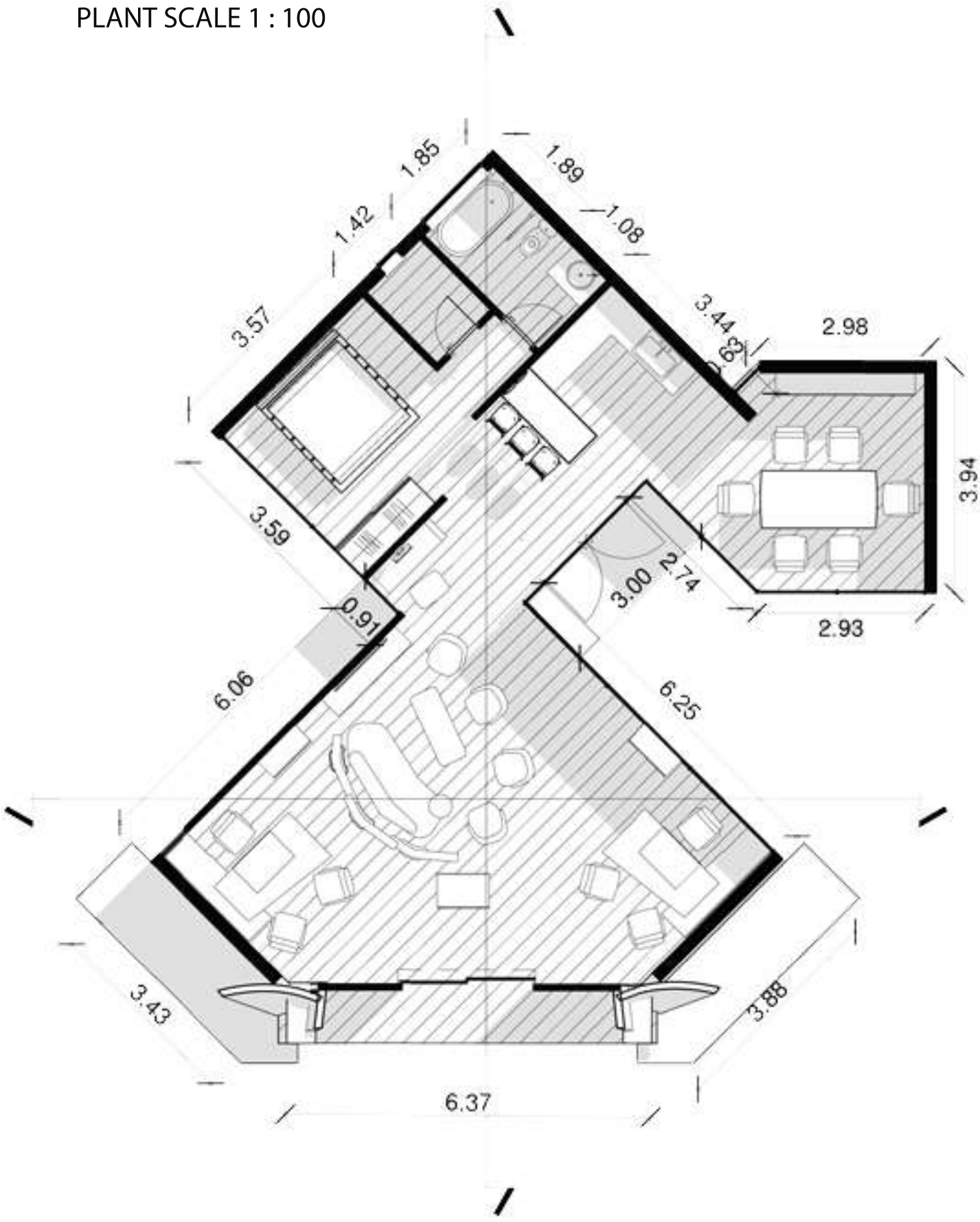
Area of children 4.5 mq

Closet 2.3 mq

Kitchen 13.4 mq

W.C 4.8 mq

PLANT SCALE 1 : 100



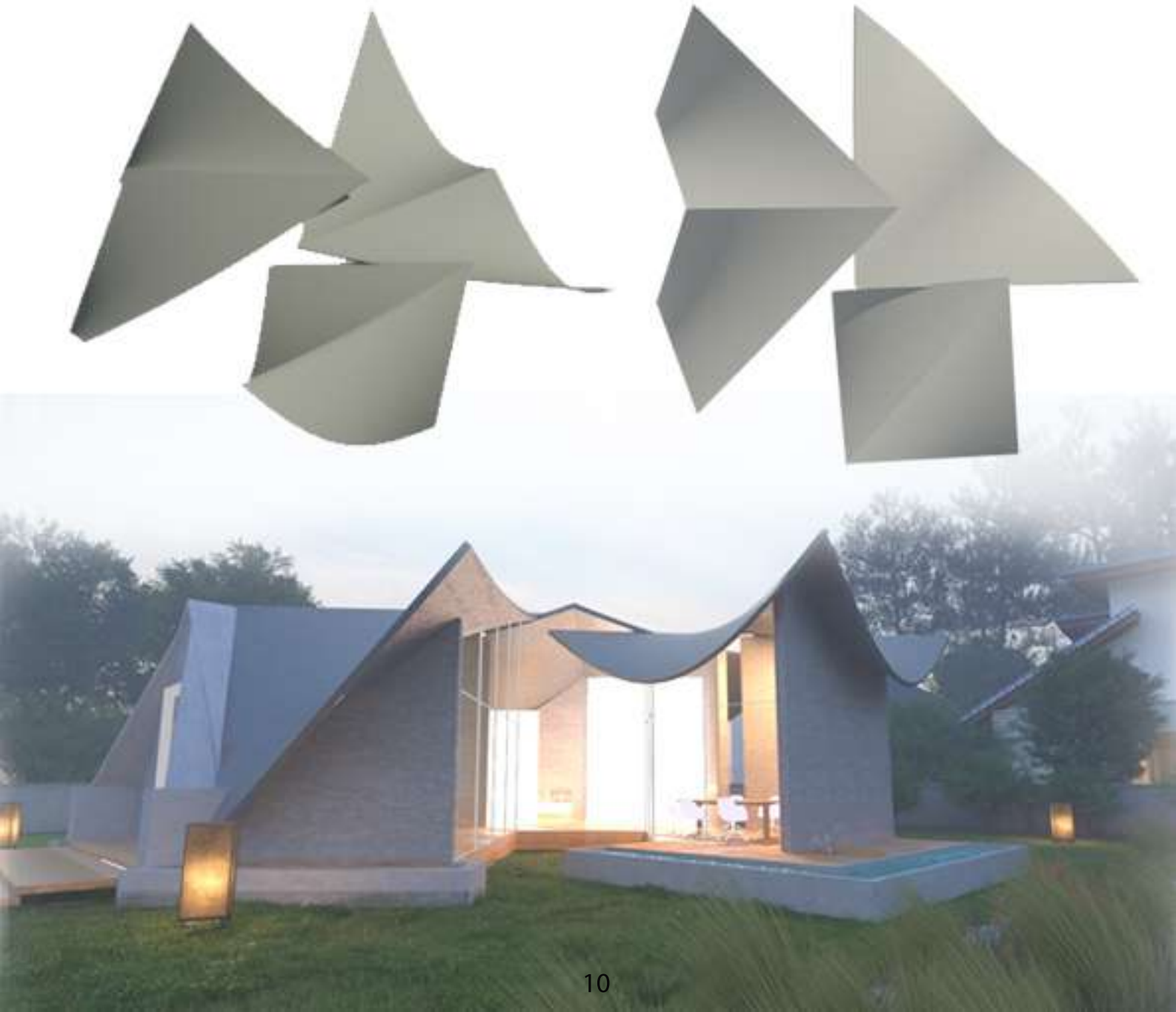
INTERIOR LIGHTING

The interior lighting has been solved in two ways:
the perimeter holes that pierce the material and allow nature to penetrate inside;
the slits in the roof, small holes that interrupt the plastic solidity of the roof, are placed like natural beacons and let small beams of light enter inside.
Regardless of the position of the sun, these measures ensure that natural light illuminates the interior spaces either directly, through the windows, or filtered through the roof cutouts.
At night, the building will become the light source of the surrounding environment, through the numerous slits of the roof, creating unique effects and great visual impact.



The roof - geometric harmony

The cover stands as the fundamental visual element, which gathers attention and wants to break with the surroundings. A soft blanket that folds sinuously like a cloth and gives character to the whole structure.
Three different elements for geometries and inclinations, that where they do not meet are connected by sheets of glass that let in light inside.
Each roof is made up of two symmetrical flaps, which from above recall triangles, made of Bituminous panels.
This design is also linked to a practical function, with a rainwater collection system that reduces consumption, being properly filtered and crammed into external tanks and used in the drains of the bathrooms and for the irrigation of the garden.
Water, a primordial and essential element, which is also collected in mirrors and which, like nature, is reflected inside.





CONSTRUCTION DESCRIPTION

The Prefabricated Metal Structures International s.r.l., thanks to its experience gained in recent years in the design and construction of turnkey buildings of school buildings and residential housing complexes, has become a leader in the design and implementation of complete and reliable civil construction.
The common feature of all our proposals is the construction technology chosen, namely the construction of buildings with prefabricated elements "dry" and with a steel supporting structure.
Prefabricated Metal Structures International s.r.l. it is proposed to this competent body to offer the realization of the "Municipal Cite dans la Commune de Niete" using its own technology in place of the traditional projected one.
In formulating our offer, the writer was concerned with maintaining the original dimensional architectural appearance.
Below we will describe the proposed technology and the improvement aspects that it entails.

Design criteria for structures and plants

Structures

Choosing steel as a material to realize the fundamental structural parts of the building complex is a conscious, convenient and intelligent solution.
The characteristics of the steel constructions, in fact, determine an incomparable competitiveness, compared to other building materials.
This not only for the architectural beauty that can be achieved, but also for the high performance offered by this metal, which greatly affect both functionally and aesthetically and economically.
The structures, therefore, will be made with steel structures for beams and pillars in simple profiles.
Steel products for beams and pillars in hot rolled sections of the IPE, IPN, HEA, HEB, HEM, UPN Series, supplied and installed in compliance with CNR 10011. The following are included: the connection and stiffening plates; cut to size; the punctures; the flanges; bolting (with bolts of any class) or welding; etc. It is also understood what else is needed to give the finished work.
This includes protective treatments and varnishes that will be evaluated with a choice of color by the D.L.

Flexibility

Steel constructions can be designed with extreme freedom of shapes, geometries and color shades and can then be transformed in a simple and fast way.
This makes it the favorite material of the most creative designers and a smart strategic choice to make future extensions and renovations easier.

Lightness

The lightness of the structure in metallic carpentry allows to reduce the excavation, concrete and backfilling volumes.
This translates into great savings in the construction of foundations.
The steel structure and dry components, with the same resistance, weighs 1/3 of a traditional structure.
In relation to the lightness and the technical characteristics, the foundation soil is less stressed and the concrete foundations are smaller.
In the specific case, in fact, we calculated a lighter dimension of the foundations compared to the design one.

Brightness

With steel it is easy to create large and very luminous surfaces with an extraordinary aesthetic impact, difficult to obtain with traditional materials.
Using steel, moreover, you can take advantage of the easy combinations with other construction materials such as glass, creating spaces of natural lighting that allow energy savings and enchanting architectural effects.
In this specific case, the steel structures have been combined with internal panels and panels of sandwich panels with external and internal layers in OSB or in fiber cement and internal insulating material.
In addition to this it was combined with wood for coverage.

anti-seismic

The steel constructions are 100% earthquake-resistant, ideal for Italian construction and for all foreign countries that have the same problem.

Construction speed

The high level of prefabrication and the simplicity of assembly of steel constructions allows much quicker implementations than traditional materials.
The assembly in the workshop, where accurate checks are carried out, reduces the risks due to the atmospheric conditions typical of construction on site.
Another feature of our offer is that, for the assembly of housing, the writer will use only local labor organized and managed by Italian personnel. The steel structures are composed of elements that are produced in the factory, they are transported well on the place where they build and they are assembled in very short times after having realized the foundations in concrete.
In the case of Niete, the construction time of a steel structure is about a fifth of that needed for the same structure built with traditional system.

Sustainability

Steel constructions are sustainable constructions because they meet 100% durability and recyclability requirements.

Resistance

Thanks to modern painting or galvanizing technologies, steel maintains its properties intact throughout the life of the work.
Following the most disastrous seismic events that occurred in the past, the steel structures have withstood better than those in c.a.
Even now, steel structures usually suffer less from seismic actions than structures in c.a. and this because:

- are light
- were designed taking into account the wind side actions.

Installations

Modern trends in architecture are aimed, as well as in the search for new aesthetic forms that do not compromise functionality, but also in the search for sustainable buildings for an energy-environmental point of view.
All buildings designed and built by Costruzioni Metalliche Prefabbricate International s.r.l. they are, in this sense functional, using the structure itself for laying the lines making up the plants.

cladding

For the infill, the choice falls on composite walls composed of various prefabricated materials.
The package is defined and studied on a case-by-case basis, depending on the thermo-acoustic characteristics that the building must meet.
In the specific case of this offer, the external walls are made of dry (without mortar) by simple screwing on the structure, and then treated with a slight shave and painted with color chosen by your eligible entity.
The colors available are all those that are part of the RAL range.
The external wall consists of sandwich panels with a stratigraphy of coupled materials that allow an easy and rapid assembly and superior technical characteristics, with the same resistance, lightness, thermal insulation, soundproofing, waterproofing.
The sandwich panel will be composed of an external fiber cement (or OSB) part, an internal part made of insulating material (rock wool, glass wool, polyurethane, polystyrene, etc.) and a further layer to always close in fibrocement (or OSB).
The panel will have a total thickness of 10.00 cm.
The building outside will appear as a masonry building but with a superior finish quality.
The same type of layered element will be used for interior partition walls / walls.
Also inside the house will have an appearance similar to the traditional one but better finished.

coverage

The roofing system designed by us for your needs, referred to in this object, consists of a system made of steel and wooden joists beams; above this supporting structure will be fixed the cover in slabs of solid wood or OSB; the roofing system will be completed with the fixing on the board of corrugated or corrugated steel sheets, which will also be the external finish.
The system will be included in the price, of course, the system gutters and descendants needed.
This system will allow, unlike the system present in the design with only the corrugated sheet fixed to the wooden structure, to have a ventilated roof.
The advantage is simple: it is obtained by creating a gap with a constant thickness between the covering elements (corrugated sheet) and the underlying layer (planks in OSB sheets or wooden planks).
It has the function of contributing to the control of the hygrothermal characteristics of the roof through air changes.
It is adopted in order to:
- in the hot season: reduce the heat underneath the sealing element (corrugated sheet) by activating convective motions, making the habitability of the attic comfortable.
- in the cold season: avoid the stagnation of humidity under the sealing element, with consequent condensation that deteriorates the insulating material and the other covering structures.

Note: The price also includes the supply and installation of windows complete with gratings, doors and wooden doors, flooring, bathroom wall tiles with Italian ceramics, sanitary ware, plumbing and electrical system.

IN CONCLUSION

The type of steel construction with dry components, which we propose, is preferred over the traditional one because:
it is realized with a fifth of the time
it weighs much less and the foundations on the ground are smaller
it resists better than any other structure to earthquakes
the facades look like those of a traditional type but better finished
the building thus created has insulation from heat, cold, and noise higher than that of a traditional building
the construction times are as short as possible and are programmable as in an industrial process, contrary to the traditional solutions that depend too much on the difficulty of coordination, the weather conditions and the length of execution times

DESCRIPTION OF THE SUPPLY:

- Cantierizzazione, excavation and realization foundation;
- Supply, prefabrication and laying of Fe360 steel structures obtained from flat laminates and industrial profiles, complete with the appropriate and necessary bolts, including hot galvanizing;
- Panels for external walls and for partition walls consisting of prefabricated sandwich-type panels composed of: fiber-cement slab layer - insulating material - fiber-cement slab layer;
- Painting of sandwich panels;
- Steel beams, wooden joists, wooden planks or OSB, corrugated or corrugated steel sheet, all for covering package;
- Smooth cement, laminate, PVC or ceramic flooring (to be decided in the executive phase with the contracting authority);
- Rivestimento with ceramic for bathrooms;
- Supply in sanitary ware;
- Supply and installation of doors, doors and windows;
- Electrical system and hydraulic system.

Estimative Metric Computation Of Show Office

Description	Construction of Show Office			
	U.M.	Quantity	Price list € / UM	Amount
Preparation of the ground and construction of the foundation slab with prefabricated concrete blocks N.B. this item is omitted in case of installation of the box office on already completed plafonds	mq	102,40	€ 200,00	€ 20.480,00
Prefabricated metal construction Steel products with beams in simple hot-rolled sections; attack and stiffening plates; installation; cut to size; drilling; bolting and / or welding; protective treatments, painting	mq	102,40	€ 350,00	€ 35.840,00
Internal and rear paneling Sandwich panels with external and internal layers in OSB or in fiber cement and internal insulating material.	mq	266,89	€ 8,75	€ 2.335,29
Roof				
1. structural structural system with steel purlins and wooden joists	mq	120,00	€ 130,00	€ 15.600,00
2. padding in solid wood slabs	mq	120,00	€ 8,75	€ 1.050,00
3. finishing with bituminous shingles	mq	120,00	€ 15,00	€ 1.800,00
Floating floor Supporting structure in galvanized steel constituted by supporting columns and horizontal crosspieces; particle board and calcium sulphate; walkway finish in laminated cornwall oak; Finishing and closing accessory elements	mq	110,00	€ 19,00	€ 2.090,00
Continuous facade Structural continuous façade with independent cells realized by the combination of self-supporting modular elements with floor height. Paneling from a 6 mm thick opaque reflective glass, internally finished with pre-painted sheet steel. Glass paneling composed of tempered float glass with air gap of a total thickness of 6/12/5 mm. Each self-supporting modular element has its own metal frame (average weight structure 7 kg / sqm) which is fixed directly to the slab and to which the glazed panels are incorporated by means of structural silicone, excluding scaffolding	mq	137,84	€ 240,00	€ 33.081,60
Indirect lighting Made with a linear LED lighting body hidden in a strip in the contact line between the perimeter walls and the roof	mq	15,00	€ 50,00	€ 750,00
Direct lighting Bright hot spots according to the exigency of the exhibition	mq	7,00	€ 30,00	€ 210,00

Estimative Metric Computation Of Show Office

Description	Construction of Show Office			
	U.M.	Quantity	Price list € / UM	Amount
Interior doors Interior doors in Laminatino, Base Model Series 7 above indicated It has the finishing in Laminate Gray Quartz horizontal vein, covers of 70 mm, other finishes available are: Larch sand, White ash open pore, Maple snow and walnut soft gray	n°	2,00	€ 135,00	€ 270,00
Entrance Door with the slim profile, the ST FLEX automatic sliding door is extremely versatile. The telescopic version with the same profile is also available. Safety glass of 8 and 10 mm thick, or 22 mm double glazing can be used. The system is tested for a minimum duration of one million cycles and complies with the EN 16005 standard.	n°	1,00	€ 1.500,00	€ 1.500,00
SMARTWOOD window very thin windows in real wood, light gray color, the internal profiles of windows, aluminum doors. In this way the fixtures remain thin, light and safe, without sacrificing the refined and warm touch of the wood.	mq	1,30	€ 200,00	€ 260,00
Water recycling system The water recycling and storage system in an underground 2000-liter tank includes piping and placement in the culvert	n°	1,00	€ 2.300,00	€ 2.300,00
Bathroom 800 wall hung bathroom cabinet in matt gray with Noja washbasin. 1) Modern suspended bathroom cabinet in wood, matt gray color, with 2 drawers with soft closing				
2) Built-in porcelain washbasin	n°	1,00	€ 289,00	€ 289,00
Sanitary bathroom Toilet	n°	1,00	€ 59,00	€ 59,00
Price included				€ 117.914,89





