ARKI-TECH

SPECIFICATIONS

Quality

is essential

We have talked about the savings from the standardized construction process, the high level of quality and the shorter completion time. Get to know the raw materials of the process now.

CONSTRUCTION SYSTEM

The Base.

The base, or foundation, of the house is constructed of reinforced concrete designed to receive the modules with total precision. They are connected by steel anchor plates cast into the actual concrete.

The foundation can withstand seismic movements and with its engineered anchoring system to the modules, it is designed to accommodate for any displacement due to expansion and contraction of the various materials during changes to the temperature; this prevents cracks or breakage.

Each terrain is different and requires a customized solution. No two foundations are the same because no two soils are the same.

Integral structure

The structure of the house is fundamental, it gives robustness to the house and makes it eternal. It is made up of structural steel beams and pillars that form a highly resistant three-dimensional frame. It is the basis for floors, walls and roofs.

The way the different elements are connected to the structure provides us with great advantages:

- Future modification of partitions or walls with no effect on the structure.
- Superior resistance to snow, wind and seismic forces.
- Visual elimination of projections due to the effect of pillars or beams.
- Elimination of thermal bridges.
- Guaranteed durability thanks to the steel and concrete used.
- Maximum acoustic and thermal insulation in the house, always reaching **class A**.
- Very good thermal inertia.

The Layer system

Floor slab.

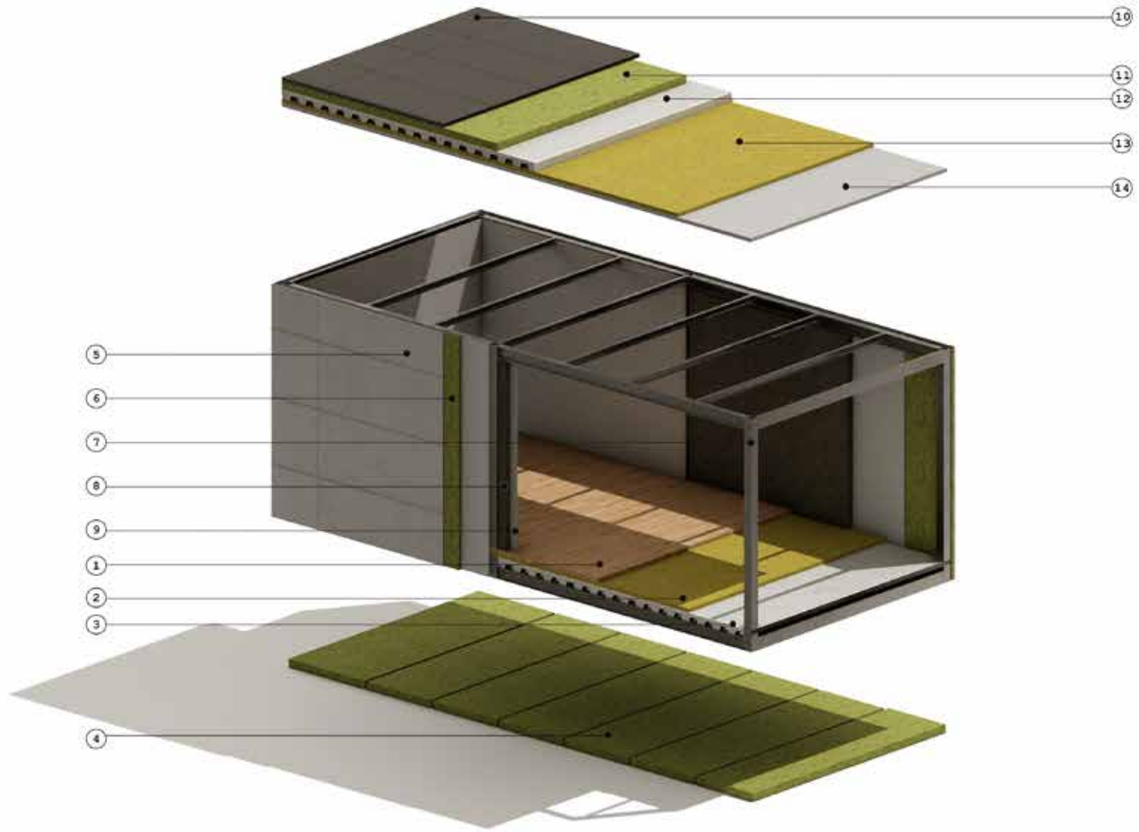
Layer 1. Interior finishes.
Layer 2. Acoustic comfort.
Layer 3. Reinforced concrete slab with corrugated steel deckt.
Layer 4. Thermal-acoustic + waterproof sheet.

Façade enclosure. Maximum insulation.

Layer 5. Defines the exterior aesthetics of the house. Ventilated façade or other options per your specific requirements.
Layer 6. Thermal-acoustic insulation sheet.
Layer 7. Structural steel frame.
Layer 8. Insulation and acoustic comfort.
Layer 9. Interior finishes.

Roof.

Layer 10. Exterior roof membrane.
Layer 11. Thermal-acoustic + waterproof sheet.
Layer 12. Structural steel frame.
Layer 13. Insulation and acoustic comfort.
Layer 14. Interior finishes.



OUTDOOR

Ventilated façade
ceramic, composite or polymer concrete

Ventilated porcelain, ceramic, composite or polymer concrete slabs with a wide range of formats and colours. ARKI-TECH, has selected the best materials and knows them in-depth.

They are high resistance, high durability to external agents offered in a wide range of colours and textures. The possibilities of composition are infinite; generating different arrangements that create very attractive geometries.

All systems are ventilated and insulated, so they do not require maintenance or treatment. In addition to generating the overall aesthetics of the of the building exterior, they are an integral component of the building's high performance contributing to unbeatable thermal efficiency.

Some finishing options:

Exterior carpentry of the **highest quality**

Window frames.

We use the most resilient carpentry in aluminum or PVC. PVC has a galvanized steel core inside which makes it more rigid and insulating. Other characteristics of this carpentry are:

• No need for thermal bridge breakage.
• Location of the maximum number of chambers existing on the market (five), between the exterior and the interior of the profile.
• Efficient thermal insulation coefficient compared to those made of other materials with integrated thermal bridge break.

Aluminum allows for a smaller profile section, giving all the prominence to the glazed surface, going unnoticed from the inside of the home.

Sill and jambs.

Perimeter window cladding in the same material as the rest of the façade, with window sill in natural stone such as marble or granite.

Glazing.

In our industrialized houses, we incorporate double or triple glazing units, double laminated safety glass with internal chamber and Planitherm membrane.

This provides energy efficiency, acoustic insulation, safety and security. The glazing units consist of four layers, from inside to outside:

• Two laminated safety glass panes fixed to the inside of the home. 4 + 4 mm laminated safety glass forming an armored pane. In the event of an attempted burglary, there is no risk of the glass separating from the window frame during the event and it also has a greater resistance against further glass breakage.
• Planitherm thermal film on the inner face of the outermost pane reflects more than 25% of the solar radiation transmitted to the interior of the chamber; improving thermal insulation.
• Double 3+3 mm exterior glazing provides maximum security and low emissive to prevent the entry of cold-heat to the maximum.

ENTRANCE TO THE HOUSE

Optimum security

Entrance doors are classified according to their degree of resistance to breakage in the event of burglary, either by physical penetration, dismantling, manipulation of the lock, etc.

Within this scale of security, and fixed in the standard, there are several resistance numbers from 1 (low resistance) to 5 (maximum security in public and security buildings). ARKI-TECH uses an armoured floor to ceiling door of security grade 4. The maximum used in residential construction.

Natural regulation **of light**

The protagonist of any home is light; the builder of spaces. Our homes are characterized by diaphanous spaces that create unbelievable views. The light is regulated by the window blinds. The models we use are Monoblock roller blinds with a hidden drawer in the ceiling and a motorized roller blind in the bedrooms.

Integrated joinery

Connecting doors.

Interior doors in white lacquered MDF wood, smooth with satin aluminum handles and contemporary straight lines. We understand the passage areas as a smooth transition between spaces. The doors go from floor to ceiling, allowing the rooms to flow and create a sense of scale and superior size. The doors are designed to be hinged, for their optimal functioning without adjustments or maintenance. We also consider the possibility to gain greater spatial continuity by installing sliding doors that, once open, communicate spaces in an elegant way.

Built-in wardrobes from floor to ceiling.

ARKI-TECH's built-in wardrobes are configured to make the best possible use of your space having floor-to-ceiling doors and avoiding plinths, bulkheads, and mezzanines. All wardrobes are lined with a shelf above 90 cm and a hanging rail without drawers.

The visual purity is achieved with completely smooth hinged doors, which facilitate access to the interior and come with recessed handles for opening them. This is achieved by using a discreet, fully integrated, indentation in the wood.

Enveloping floors

Flooring.

Your flooring is the common thread tying all of the interior spaces together. We provide a wide range of materials, styles, and patterns for you to choose from. This will create a style and a specific sensation in the whole house.

Wood, the natural texture of wood and its multiple forms recreate a natural and cosy setting. We use the highest quality decking, (Ac5) with the highest degree of resistance to scratches, knocks and erosion, as well as requiring no maintenance whatsoever.

Some finish options:

Ceramic/Porcelain, high quality tiles, mass-coloured throughout its thickness, with maximum resistance and great variety. Tiles come in a wide range of sizes, colours, finishes and textures. Large and medium size formats have complete room in our designs and range from 60 x 60 cm. or 60 x 1 20 cm.

Some options of finishes:

Connecting spaces

We consider the staircase as a space builder in the home and it is designed with special attention.

Each element claims its presence and is designed individually for each project. We can utilize several methods to achieve this; cantilevering and linking them to living rooms or having double heights with glass balustrades between two walls with a visual communication behind it by releasing the riser, or cladding them in synthetic wood or ceramic / compact quartz according to your preference and interior design preferences.

Wall coverings

The walls and their finishes are another common denominator for the interior design, a fundamental substratum for integrating the furniture.

Two coats of paint with a spray gun and a final finishing coat with a white roller.

In wet areas (kitchens, bathrooms and laundries) we use ceramic tiles, perfectly aligned and without bevels. They are available in a wide range of finishes, colours, textures and formats (30x90 cm, 45x90 cm or 40x120cm).

Relaxing bathrooms

New spaces that provide wellness, we design bathrooms to understand them from a new perspective, taking care of the smallest detail to make a ritual of the usual.

Equipment.

Completely finished bathrooms: fixtures, washbasins and mirrors with warm LED lighting, pure lines with a wide range of finishes and colours to create the desired atmosphere.

Another option of furniture that we can adapt to the bathroom to make it visually lighter, is the wardrobe used in the master bedroom. This model has the same storage capacity with opaque and visible areas. The duality comes not only in the structure but also in the finishes; it combines lacquer with wood veneer.

Designer bathroom fittings.

Designer bathroom fittings. Top quality white porcelain in a modern line.

• Toilet with built-in cistern resting on the floor complete with wall-mounted push button, and cushioned brake for greater comfort.
• Floor-standing bidet with wall lock.

Bath & shower. Relaxation space. Made of resin, the shower tray collection combines beauty, quality, hygiene and feel. The continuous materials offer great design possibilities, as well as excellent performance over time. This makes them perfect for use in wet environments. The shower enclosure made of tempered safety glass and concealed profiles without any mechanisms, enhances the pure lines in accordance with the defined aesthetics.

Beautiful & practical kitchen

At ARKI-TECH we value the use of the highest quality materials. We understand their long-term behaviour and the fact that it will develop over its life span. For a kitchen, this is of vital importance.

Furniture. The kitchen furniture is designed to measure, because each client experiences their kitchen in a different way. Made entirely of 19 mm waterproof MDF wood with a groove opening to facilitate superior ergonomics and is finished on the inside with a melamine veneer in white, grey or textile. The fronts, whether doors or drawers, can have the following finishes:

• Wood-effect laminate with PVC edges sealed with hot-melt glue to withstand the sometimes damp kitchen environment.
• Lacquered on all sides and edges in any colour from the colour chart or RAL and in gloss or matt finish.

Worktops. Silestone is the only quartz surface with a 25-year guarantee and 50 available finishes making it the optimal choice. These worktops have the following qualities:

• Non-porous surface. Impenetrable to chemical cleaning products or food acids.
• Durability and resistance to impact due to the presence of quartz among its components.

Dekton. The kitchen worktop can also be made of Dekton. It has established itself as one of the cutting-edge materials in top-of-the-range kitchens. It has the following advantages:

- Inalterable to scratching and discolouration.
- Impenetrable to chemical cleaning products or food acids.
- Tolerant to high temperatures.
- Large format without joints.

Appliances. Both the interior design and the kitchen equipment are planned from the beginning of the project. Their integration, functionality and design are in keeping with the overall home experience without sacrificing features.

Top-of-the-line appliances having an energy category of A+. All our homes include a dishwasher, microwave, fridge-freezer, extractor hood, induction hood and oven.

The stainless steel sink is under mount for easy cleaning.

STATE OF THE ART FACILITIES

Electricity. At ARKI-TECH we equip homes with a **high degree of electrification**; the maximum of the regulation. We want your home to be ready to meet current demand and future systems or technology extensions. All electrical installations run through the technical layers intended for this purpose, without interrupting insulation, structure or waterproofing. The switches and mechanisms are of the minimalist Jung LS990 model, integrated into the interior design.

Lighting. All the light points are installed with a recessed luminaire, some of which are lost (recessed) for indirect light. All our homes have LED technology to contribute to energy savings and longer life of the luminaires.

When we talk about the lighting project of the house, we start from the needs of each client. Lighting is very personal, a builder of spaces and atmospheres. We study each case and adapt the installation to the client's taste.

AEROTHERMY

The air-conditioning system with the lowest energy consumption.
The renewable Aerothermal system is based on capturing the thermal energy accumulated in the outside air, which is used by heat pumps to produce heat or cold. The raw material is the air and its temperature, so the cost is very low and unsightly solar panels are avoided.

The main advantage of this system is the production of hot water for heating, showers, etc. The aerothermal system is not new; it has been on the market for a long time, but more and more, the Spanish regulations, in accordance with the European ones, give priority to the use of alternative energies; and for this reason it is considered the best air conditioning system that exists at the present time.

Other advantages to take into account of this system are:

- **Reduction of up to 70% of the energy bill** by replacing the traditional boiler.
- Heat and cold production in a single machine.
- Independent production of domestic hot water.
- Higher performance than any other machine measured in COP.
- Easy and quick installation.
- Valid for underfloor heating - cooling, radiators, etc...
- Low cost and quick return on investment.
- Energy efficiency A.
- Use of air as raw material, with zero cost (excluding the power consumption of the actual unit).
- Elimination of gas supply with the consequent minimum quota, maintenance and revisions.

Ducted air conditioning. The installation of ducts offers an immediate temperature response. In an ARKI-TECH home, thanks to its industry-leading thermal insulation, the air supply necessary for air conditioning is minimal, avoiding the sensation of "dry" air.

TESTS

Concrete. All our houses are tested in accordance with local regulations. Samples of the concrete from each house are taken and analyzed in the laboratory to check that they meet the highest standards of strength and quality.

Metal. The metallic elements of the house are analyzed by means of traction/ compression tests as well as periodical checks of the weld integrity between elements for each housing unit.

Installation. We want our homes to have guaranteed comfort, which is why all installations are analyzed above the pressure of normal use to ensure that there are no faults in the joints or in the materials themselves.

Temperature and humidity. Testing in each home using thermometers and hygrometers once installed on the plot. After years of practice and experience we can say that our houses are extremely thermally efficient. They are kept at a constant temperature of around 18°C day and night, even if the outside temperatures vary from -10 to +42 °C.

The recommended ideal relative humidity inside the houses is between 55% and 65%. Our homes maintain this range, even with extreme outdoor humidity's of 10% and up to 93%.

Watertightness. Each roof is tested against possible leaks. To date, 100% of our modules have passed all the tests established in the UNE standards.

Acoustic testing. According to regulations in order to guarantee theoretical and real compliance with existing standards, and to guarantee comfort inside our homes; locating and eliminating possible acoustic bridges.

Energy efficiency. We are proud to have the first modular homes with class A energy efficiency. The highest possible rating granted by Spanish regulations. We design, manufacture and adapt the homes to their environment to achieve maximum efficiency and maximum economic savings.

Thermographic test. Performed using a thermal camera, which indicates the temperature of the interior and exterior surfaces of each house. Our solution of layers and exterior insulation, the exterior shutter system, and the structural solution allows us to say that our house has no thermal bridges. It is thermally perfect for its environment.

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Thank you for your attention.

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