

Aliveriou 4-6 | 34133 | Chalkida

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Specification Guide for Passive prefabricated houses of Easy Green July 2021

The Energy Efficient Houses of Easy Green are made of wooden frame and they are completely anti-seismic, extremely compact and fully waterproof with the ideal thermal and sound insulation conditions

Passive exterior wall construction system

The Easy Green has developed the following exterior wall construction system in order to ensure high thermal insulation and airtightness (from exterior to interior) :

- Flexible, colored, acrylic and breathable coating. (color selection up to customer choice)..
- Base coat reinforcing plaster reinforced with fiberglass.
- Facade of expanded polystyrene EPS 120 mm. with $\lambda = 0,032$ W/mK, mounted by mechanical fastening.
- OSB oriented standard board. 15mm
- Wooden frame 50 or 100mm per 600mm for ground floor residences.
- Mineral wool insulation 150 mm with $\lambda = 0,040$ W/mK.
- OSB oriented standard board. 15mm
- Polyethylene film as a vapor barrier 0,2mm.
- Wooden frame 50*50mm per 600mm (cavity) in order to ensure the airtightness of the system
- Mineral wool insulation 50 mm with $\lambda = 0,040$ W/mK
- Fire resistant gypsum board 12, 5 mm. (fire and waterproof resistant gypsum board 12, 5 mm on the inside wall of the bathrooms).
- Total thickness 365mm .
- Average weight 52,6 kg /m².
- Soundproofing Rw 46db.
- Thermal coefficient U= 0,11 W/m²k.
- Fire Resistant REI 30.

Interior wall construction system

All the interior walls are designed such as:

- ✓ Wooden frame 50 or 100mm per 600mm.
- ✓ Glass wool insulation 100 mm with $\lambda = 0,040$ W/mK..
- ✓ Bilateral fire resistant gypsum board 12,5mm. (fire and waterproof resistant gypsum board 12,5 mm on the inside wall of the bathrooms).
- ✓ Room height 2,65m.
- ✓ Total thickness 125mm.
- ✓ Sound insulation Rw 41 db.
- ✓ Fire resistant REI 30.
- ✓ Average weight 33.60 kg/m² *

Mezzanine and attic floor

The mezzanine floor are designed from below to top:

- ✓ Fire resistant gypsum board 12,5mm.
- ✓ Polyethylene film as a vapor barrier 0,2mm. Polyethylene film as a vapor barrier 0,2mm.

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- ✓ Wooden lath for plasterboard installation 15 * 70mm.
- ✓ Wooden floor beams type H 50 * 200 mm.
- ✓ Mineral wool insulation 100mm between the beams.
- ✓ Mineral wool insulation between the beams (only under a loose attic) 250mm.
- ✓ Chipboard PB 18mm..
- ✓ Polyethylene film as a vapor barrier 0,2mm.
- ✓ Filling with expanded polystyrene and lightweight screed with total thickness 180 mm in case of ceramic tiles
- ✓ Drywall filling consisting of wooden beams and OSB 15mm in case of wooden or laminate floor
- ✓ Total thickness 410mm . * .
- ✓ Sound insulation Rw 55 db *.
- ✓ Fire resistant REI 30.
- ✓ Average weight 185 kg/m2 *.
- * (with the floor filling)

Roof construction

The roof construction model consists of the following elements:

Easy Green roofs offer a guaranteed lasting protection and durability. All exposed structural timber surfaces are properly coated and protected. All the visible parts of the ceiling are made of planed timber which impregnated with color. Maximum loading (snow load) 100kg / m².

Four or two pitched roofs are constructed as follows (inside to outside layers):

- ✓ Fire resistant gypsum board KNAUF 12,5 mm (only when underneath lies an accessible room).
- ✓ Polyethylene film as a vapor barrier 0,2mm (only when underneath lies an accessible room).
- ✓ Wooden frame 50*50mm per 600mm (cavity) in order to ensure the airtightness of the system
- ✓ Wooden lath for plasterboard installation 15 * 70mm. (only when underneath lies an accessible room).
- ✓ Wooden roof beams type H 50 * 200mm for downside open roofs. (high ceiling)
- ✓ Wooden grids 50 *150mm connected with bolted plates for downside closed roofs. (flat ceiling)
- ✓ Mineral wool insulation 250 mm with $\lambda = 0,040$ W/mK (only when underneath lies an accessible room).
- ✓ OSB oriented standard board 15mm.
- ✓ Bituminous waterproofing breathable membrane (common type)
- ✓ Vertical flags in order to create a gap of 35 * 45 mm.
- ✓ Horizontal flags for the laying of roof tiles 35 * 45 mm
- ✓ Roof windows (upon selection)
- ✓ Cement tiles BENDERS (30 years manufacturers warranty) 13 colors of selection.
- ✓ Total thickness 518 mm .
- ✓ Average weight 90,8 kg/m².
- ✓ Sound insulation 49 db.
- ✓ Thermal coefficient $U = 0,13$ W/m²k.
- ✓ Fire resistant REI 30.

Gutter system.

- ✓ All the gutters placed on the roofs are extruded aluminum 1,3mm thickness, for greater durability in a hue of choice of the owner.
- ✓ Includes placement up to 30 cm above the foundation plate



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Flat terrace construction

Non-accessible terraces are constructed as follows (lower to upper layers)

- ✓ Fire resistant gypsum board KNAUF 12, 5 mm.
- ✓ Wooden lath for plasterboard installation 15 * 70mm
- ✓ Polyethylene film as a vapor barrier 0,2mm
- ✓ Wooden frame 50*50mm per 600mm (cavity) in order to ensure the airtightness of the system
- ✓ Wooden floor beams 250 mm.
- ✓ Mineral wool insulation between the beams 250mm
- ✓ OSB oriented standard board 15mm.
- ✓ Polyethylene film as a vapor barrier 0,2mm
- ✓ 30-100mm expanded polystyrene foam chunks cut to create 2% slopes
- ✓ Waterproofing durable membrane FPO Sarnafil TG 66-15 1,5mm by SIKA.
- ✓ Overall thickness 457 mm .
- ✓ Average weight 62,9 kg / m²
- ✓ Soundproofing Rw 49 db.
- ✓ Thermal coefficient U= 0,11 W/m²k
- ✓ Fire resistant REI 30.

Accessible terrace (with additional cost)

Accessible terraces are constructed as follows (lower to upper layers)

- ✓ Fire resistant gypsum board KNAUF 12, 5 mm.
- ✓ Wooden lath for plasterboard installation 15 * 70mm
- ✓ Polyethylene film as a vapor barrier 0,2mm
- ✓ Wooden frame 50*50mm per 600mm (cavity) in order to ensure the airtightness of the system
- ✓ Wooden floor beams 250 mm.
- ✓ Mineral wool insulation between the beams 250mm
- ✓ OSB oriented standard board 15mm.
- ✓ Polyethylene film as a vapor barrier 0,2mm.
- ✓ Filling with lightweight screed 50-100 mm create 2% slopes
- ✓ Layering with liquid asphalt
- ✓ Common asphaltic membrane
- ✓ Sealing asphalt membrane with chip.
- ✓ Cement screed 20mm.
- ✓ Ceramic tiles.
- ✓ Total thickness 498 mm.
- ✓ Average weight 227 kg/m².
- ✓ Sound insulation 49 db .
- ✓ Thermal coefficient U= 0,15 W/m²k.
- ✓ Fire resistant REI 30.

Windows and Balcony doors

- ✓ White PVC .
- ✓ Frames designed for tilt-and-turn (in double windows only one sheet can be tilted).
- ✓ Argon gas triple glazing with low emissivity film (low-e).
- ✓ Thermal coefficient Ug=0,7 W/m²k Uf= 1,1 W/m²k.
- ✓ Metal knobs (white electrostatic paint)
- ✓ White marble threshold.
- ✓ Electrical aluminium shutters..



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Entrance Doors

- ✓ White PVC (color selection according to the customer's wish at extra cost), designed to provide maximum airtightness, $U_f = 1,1 \text{ W / m}^2\text{k}$.
- ✓ Metal handles (white electrostatic paint).
- ✓ Security lock

Electrical installation

- ✓ Entire electrical installation in accordance with Greek law and european standards.no
- ✓ The positions of the lights, switches and sockets are selected according to customer's wishes.
- ✓ Cables used depending on the task: 3*1,5mm NYL & NYA , 3*2,5mm NYL NYA, 3*6mm NYL , 5*10+1,5mm NYL & NYY, UTP KAT6, TV cable.
- ✓ Main panel with 3-lines HAGER automatic electric fuses and Circuit Breaker separated per floor
- ✓ Separated panel at the second floor
- ✓ Modular DIN Rail (fuses, switches, Circuit Breaker) SCHNEIDER.
- ✓ VALENA plugs and switches of LEGRAND house series (Neutral white or Classic crème color).
- ✓ All connections are instated inside junction boxes and are accessible in any case of damage or modification necessity.

The electrical installation includes:

Entrance

- ✓ Line for entrance doorbell, 3*1,5 cable
- ✓ Line for entrance external light, 3*1,5 cable.
- ✓ Line for entrance internal light, 3*1,5 cable.
- ✓ Internal and external light simple switches, 3*1,5 cable.
- ✓ One socket, 3*1,5 cable
- ✓ Shutters switch

w.c.

- ✓ Simple switch with one lighting line, 3*1,5 cable.
- ✓ Socket next to mirror, 3*2,5 cable. .

Bathroom

- ✓ Simple switch with one lighting line, 3*1,5 cable.
- ✓ Washing machine socket, when and where chosen, 3*2,5 cable.
- ✓ Socket next to mirror, 3*2,5 cable.

Heating

- ✓ Connection to the heating system..
- ✓ One thermostat per floor, 4*1 cable.

Storage Room

- ✓ Simple switch with one lighting line, 3*1,5 cable.
- ✓ One socket, 3*1,5 cable.
- ✓ Shutters switch

Hall

- ✓ Simple switch with one lighting line, 3*1,5 cable.
- ✓ One socket, 3*1,5 cable



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Kitchen

- ✓ Retour switch with one lighting line, 3*1,5 cable..
- ✓ 1 supply line for the oven, 3*6 cable.
- ✓ 1 supply line/socket for dishwasher, 3*2,5 cable.
- ✓ 2 supply lines for 4 sockets for other kitchen electrical appliances, 3*2,5 cable.
- ✓ Shutters switch

Lounge / dining room

- ✓ Retour switch with one lighting line, 3*1,5 cable.
- ✓ 3 supply lines for 6 sockets, 3*1,5 cable.
- ✓ 1 UTP line for telephone.
- ✓ 1 supply line and socket for A/C, 3*2,5 cable.
- ✓ 1 tv line for TV.
- ✓ Shutters switch

Bedrooms

- ✓ Retour switches with one lighting line, 3*1,5 cables.
- ✓ 2 supply lines for 3 sockets, 3*1,5 cables.
- ✓ 1 UTP line for telephone.
- ✓ 1 supply line and socket for A/C, 3*2,5 cables.
- ✓ 1 tv line for TV.
- ✓ Shutters switch

Exterior

- ✓ Simple switch with one lighting line in each balcony door, 3*1,5 cable.
- ✓ 1 supply line with outdoor socket, 3*1,5 cable.

Stairs

- ✓ Retour switch with one lighting line, 3*1,5 cable.
- ✓ 1 supply line/socket, 3*1,5 cable.

Plumbing installation

- ✓ Pipes for hot and cold water with 20mm thermo welding from INTERPLUST.
- ✓ Drainage systems for sanitary equipment with tube 40mm and 57mm SPIRAL SOLIDRAIN.
- ✓ Main drains fitted with FASO PLAST 6 atm pipe (100mm and 63mm).

Residential plumbing installations included:

- ✓ Kitchen: including supply plumbing of hot-cold water and wash basin drain, and dishwasher supply.
- Bathroom: including supply plumbing of hot-cold water and drainage pans, wash basin, tub, and washing machine* supply.
- WC typical: including supply plumbing of hot-cold water and drainage pans, wash basin.
- WC with shower: including supply plumbing of hot-cold water and drainage pan, wash basin, shower.
- Balcony: Supply plumbing of one cold water faucet.
- All drains and supplies included are set inside the residence and over the surface of the basement/foundation slab. Not included: links to the external wastewater network reception, holding tank and plumbing work outside the contour of floor.

**One washing machine wastewater drain per residence.*



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Heating-cooling systems

Air-conditioner

- ✓ 9000 Btu
- ✓ A+++ (Energy consumption)

Water solar heating system

Solar water heating system includes:

- ✓ Array of solar selective collectors: 8 m².
- ✓ 200 lt inertia tank

Ventilation system

Ventilation system composed of:

- ✓ Thermally and soundproof insulated, 80% energy recovery ventilation unit.
- ✓ A circuit of flexible tubs for collecting or sending air to each room, according to its needs.
- ✓ Ventilation outlets in each room.
- ✓ Iron boxes on connections and junctions.

Sanitary equipment

- ✓ Lavatory pans with toilet flush and toilet seat lids, market price 135 € + VAT.
- ✓ Wash basin for the bathroom, market price 70 € + VAT.
- ✓ Wash basin for WC, market price 60 € + VAT.
- ✓ Cast-iron bathtub, market price 233 € + VAT.
- ✓ Shower where applicable 80X80cm, market price 70€ + VAT.
- ✓ Tub faucet, market price 90 € + VAT.
- ✓ Washbasin faucet, market price 65 € + VAT.
- ✓ Mirror inox 20s, market price 80 € + VAT.
- ✓ Bathroom accessories wash basin towel rail, tub's towel rail, cases for toothbrushes, soap, sponge and toilet paper, market price 75 € + VAT.

Sanitary Equipment included:

- ✓ Bathroom: bathtub, lavatory pans with toilet flush, wash basin, mirror and bathroom accessories.
- ✓ WC with shower: shower (where demanded), wash basin, mirror and bathroom accessories.
- ✓ WC simple bowl flush, wash basin, mirror and WC accessories.

Floor Screed

Ground floor above the basement or foundation slab

- ✓ Filling composed of 30 mm expanded polystyrene, and 65 mm lightweight screed topped with cement mortar.

Upper floor

- ✓ Filling with expanded polystyrene and lightweight screed with total thickness 180 mm. (in case of ceramic tiles)
- ✓ Drywall filling consisting of wooden beams and OSB 15mm. (in case of wood or laminate floor)



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Laying of tiles

Wall tiles (bathrooms - kitchen)

- ✓ Maximum cover in height from the floor in bathrooms and WC: 2,20 m.
- ✓ Maximum cover in total area in kitchen: 4 m². *
- ✓ Maximum tile value selection included in overall cost quotation: 14.00 € + VAT.
- ✓ The tile installation has been tallied parallel-vertical to the walls.
Diagonal placement or parquet type installation, installation without seams, designs, edging as listello, torelli, webbings and elaborated motifs, larger tiles, mosaic, and bevel cutting of the corners are extra charged. Tile coverings less than 0,60 m are calculated in current measure value no less than 60% of the price of 1 m².

** All offers are not tallied on the kitchen plan but rather on the maximum expected kitchen area.*

Ceramic floor Tiles (Rooms: kitchen, bathroom, WC, living room, storeroom, corridor, entrance).

- ✓ Maximum tile value selection included in overall cost quotation: 10.00 € + VAT
- ✓ Skirting included.
- ✓ The tile installation has been tallied parallel-vertical to the walls.
Diagonal placement or parquet type installation, installation without seams, designs, edging as listello, torelli, webbings and elaborated motifs, larger tiles, mosaic, and bevel cutting of the corners are extra charged.

Floor coverings with synthetic parquet (laminated)

Rooms: Bedrooms and upstairs corridor, first floor hallway

- ✓ Kronotex laminate made in Germany, thickness 7mm and 8mm.
- ✓ Series Basic, Smart, Dynamic.
- ✓ Substrate 3 mm of polyethylene foam.
- ✓ Skirting included.

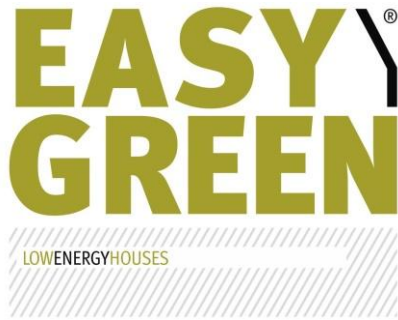
Coloring-Decoration

- ✓ Plastic color on the walls according to customer's wishes.
- ✓ Exterior colors for walls with colored elastic plaster facade according to customer's wishes.
- ✓ Ceiling plaster simple frame deco.

Internal Doors

- ✓ Internal hinged laminate doors*, without a special design, with a curved laminated frame, door sill with rubber, inox hinge, double barrel type, inox handle.

**All offers are calculated with hinged doors - sliding option comes with extra charge.*



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Kitchen cabinets

Kitchen cupboards and doors are made of white melamine 16mm and melamine doors (soft form).

Included:

- ✓ Workbench 4cm waterproof.
- ✓ Hanging cabinets 72 cm.
- ✓ Legs adjustable plastic.
- ✓ Baseboard with rubber.
- ✓ Hinges.
- ✓ Stop drawer mechanisms.
- ✓ Plate racks.
- ✓ Cutlery case.
- ✓ Plastic waste basket.
- ✓ Single inox handles.
- ✓ Double sink, market price 75 € + VAT.
- ✓ Calculated total kitchen length* (top and bottom) for >100 m² houses: 10m.
- ✓ Calculated total kitchen length* (top and bottom) for <100 m² houses: 6m.

** All offers are not calculated on the kitchen plan but rather on the maximum expected kitchen area.*

Wardrobes

Wardrobes are made of white melamine 16mm and melamine doors (soft form). Included:

- ✓ Legs adjustable plastic.
- ✓ Baseboard with rubber.
- ✓ 1 iron hanging bar and 1 shelf per wardrobe.
- ✓ One independent internal chest of drawers.
- ✓ Single inox handles.

Main bedroom: calculated closet* dimensions of 265*200cm.

Secondary bedrooms: calculated closet* dimensions of 265*120cm. .

** All offers are not calculated according to the plan, but tallied on rooms according to the above. In every house, one bedroom is considered as "main" and the rest as "secondaries".*

Stairs

Staircase (where needed)

- ✓ Wooden type (without riser) with an external massif beech façade 40mm thick, tread from massif-laminated beech 40mm thick according to the chosen design. The banister may be wooden lathe-worked, or metallic in different colors with an additional cost.

Remarks

Easy Green reserves the right to change the options of supplying companies, materials and methods of construction, for any reason and without prior notice. All work refers to the construction of the house inside the building's contour and above the foundation slab or plate basement.