STANDARD CONSTRUCTION MATERIAL STANDARD SERIES 2-2566

Section 1 Material-equipment for elder and health	
Elevator	-
Air ventilation system	**PM2.5** prevention and clean air ventilation equipment by **PD Fresh Airflow** model **Fresh I**, wall mounted in the bedrooms and bathrooms except maid room-maid bathroom (if any)
Elder room floor	-
Entrance ramp	As specified in drawing (if any)
Elder bathroom door	-
Elder bathroom	-
Swimming pool	-
Section 2 Material-equipment for energy saving and heat insulation	
Solar water heater	-
Heat prevention beneath the roof	**3 inches thick insulator by "STAY COOL": Premium** placed on ceiling beneath upper and lower roof level (except garage, upper, lower terrace area external ceiling and Insulated Roof). For the concrete roof or concrete floor, **6 inches thick "STAY COOL": Premium** is used.
Sanitary ware (water saving)	-
Roof tile (CMR)	**Ceramic Metal Roof : Casa Spain** – standard color by **PD Insulated**, (choose the color later) or **Snaplock** – premium color By **PD Insulated** (choose the color later) with "Dry ridge system", **stainless steel valley through#24**
Wall material	**7.5 cm.** thick Autoclaved concrete with plastering and skim coat
Section 3 Environment friendly material-equipment	
Laminated floor	General first floor and upper floor – **8 mm.** Thick laminated floor by **"INOVAR": InVogue** or equal with PVC floor skirt.
Wooden stair set	A set of **Engineered Wood** by **BEAVER WOOD or MUKU** color coated from the factory
Stair tread	**Size 250x30 mm.**
Riser	**Size 200x20 mm.**
Handrail	**Size 75x50 mm.**

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Post	**Size 100x100 mm.**
Baluster	**Size 50x50 mm.**
Landing	**30 mm. thick, 2 pieces (V groove connect)**
Eave ceiling	Vinyl board by **"SCG": Solid Board** or equal with Zinc galvanized studs#26. or equal
Decorated wall (If any))	In case of fiber cement decorated wall, use **"SCG"** or **"CONWOOD"** or as drawing specified
General interior door/ Bedroom/ Maidroom/ Storage room (If any)	Laminated engineered wood door model LMD with white wood pattern film coated **Wood Plastic Composite (WPC)** door frame by **"PD WOOD"** (choose color later)
Bathroom door	White **Wood Plastic Composite (WPC)** door with white wood pattern film coated **Wood Plastic Composite (WPC)** door frame by **"PD WOOD"** model C-WPC.
Maid bathroom door	White PVC door by **BATHIC**: Classic BC-2
Door for storage room under stair (if any) /	White PVC door panel with louver
Door for electric control unit panel	White PVC door panel with louver
Door for kitchen/ garage (open to exterior)	White **Wood Plastic Composite (WPC)** door and white wood pattern film coated **Wood Plastic Composite (WPC)** door frame with steel structure by **"PD WOOD"** model **C1-WPC.**
Facia	Fiber - cement board by **"CONWOOD": Two in One**, primer paint coated type or **"SCG": 6", 8"** primer paint coated type or equal.
Treatment Tank	Fiberglass tank by **"DOS": ST-21/GY** or **"PP": Ecotank** or equal (put underground).
Grease trap Tank	Fiberglass tank by **"DOS": GT-09/BK-40** or **"PP":GT-30UG** (put underground).
Section 4 Innovation and technology material-equipment	
Concrete structure	
Footing/Column /Beam /Staircase/ bathroom tray	**Prefabrication structure with Multi Joint Lock System**. Some parts of structure are cast-in-place as engineer specified.
General concrete floor	Prestressed concrete plank by **D-CON** or **PCM** or equal Some parts of structure are cast-in-place as engineer specified.

Exterior doors/windows	By WINDSOR
Door to Terrace / Balcony/ main entrance	White vinyl door by "**WINDSOR**": Smart– Hybrid with 4.5 mm. thick clear green glass.
General Window	White vinyl window by "**WINDSOR**": **Smart – Hybrid** or equal with 4.5 mm. thick green clear glass.
Window of toilet	White vinyl window by "**WINDSOR**": **Smart – Hybrid** with 4.5 mm. thick frosted glass.
Adjustable Louver (if any)	White vinyl window by "**WINDSOR**": **Smart – Hybrid** or equal with 4.5 mm. thick green clear glass.
Plastering material	Mortar cement by **"SCG", "INSEE", "TPI", "SINGHA MORTAR"** or equal with skim coat. For exterior, wall protective formula mortar **"PD Mortar Plus" and fiberglass mesh** with **skim coat** is used.
Roof Truss	**Alu-zinc (AZ-150)** or **SuperDyma** coated high strength steel structure with screw and nut system as engineer specified. Except structural steel for model EA-211 and EA-212, size and dimension as engineer specified.
Roof tile (PD Insulated)	**Ceramic Metal Roof : Casa Spain** – standard color by **PD Insulated**, (choose the color later) or **Snaplock –** premium color By **PD Insulated** (choose the color later) with "Dry ridge system", stainless steel valley through#24
Section 5 General material – equipment	
Piling	Bangkok area and surrounding area One storey house pre-stressed concrete pile **I-22 not exceed 10.00 m. long** (2 piles welded connection) Two storey house pre-stressed concrete pile **I-22 not exceed 16.00 m. long** (2 piles welded connection). Three storey house pre-stressed concrete pile **I-22 not exceed 21.00 m. long** (2 piles welded connection) In case driven pile cannot be used, drilled pile as engineer specified is used (extra cost) Provincial area (stiff soil), One storey house pre-stressed concrete solid square pile **22 X 22 cm., length not exceed 8.00 m**. is used. Two -3 storey house pre-stressed concrete solid square **pile 22x22 cm. length not exceed 10.00 m.** is used. In the area where pile cannot be driven, soil bearing foundation as engineer specified is used. Except for model EA-211 and EA-212, the spread foundation is used (piles are excluded)

Floor of parking	Reinforced concrete slab (on ground) as engineer specified
Floor of washing area	Reinforced concrete slab (on ground) as engineer specified
Entrance pavement	N/A
Concrete	Ready mixed concrete by **SCG, INSEE, TPI**
Floor Level	
First floor level	0.50 meter high from the ground or as specified in the drawing (In case of multilevel floor).
Flooring Material	
Master bathroom floor	Ceramic tile "A" grade **(price does not exceed 250 baht/sq.m.)**.
General bathroom floor	Ceramic tile "A" grade (price does not exceed 200 baht/sq.m.).
Main entrance terrace	Ceramic tile "A" grade **(price does not exceed 250 baht/sq.m.)**.
Kitchen floor	Ceramic tile "A" grade **(price does not exceed 250 baht/sq.m.)**.
Terrace /Balcony floor	Ceramic tile "A" grade **(price does not exceed 200 baht/sq.m.)**.
Waterproofing system for terrace/balcony/toilet floor	the paint type waterproofing system, **TOA Cement Waterproof** with **fiberglass mesh** or equal will be applied.
Maid Room floor	Ceramic tile "A" grade (price does not exceed 200 baht/sq.m.).
Storage room floor	Ceramic tile "A" grade (price does not exceed 200 baht/sq.m.).
Parking floor	Coarse polished cement.
Washing area	Polished cement
Footpath (If any)	Coarse polished cement.
Entrance pavement	N/A
Wall Finishing	
Wall for Master bathroom	Ceramic tile "A" grade **(price does not exceed 250 baht/sq.m.)** height not exceed 2.40 m.
Wall for General bathroom	Ceramic tile "A" grade (price does not exceed 200 baht/sq.m) height not exceed 2.40 m.
Maid's bathroom	Ceramic tile "A" grade (price does not exceed 200 baht/sq.m) height not exceed 1.60 m.

Decorated wall (If any)	Natural color granite **"BEZEN" 2"x9" (price does not exceed 600 baht/sq.m.)** or equal, spaced grooves
Ceiling	
General interior ceiling	Beveled edge gypsum board 9 mm. thick by **"SCG"** or **"GYPMANTECH"** with galvanized metal studs#26. 1 set of 60x60 cm. instant service access on the second-floor ceiling.
Exterior ceiling (Balcony/Garage)	Beveled edge moisture resistant gypsum 9 mm. thick by **"SCG"** or **"GYPMANTECH"**. with galvanized metal studs#26
Ceiling for bathroom	Beveled edge moisture resistant gypsum board 9 mm. thick by **"SCG"** or **"GYPMANTECH"** with galvanized metal studs #26
Roof tile	In case of Metal sheet roof, 0.47 mm. thick metal sheet, Alu-zinc color, **with 5 mm. PE Foam insulation** will be applied. In case of polished concrete roof, the paint type waterproofing system, **TOA PU Waterproof** with **fiberglass mesh** or equal will be applied. In case of **Shingle Roof**, use the **Double layer type** (the color chosen later) with equipment from manufacturer.
Facia	In case of Metal Sheet roof, the flashing is the same color as the roof.
Railing	Steel or stainless-steel railing or as specified in drawing.
Door and Window Accessories	
Main entrance door, Balcony door	By WINDSOR, single lock
General windows	By WINDSOR**,** single lock
Lock set for general interior door	Stainless steel knob by **"IsOn": 8013ss** or equal with stainless steel door stopper by **"IsOn": 648ss**
Lock set for bathroom	Stainless steel knob by **"IsOn": 8013bk** or equal with stainless steel door stopper by **"IsOn": 648ss**
Hinge	Stainless steel **butterfly hinge** by **"IsOn": SM-43250122SS,** 4 pieces/door
Adjustable louver (If any)	By "3 arrows" **or equal**
Hung type sliding door (If any)	By **HAFELE** top rail model **499.40.402**, moving wheel model **499.72.052** with lock set

Sanitary ware	"VICTOR" or "AMERICAN STANDARD" (White color)
Water closet	Model **TT046** with accessories Chromium color cleaning spray model **TP003-NK-TD009-NK-D7120-NK-E-X-304** with stop valve model **AP001** chromium color
Wash basin	Wall hung pedestal type **model Pear 6066B** with basin waste victor model **HF1001-Y**
Soap holder	Ceramic type model **VICTOR 449**
Tissue holder	Ceramic type model **K007-6**
Bathtub	N/A
Wall mounted faucet for shower	Chromium color **model: A-191+Hose 38#** (1 for each bathroom) and chromium color valve model: **F5611152101**(6137)
Wash basin faucet	Chromium color **model: PQ3-1** and **P-Trap** model: **P-0817/1-8017**
Urinal	N/A
Shelf	Ceramic type model **K007-1**
Mirror	Square shape, golden-chromium color **model TAG1**
Towel bar	Ceramic type model **K-9032/K025-3**
Wall mounted faucet	Chromium color **model JBL-6105N** (1 for each bathroom)
Bathroom floor drain	2" diameter odor trap floor drain (square type) model: **CP010** chromium color, **2 for each bathroom**.
Water	**Comply with Standard of Metropolitan Water Authority or Provincial Water Work Authority. PVC pipes by SCG or THAI PIPE**
Clear water pipe	¾" dia. PVC pipe (class 13.5) for main pipe from building to meter, length not exceed **16.00 m.** with ball valve, metal hand, separating for each floor. ½" dia. PVC (class 13.5) for branch pipe.
Waste water/ Drain	4" dia. PVC pipe (class 8.5) for sewage pipe. 2" dia. PVC (class 8.5) for drainage pipe.
Ventilation pipe	1" dia. PVC pipe (class 5.0)
Rainwater drainage	2" dia. PVC pipe for branch rainwater pipe and 3" dia. for main water pipe (class 8.5). 2" Skull shape stainless steel floor drain for balcony or concrete slap roof.
Sanitary System	

Drainage pipe	Asbestos cement pipe dia. 8" to public drain (Not exceed **16.00 m.** long from the house).
Manhole	30x40 cm. precast manhole every 6.00 m. interval and every bends or corners.
Electrical System	**Comply with Standard of Metropolitan Electricity or Provincial Electricity Authority**
Main income wiring	Single copper wiring PVC insulated (THW#16 sq.mm.) The length from wall to meter not exceed **16.00 m.**
Internal wiring	Single copper wiring with PVC insulated with yellow PVC conduit in wall or on ceiling
Control panel	**15 Amps.** 9 circuit breakers by **"HACO": HD-S109** or equal with Residual Current Device (RCBO).
Lighting switch	Wall mounted lighting switch by **"HACO": Alpha AP-S111, AP-S121** (2-way type switch only at stair hall) 1 for each room and 2 for Master Bedroom.
Receptacle	Wall mounted receptacle by **"HACO": Alpha AP-E233**, **2 for each room** and 2 for living room (except storage/ bathroom/ lower and upper hall).
TV / Telephone outlet	Wall mounted TV/Telephone outlet by **"HACO": AP-T075 (TV), AP-P024** (telephone) **1 for each.**
Luminaire	**Provided by owner**
Electricity and Water Meter	
Permanent electric meter	15 Amps, (**Excluded fee** and deposit for meter and the service area extension fee)
Permanent water meter	¾" diameter, (**Excluded fee** and deposit for meter and the service area extension fee)
Painting	By **TOA**
External wall	External acrylic paint **"TOA": 4 Season** or equal,1 primer and 2 final coating
Internal wall	Internal acrylic paint **"TOA": 4 Season** or equal,1 primer and 2 final coating
Steel surface/HDF panel	Emulsion paint **"TOA": Glipton** or equal 1 primer and 2 final coating
Facia/Fiber Cement Board	External acrylic paint **"TOA": 4 Season** or equal,1 primer and 2 final coating
Other	
Termite protection system	Provided by owner
Tile adhesive	Glue cement by **Singha, Crocodile, Tiger or Waber**

Section 6 Warranty and maintenance	
Structure	**20 years** warranty for the structure
General work	**1 year** warranty for general work Exclude natural depreciation of materials due to long used and misused.

Remarks: The company reserves the right to change the list if needed but the price of the materials is not less than that stated above. The cost of the construction does not include:

- Old building demolition   - Interior decoration and garden   - Air conditioner system.
- Water drainage outside the construction site.   - Mosquito net, door and window steel bars, rain gutter