

## LIST OF STANDARD CONSTRUCTION MATERIALS: SMART II SERIES 1-2568

Section 1 Materials and equipment for the elderly and health	
Lift	None
Air ventilation equipment	<b>PM 2.5</b> prevention and clean air ventilation equipment by <b>PD Fresh Airflow model Fresh I</b> , wall mounted in the bedrooms and bathrooms except maid room-maid bathroom (if any)
Elder room floor	<b>Shock absorb Safety Floor – PVC type, by KRONOTEX</b> with PVC floor skirt
House entrance ramp	Coarse polished cement, as drawing
<b>Door for elder bathroom</b>	White <b>Wood Plastic Composite (WPC)</b> door, hanging sliding type, <b>1.00 meter</b> wide. With grove pattern (MN80-P01G05, MN80-P01G05 or MN80-P01G08 to be chose later) and sliding rail, equipment and white rail cover by MOHNE'
<b>Elder Bathroom</b>	<b>“AMERICAN STANDARD” or COTTO” (White color)</b>
Water closet	2 pieces water closet by COTTO: C1302 SYDNEY with 2 functions rinsing spray set model CT980H#WH(HM) and stop valve model CT179N(HM)
Wash basin	COTTO: For All SC00537, wall hang type, with water inlet hose model CT683(HM)
Wall mounted faucet for shower	AMERICAN STANDARD: ARC A-J56-10 with 5 functions shower head set model MILANO F46044-CHACT
Wash basin faucet	COTTO: CT1058(HM)
Wall mounted faucet	AMERICAN STANDARD: BASIC F22077-CHADY
Towel bar	AMERICAN STANDARD: CONCEPT RK-2801-46-N
Soap holder	AMERICAN STANDARD: CONCEPT RK-2801-42-N
Tissue holder	AMERICAN STANDARD: CONCEPT RK-2801-43-N
Mirror	AMERICAN STANDARD: SASSI LQ-02
Bathroom floor drain	<b>COTTO: CT6406Z4P (size 100 c.m.)</b> 1 point installed in front of the sliding door with 1 piece of odor trap floor drain model A-8200-N
Safety accessory for Elder bathroom	Foldable support arm COTTO: CT0190 L shape handrail COTTO: CT751L/R#SA(HM)
Swimming Pool	None
Section 2 Materials and equipment for Energy-Efficiency and Heat Insulation	
Solar water heater	None

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Heat prevention beneath the roof	<b>3 inches thick insulator by “STAY COOL”: Premium</b> 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, <b>6 inches thick “STAY COOL”: Premium</b> is used.
Roofing materials	<b>Ceramic Metal Roof : Casa Spain</b> – Premium color by <b>PD Insulated</b> , (choose the color later) or <b>Ceramic Metal Roof : Snaplock</b> – Premium color by <b>PD Insulated</b> (choose the color later) with <b>“Dry ridge system”</b> , stainless steel valley through#24
Exterior/ interior wall material	7.5 cm. thick Autoclave concrete with plastering and skim coat.
<b>Sanitary ware (Water saving)</b>	<b>“AMERICAN STANDARD” or COTTO” (White color)</b>
Water closet	For general bathroom, AMERICAN STANDARD: <b>STD LOVEN TF-2133SC-WT-0</b> with rinsing spray set model <b>STD A-4900-ST</b> and stop valve model <b>STD A-4401</b>
<b>Section 3 Eco-Friendly Materials and Equipment</b>	
General first floor and upper floor materials	8 mm. thick laminated floor by <b>“INOVAR”: Exquize</b> or equal with PVC floor skirt.
<b>Wooden stair set</b>	A set of <b>Engineered Wood</b> by <b>ACON</b> or <b>BEAVER WOOD</b> color coated from the factory
Stair tread	<b>Size 250x30 mm.</b>
Riser	<b>Size 200x20 mm.</b>
Handrail	Size 75x50 mm.
Post	Size 100x100 mm.
Baluster	Size 50x50 mm.
Sub-baluster	Size 125x25 mm.
Landing	<b>30 mm. thick, 2 pieces (V groove connect)</b>
Eave ceiling	Vinyl board by <b>“SCG”: Solid Board</b> or equal with Zinc galvanized studs#26. or equal
Decorated wall (If any)	In case of fiber cement decorated wall, use <b>“SCG”</b> or <b>“CONWOOD”</b> or <b>Wood Plastic Composite (WPC)</b> - <b>PD WOOD by Maxis Wood model CX-002 teak</b> color or as drawing specified.

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Interior Doors	
General interior door/ Bedroom/ Storage room (if any)	Laminated engineered wood door model <b>LMD -001-006</b> (choose color later) with white wood pattern film coated <b>Wood Plastic Composite (WPC)</b> door frame model <b>Ultra series 3</b> by “ <b>PD WOOD</b> ”
Hung type sliding door (if any)	Laminated engineered wood door model <b>LMD -001-006</b> (choose color later) by “ <b>PD WOOD</b> ” with white colored Parawood door frame by BEAVER WOOD
Door for maid room/ maid bathroom/ general bathroom (interior door)	White <b>Wood Plastic Composite (WPC)</b> door model <b>C-WPC-001-003, 008, 011, 012</b> and white wood pattern film coated <b>Wood Plastic Composite (WPC)</b> door frame model <b>Ultra series 3</b> by “ <b>PD WOOD</b> ”
Door for kitchen/ garage/ maid bathroom (exterior door)	White <b>Wood Plastic Composite (WPC)</b> door with steel structure model <b>C1-WPC-001-003, 008, 011, 012</b> and white wood pattern film coated <b>Wood Plastic Composite (WPC)</b> door frame model <b>Ultra series 3</b> by “ <b>PD WOOD</b> ”
Door for storage room under stair (if any)	White uPVC door panel with louver
Door for electric control unit panel	White uPVC door panel with louver
Facia	Fiber - cement board by “ <b>CONWOOD</b> ”: <b>Two in One</b> , primer paint coated type or “ <b>SCG</b> ”: <b>6”, 8”</b> primer paint coated type or equal.
Treatment Tank	Fiberglass tank by “ <b>DOS</b> ”: <b>ST-21/GY</b> or “ <b>PP</b> ”: <b>Ecotank</b> or equal (put underground).
Grease trap Tank	Fiberglass tank by “ <b>DOS</b> ”: <b>GT-09/BK-40</b> or “ <b>PP</b> ”: <b>GT-30UG</b> (put underground).
<b>Section 4 Construction technology and innovative materials and equipment</b>	
Concrete Structure	
Footing/Column /Beam/ Staircase/ Bathroom tray	<b>Prefabrication structure with Multi Joint Lock System.</b> Some parts of structure are cast-in-place as engineer specified.
General concrete plank	Prestressed planks by <b>D-CON</b> or <b>PCM</b> or equal. Some parts of structure are cast-in-place as engineer specified.
Exterior Door/Window	
Door to Terrace / Balcony/ main entrance	White vinyl sliding door by “ <b>WINDSOR</b> ”: <b>Right Xtend</b> with 5 mm. thick clear green glass.

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General Window	White vinyl window by “ <b>WINDSOR</b> ”: <b>Right Xtend</b> or equal with 5 mm. thick clear green glass.
Bathroom Window	White vinyl window by “ <b>WINDSOR</b> ”: <b>Right Xtend</b> with 5 mm. thick frosted glass.
Plastering Material	Mortar cement by “ <b>SCG</b> ”, “ <b>INSEE</b> ”, “ <b>TPI</b> ”, “ <b>SINGHA MORTAR</b> ” or equal with skim coat. For exterior wall, protective formula mortar “ <b>PD Mortar Plus</b> ”+ <b>Fiberglass mesh</b> is used.
Roof Truss	<b>Alu-zinc (AZ-150)</b> or <b>SuperDyma</b> coated high strength steel structure with screw and nut system as engineer specified.
Handrail	Vinyl handrail by “ <b>WINDSOR</b> ” as specified drawing (steel/ stainless).
<b>Section 5 General Construction Materials and Equipment</b>	
<b>STRUCTURE</b>	
Piling	<p><u>Bangkok area and surrounding area</u></p> <p>One storey house pre-stressed concrete pile <b>I-22</b>, length does not exceed <b>10.00 m.</b> (2 piles welded connection)</p> <p>Two storey house pre-stressed concrete pile <b>I-22</b>, length does not exceed <b>16.00 m.</b> (2 piles welded connection).</p> <p>Three storey house pre-stressed concrete pile <b>I-22</b>, length does not exceed <b>21.00 m.</b> (2 piles welded connection)</p> <p>In case driven pile cannot be used, drilled pile as engineer specified is used (extra cost)</p> <p><u>Provincial area (stiff soil),</u></p> <p>One storey house pre-stressed concrete solid square pile <b>22 X 22 cm.</b>, length does not exceed <b>8.00 m.</b> is used.</p> <p>Two -3 storey house pre-stressed concrete solid square pile <b>22x22 cm.</b> length does not exceed <b>10.00 m.</b> is used.</p> <p>In the area where pile cannot be driven, soil bearing foundation as engineer specified is used.</p>
Floor of washing area	Reinforced concrete slab (on ground) as engineer specified
Entrance pavement	N/A
Concrete	Ready mixed concrete by <b>SCG, INSEE, TPI</b>
<b>Floor Level</b>	
Lower floor	<b>0.50 meter</b> high from the ground or as specified in the drawing (In case of multilevel floor).
Upper floor	As specified in drawing

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Flooring Materials	
Master bathroom floor	Porcelain tile (price does not exceed 400 bath/sq.m.)
General bathroom floor	Porcelain tile (price does not exceed 300 bath/sq.m.)
Elder bathroom floor	Porcelain tile, anti-slip type (price does not exceed 300 bath/sq.m.)
Kitchen floor	Porcelain tile (price does not exceed 300 bath/sq.m.) with PVC floor skirt or equal
Laundry floor (if any)	Porcelain tile (price does not exceed 300 bath/sq.m.) with PVC floor skirt or equal
Maid room floor	Porcelain tile (price does not exceed 250 bath/sq.m.) with PVC floor skirt or equal
Maid bathroom floor	Porcelain tile (price does not exceed 250 bath/sq.m.)
Main entrance terrace	Porcelain tile (price does not exceed 400 bath/sq.m.) with aluminum stair nose
General terrace floor	Porcelain tile (price does not exceed 300 bath/sq.m.) with aluminum stair nose (if there's stair)
General balcony floor	Porcelain tile (price does not exceed 300 bath/sq.m.)
Waterproofing system for terrace/balcony/toilet floor	the paint type waterproofing system, <b>TOA Cement Waterproof</b> with <b>fiberglass mesh</b> or equal will be applied.
Storage room floor	Porcelain tile (price does not exceed 250 bath/sq.m.)
Parking floor	Coarse polished cement.
Entrance pavement	N/A
Footpath (If any)	Coarse polished cement.
Washing area	Porcelain tile (price does not exceed 300 bath/sq.m.) with aluminum stair nose (if there's stair)
Wall Decoration Materials	
Master bathroom wall	Porcelain tile (price does not exceed <b>400 bath/sq.m.</b> ) height does not exceed 2.40 m. with PVC tile trim
General bathroom wall	Porcelain tile (price does not exceed <b>300 bath/sq.m.</b> ) height does not exceed 2.40 m. with PVC tile trim
Elder bathroom wall	Porcelain tile (price does not exceed <b>300 bath/sq.m.</b> ) height does not exceed 2.40 m. with PVC tile trim

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Maid bathroom wall	Porcelain tile (price does not exceed <b>250 baht/sq.m.</b> ) height does not exceed 2.40 m. with PVC tile trim
Decorated wall (If any)	Natural color granite by “ <b>BEZEN</b> ” 2”x9” or “ <b>KENZAI</b> ” : <b>Granite tile 2”x8”</b> (price does not exceed 700 baht/sq.m.) or equal, spaced grooves.
<b>Ceiling</b>	
Exterior ceiling (Balcony/Garage)	Beveled edge <b>moisture resistant</b> gypsum 9 mm. thick by “ <b>SCG</b> ” or “ <b>GYPMANTECH</b> ”. with galvanized metal studs#26
General interior ceiling	Beveled edge gypsum board 9 mm. thick by “ <b>SCG</b> ” or “ <b>GYPMANTECH</b> ” with galvanized metal studs#26. 1 set of 60x60 cm. instant service access on the second-floor ceiling.
Bathroom ceiling	Beveled edge <b>moisture resistant</b> gypsum board 9 mm. thick by “ <b>SCG</b> ” or “ <b>GYPMANTECH</b> ” with galvanized metal studs #26
Ceiling for maid room/ storage	Beveled edge gypsum board 9 mm. thick by “ <b>SCG</b> ” or “ <b>GYPMANTECH</b> ” with galvanized metal studs #26
Roofing materials	<p>In case of polished concrete roof, the paint type waterproofing system, <b>TOA PU Waterproof</b> with <b>fiberglass mesh</b> or equal will be applied.</p> <p>In case of <b>Shingle Roof</b>, use the <b>Double layer type</b> (the color chosen later) with equipment from manufacturer.</p>
<b>Door and window accessories</b>	
Main entrance door, Balcony door	By “ <b>WINDSOR</b> ”: <b>Right Xtend</b> , Single Lock type
General windows	By “ <b>WINDSOR</b> ”: <b>Right Xtend</b> , Single Lock type
General interior door	Stainless steel mortise lock set by “ <b>MATURE</b> ”: <b>MTL-001-C</b> or equal with stainless steel door stopper model <b>MDH-006</b> or equal.
Bathroom door	Stainless steel knob by “ <b>MATURE</b> ”: <b>MT-001 BK SS</b> or equal with stainless steel door stopper model <b>MDH-006</b> or equal.
Elder bathroom door	As specified by MOHNE'
Maid room door	Stainless steel mortise lock set by “ <b>MATURE</b> ”: <b>MTL-001-C</b> or equal with stainless steel door stopper model <b>MDH-006</b> or equal.

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Maid bathroom door	Stainless steel knob by “MATURE”: MK-012-B SS (eco) or equal with stainless steel door stopper model MDH-006 or equal.
Hinge for general door/ bedroom/ maid room/ bathroom/ kitchen	Stainless steel butterfly hinge by “MATURE”: <b>MH-S4325HS2BB</b> or equal, 4 pieces/door
kitchen/ garage door (open to exterior)	Stainless steel mortise lock set by “MATURE”: <b>MTL-001-C</b> or equal with stainless steel door stopper
Hung type sliding door (if any)	By “HAFELE” or equal
<b>SANTARY WARE</b>	“AMERICAN STANDARD” or COTTO” (White color) or equal (as specified by company)
Water closet (maid bathroom)	2 pieces water closet by AMERICAN STANDARD : <b>NEW WINPLUS FRONT TF-2697SCW-WT-0</b> with rinsing spray model <b>AS BASIC F75006-WTADY</b> and stop valve model <b>STD-A-4401</b>
Urinal (if any)	AMERICAN STANDARD: <b>TF-6789N- WT-0</b> with flush valve (1 unit in bathroom downstairs)
Bathtub	N/A
Wash basin	For master bathroom, general bathroom, AMERICAN STANDARD: <b>SIGNATURE WP-0420-WT</b> , under the counter type  For maid bathroom, AMERICAN STANDARD: STD NEW CODIE-S 0948-WT-0, wall hung type.
Wash basin faucet	For master bathroom, general bathroom AMERICAN STANDARD: SIGNATURE A-1706-10-LL  For maid bathroom AMERICAN STANDARD: WINSTON FFAST601-1T1500BT0
Bathroom counter	Counter topped with Porcelain tile same as the wall, not available for maid bathroom.
Wall mounted faucet for shower	For master bathroom, general bathroom AMERICAN STANDARD: <b>ARC EXP A-J56-10</b>  For maid bathroom, AMERICAN STANDARD: STD AS BASIC F21033-CHADY
Shower head set	For master bathroom, general bathroom, AMERICAN STANDARD: MILANO F46044-CHACT  For maid bathroom, AMERICAN STANDARD: STD AS BASIC F46103-CHADYHS
Wall mounted faucet	AMERICAN STANDARD: <b>AS BASIC F22078-CHADY</b> 1 for each bathroom
Towel bar	AMERICAN STANDARD: <b>CONCEPT R K-2801-46-N</b> , chromium color

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Soap holder	For master bathroom, general bathroom, AMERICAN STANDARD: <b>CONCEPT R K-2801-42-N</b> chromium color For maid bathroom RASLAND: RA-BENZ-9894
Tissue holder	For master bathroom, general bathroom, AMERICAN STANDARD: <b>CONCEPT R K-2801-43-N</b> chromium color For maid bathroom RASLAND: RA-822626
Shelf	For maid bathroom RASLAND: RA-B30044
Mirror	For master bathroom, general bathroom, AMERICAN STANDARD: <b>SASSI LQ-02</b> For maid bathroom COTTO: MM004#6
Bathroom floor drain	Odor trap, stainless steel floor drain by AMERICAN STANDARD: STD A-8200-N, 2 for each bathroom.
<b>WATER</b>	<b>PVC pipes by SCG or THAI PIPE</b>
Clear water pipe	¾" dia. PVC pipe (class 13.5) for main pipe from building to meter, length not exceed 20.00 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 and 3" dia. for main pipe (class 8.5)
Ventilation pipe	1" dia. PVC pipe (class 5.0)
Rain-water 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.
<b>SANITARY SYSTEM</b>	
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.
<b>ELECTRICITY SYSTEM</b>	<b>Electric cables and equipment comply with the Standard of Metropolitan Electricity or Provincial Electricity Authority. Electricity cable by THAI YASAKI or equal.</b>
Main income wiring	Single copper wiring PVC insulated ( <b>THW#16 sq.mm.</b> ) The length from wall to meter not exceed <b>20.00 m.</b>



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Main telephone cable	Four cores <b>wiring not exceed 20.00 m.</b> from meter to the house put in PE conduit ½" underground.
Internal wiring	Single copper wiring with PVC insulated with yellow PVC conduit in wall or on ceiling.
Air condition wiring	1 point at Master Bedroom
Control panel	15 Amps. 16 circuit breakers by <b>"HACO"</b> : <b>HD-S116</b> or equal with Residual Current Device (RCBO).
Lighting switch	Flat wall mounted lighting switch by <b>"HACO"</b> switch cover model <b>Primo PR-F001 / PR-F002</b> , 1 way switch model <b>PR-FS111</b> install 1 switch for 1 room and 2 switches for master bedroom, 2 way switch model Primo <b>PR-FS121</b> only at stair hall.
Receptacle	Flat wall mounted receptacle by <b>"HACO"</b> cover model <b>Primo PR-F003</b> and 3 pin receptable model <b>PR-E233</b> , install 2 for each room and 3 for living room (none for storage/bathroom).
Exterior receptacle	1 set of Flat wall mounted receptacle by <b>"HACO"</b> cover model <b>Primo PR-F003</b> and 3 pin receptable model <b>PR-E233</b> with soft rubber waterproof case model <b>IPW553-WH</b>
Telephone outlet	1 set of Flat wall mounted telephone outlet by <b>"HACO"</b> cover model <b>Primo PR-F001</b> and 4 core telephone outlet RJ11 model <b>PR-P024</b>
T.V. outlet	1 set of Flat wall mounted T.V. outlet by <b>"HACO"</b> cover model <b>Primo PR-F001</b> and 75 ohm T.V. outlet model <b>PR-T075</b>
LAN outlet	1 set of Flat wall mounted LAN outlet by <b>"HACO"</b> cover model <b>Primo PR-F001</b> and CAT6 LAN outlet model <b>PR-J046</b>
Luminaire	Total budget not over <b>30,000 Baht</b>
Emergency light	1 set of twin LED lamp head emergency light at stair hall or as drawing specified.
<b>ELECTRICITY AND WATER METER</b>	
Permanent electric meter	15 Amps, (Excluded fee and deposit for meter and the service area extension fee)
Permanent water meter	1/2" diameter, (Excluded fee and deposit for meter and the service area extension fee)
<b>PAINTING</b>	<b>BY TOA</b>
External wall	External acrylic paint <b>"TOA"</b> : <b>4 SEASON</b> or equal, 1 primer and 2 final coated
Internal wall	Internal acrylic paint <b>"TOA"</b> : <b>4 SEASON</b> or equal, 1 primer and 2 final coated

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Steel surface/HDF panel	Emulsion paint <b>"TOA": Glipton</b> or equal 1 primer and 2 final coated
Facia/Fiber Cement Board	External acrylic paint <b>"TOA": 4 SEASON</b> or equal, 1 primer and 2 final coated
<b>OTHER WORK</b>	
Termite protection system	Springer system with "SCG" or "THAI PIPE" PVC pipe. 1/2" class 13.5 is installed beneath the first-floor structure for termite protection chemical from the service provider. The owner pays for the chemical and service fee.
Tile adhesive	Glue cement by <b>SCG, WEBER, CROCODILE</b> or equal
<b>Section 6 Warranty</b>	
Structure	<b>20-year</b> warranty
General work	<b>1 year</b> warranty 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.