

Construction Specifications and Standard items included with the modular wall panel components which are customized to specific House Plan Models

We manufacture the modular wall panels at our factory. The panels are then taken to the House Plan modification department where each panel is then modified and finished in accordance to the computer generated specs to exacting specifications of a specific model. There are 10 departments altogether and each department is responsible for 3 – 4 different house plans. This is where the exterior panels are fitted for entry door(s), windows and roof trusses. All interior panels are modified for specific locations, whereby the panels are modified in accordance to the floor plan layout, door openings, closets, ceilings, floor, ceiling, etc., Each panel is numbered in accordance to the computer generated schematics for each house plan. All electrical wiring and plumbing is pre-wired at the factory, and cutouts for electrical wall or floor outlets are cut out and boxes installed. Final covers are installed at the time of on site installation.

Essentially, Nu-Tech builds and modifies all the modular wall panels, so that they panels are then delivered to the project site, to a specific lot, as specified in the site plan, delivering a house plan model as specified. The house is then fully constructed, or assembled, which is more of the appropriate terms to use, whereas the developer has his contractor install the outside shell, all the interior walls, floors, ceiling, roof trusses and ceiling joists and complete roofing, at which point, the entire shell of the house is completely finished, requiring only final finishing such as installing the floor covering which is provided by the builder, whether it may be tile, marble, wood floors, or carpeting. The flooring finishing material is not provided by Nu-Tech.

Then, the final finishing of the interior is handled, such as the installation of the staircase (included in our house kit) where called for, installation of the bathroom tubs, toilets and fixtures, which also are included in the price of the house, as well as pre-hung interior and closet doors, kitchen cabinets, kitchen appliances and counter tops, and baseboard trim, as well as final installation of ceiling fans, where the plan call for that, and installation of kitchen appliances. Kitchen sink, faucet, and microwave oven is included in the price. Gas or electric stoves are not included nor is the refrigerator, although that can be built into the price and provided as part of the total package.

Finally, the seams that show up between panels are caulked and taped throughout the entire interior and spray painted into a smooth or textured finish. The exterior panels are caulked and the final finish may be done with a spray on stucco finish, or finished with simulated brick, stone or wood look finish, depending on what the model calls for. All that is included in the price of the specific house plan.

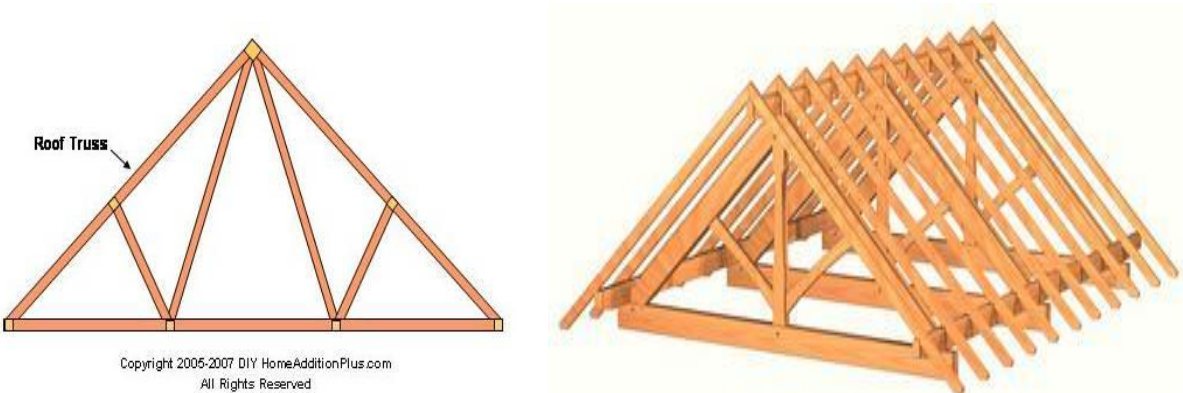
Sewage and water connections are all included and planned accordingly, however, water lines, sewage or septic tank lines underground are not included in the basic price of the house. Septic tanks are not included in the price, as this is all part of the infrastructure cost. Nu-Tech, in many instances, will not only construct on site all of the houses contracted for, but also have its construction services handle all of the infrastructure work, including master planning, site map, subdivision of the land, power generation, utilities, water, sewage, etc.,

However, that is done separately, and the price of the infrastructure, landscaping, foundation and the cost of land, is not included in our basic price list. Prices are quoted FOB, Factory in Florence, South Carolina.

Specific Items detailed and defined:

I. ROOF:

- Roof trusses and ceiling joists are prefabricated at our factory. The trusses are framed or jointed structures composed of straight members only at their intersections in such a way that if loads are applied at these intersections, the stress in each member is in the direction of its length. Prefabricated trusses are typically secured together with metal truss plates that provide stronger joints than traditional nailed joints.



- Composite carbon fiber plastic wood trusses are used instead of wood, roof trusses and joists are pre fabricated at the factory, and made from composite materials that is 32 times stronger than wood framing, and 10 times stronger than steel. This is the same technology used in the construction airplane wings on state of the art Boeing 787 Dreamliner jets built by Boeing.
 - a) Once the prefabricated roof truss is installed, (requires zero field cutting, as everything is designed and built at the factory, and installed in a matter of hours).
 - b) *The roof is then clad or sheathed with our 4" thick modular wall panels.* The sheathing panels and ceiling panels are screwed in with stainless steel screws. No nails are used in the construction of our panelized homes. These panels are insulated, waterproof, fireproof and termite or insect proof. Conventional sheathing uses plywood, particle board or waferboard, which over time, rots, leaks and has to be replaced, whereas our sheathing is guaranteed for life. In regions which are subjected to adverse weather such as hurricanes, tornadoes or typhoons, the roof is secured with cables which are anchored to the foundation, thus insuring that the roof is kept intact even when winds exceed 150 miles an hour. Since the roof sheathing panels are insulated at an insulation value of R-39, the house is energy efficient preventing buildup of heat or insulating the house against the cold.
 - c) *30 pound underlayment* is used to waterproof the roof. Type 15 & type 30 asphalt saturated organic felt is used in all of low cost and medium cost house plans. Where high pitched roofs are built, we use Novel synthetic polyolefin roof underlayment is used. The synthetic underlayment is also used in luxury house plan models, as the roofs are usually more complex and require lots of different styles.
 - d) *Galvanized drip edge* is normally installed on all of our roofs as well as *rain gutters made out of aluminum or galvanized half round or K gutters* installed on all of our houses and are included with the complete home package, including down spouts with most models.

e) Flashings are also standard on all roofs where needed, to prevent any leaks and accumulation of water in spots where the flashings are required.

ROOF SHINGLES

Included in the housing package of any given House Plan pricing, finishing materials are included and shipped with the panels for the roof shingles.

- **Low Cost House Plans** – we use Certain Teed Composition Shingles or asphalt shingles, which are fireproof and waterproof. The shingles are installed on top of the felt underlayment. Installation labor is not included in the price. Installation can be arranged with our crews or the developer, builder or contractor uses his own roofers to shingle the roof. The technology is the same as with conventional house construction methods, and does not require specialized training.
- **Medium Price and Luxury Price House Plans** – included in the price structure is either Spanish roof Tiles or organic fiber or fiberglass core roof shingles, depending on the style and the design of the house and according to the architectural plans specifications. The fiber or fiberglass core roof shingles have that look similar to the wood shingles, except that they are made from composite or fiberglass materials, that are lightweight, fireproof and waterproof, and last forever. The Spanish roof tiles comes in a dramatic wavy look, multi-dimensional and adopt well to classic as well modern designs. The Spanish tiles can come in a variety of finishes and manufacturing, such as concrete Spanish roof tiles, clay roof tiles and fiberglass or composite tiles. We normally look for a local company where the house is to be built, to supply us with the tiles, as it is too expensive to ship by containers because of weight. The Spanish tiles last and are guaranteed for up to 75 years, are made of non combustible materials with very low absorption rate and are hard to break, and require little or no maintenance.

II. WALLS -

- All exterior walls are standard dimensions comprising of 5/16 to 1/2 inch fiber cement panel on the outside and inside with a honeycomb paper core of 5 inches to 5 1/4 inch core, bonded to the fiber cement panels. The panels come in 4feet by 8 feet or 4 feet by 10 feet, are load bearing panels. The honeycomb paper core comes in two layers of 2 1/2 inches thick with a paper cover in between the two. The honeycomb paper core is treated with fire retardant and with phenolic resin glue, to give it structural integrity. The wall panels, when completed, are rated at 10,000 pounds per square inch. The cell size of the honeycomb core is 1 1/8 of an inch cell size. The panels are sound proof and come with an R-11 and R-19 insulation rating, and when the cells are filled with foam insulation, the R rating can be as high as R-52.
- The interior walls are 4 inches thick, with the fiber cement panels of 1/4 of an inch thick on each side, with a 3 1/2 honeycomb paper core, and are rated as load bearing walls. The panels are joined together with a 4 inch by 3 1/2 inch composite framing stud that is 32 times stronger than a wood framing stud and 10 times stronger than steel, and position every 48 inches, whereas the panels are secured to the composite framing stud with stainless steel screws. Stainless steel screws do not rust due to moisture, and do not come loose, as nails do from wind and forces exerted upon the frame and the panels from earthquakes.
- Floors are built with 4" inch fiber cement panels, thus giving the floors complete protection from the elements, which are fire resistant, mildew resistant, waterproof and insulated against the heat or the cold. In cold climates, the panels are insulated with foam insulation by having the foam insulation injected into the honeycomb cells, giving the 4" inch panels a rating of up

to R-39, and in ultra cold climates, we would use 6” thick panels on top of the slab foundation, giving the floor up to R-52 insulation value.

- The exterior walls are caulked at the seams and a stucco finish is sprayed on, or the panels are finished in brick, stone or simulated wood facing finish, which is included in the price of the house, if the specs or design calls for such a finish. Exterior Walls on Low Cost housing are generally finished with sprayed on stucco finish, and the interior walls are caulked, taped and spray painted with a smooth finish or with a textured wall finish as standard on all models. The walls can be painted any color or given the wood veneer finish, or they can be coated with wall paper, depending on the home buyers preferences, such options, however, not included in the standard price quotation.

III. WINDOWS

- Low cost house models \$10,000 and under, we install single pane aluminum or vinyl clad windows, which are installed at the factory. In most instances, we source local vendors or manufacturers in the country where the project is taking place, for windows that are fabricated locally, and then installed during the onsite construction phase, in order to save on shipping costs.
- Low cost house plans over \$10,000 and up, we provide anodized aluminum windows and composite or aluminum frames which are installed at the factory. However, in most instances, we source local vendors or manufacturers in the country where the project is taking place, for windows that are fabricated locally, and then installed during the onsite construction phase, in order to save on shipping costs. Double glazed window panes are used as they are energy efficient and appealing in style and design.
- Many of the Medium Priced House Plans have custom made windows that are double glazed, and made with wood frames or with aluminum frames made with vinyl to give the windows the wood look. The windows are installed at the factory.
- Luxury Priced House Plans include all custom made and custom designed windows such as Anderson windows, that are fabricated for us, and which are shipped separately and installed during the on site construction phase. The windows may come in wood, aluminum or wood aluminum finish.

All prices quoted include windows in the price, whether installed at the factory or on site.

IV. KITCHEN

Kitchen cabinets, kitchen counter tops, stainless steel sinks and faucets; all come standard with the house. We also include a microwave oven as part of the standard equipment in the kitchen. Refrigerators and stoves are not included, although the kitchen is designed to allow the installation of the stove; either gas or electric and a standard size refrigerator. Refrigerators, stoves (gas or electric) dishwasher, garbage disposals and other kitchen appliances can be made available at substantial price discount based on our volume purchase capability, can be included as part of the total pricing package for the house if requested by the Developer/Builder. Because of the volume involved, we can obtain these appliances at considerable discount and cost savings, which then can be passed on to the Developer/Client.

- In Low Cost House Plans, the kitchen counter tops are finished with laminate countertops because they are economical and come in a host of colors and patterns. We use Wilsonart and or Nevamar surface laminates. Laminate is glued onto an inch and a half particleboard base. Fancy edges like bevels and curves are custom formed and installed at our factory, so that all the counter tops are completed at the factory, and merely have to be installed by securing the frame and the base during the construction and finishing phase of the house.

- Another option that we use for counter tops; a higher grade of kitchen counter tops using engineered stone – quartz composite products that are far superior laminate counter tops because the engineered stone composites do not scratch, last longer and cost just a bit more than laminate tops, and look very attractive and luxurious.
- Medium and Luxury House Plans have kitchen countertops that are finished in a composite finish the Luxury House Plans, the kitchen countertops are normally finished with composite granite or exotic granite and marble counter tops. Vanities are also finished in similar fashion in the bathrooms.

V. **HVAC – Heating, Ventilating and Air Condition - HVAC** is not included in the pricing of the house and is available as an option.

Ceiling fans in each bedroom and living room/great room in all Low Cost House Plans homes and is included in the total price of the house. All electrical is already pre-installed and merely have to be connected during the on site construction process during the final phase of interior finishing of the house once the shell is completed.

- The Central Air conditioning system is included in the pricing only in the LUXURY HOUSE PLANS and is available as an option with the medium priced and low cost house plans. The system includes ducting and a geothermal or ground source heat pump. Thus, we would install a central HVAC ducting system throughout the house providing heat and cooling from an external heat pump (condenser) and a refrigerant pump. Heat pump systems, normally requiring a 1 ton to 3 ton capacity (depending on the square footage of the house) are priced from \$2,500 to \$7,500 per unit. This includes duct work and installation.
- As a cheaper alternative, and included only as an option, a gas furnace can be installed and housed internally, which will provide forced air central heating throughout the house, heated by gas, and in some cases, where gas is not readily available, we will furnish a furnace heated by electricity, and an outdoor air conditioning system to provide central air cooling throughout the house. A Includes ducting throughout the house, to provide forced hot air for heating and cool air for air condition. Such systems cost between \$1,500 to \$2,500 per house, and can be provided and installed as an option at the added cost.

VI. **HOT WATER SYSTEM**

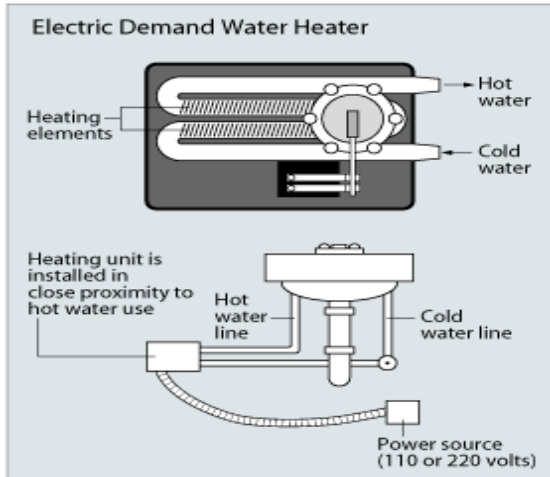
All house plan models in our inventory, regardless of price (except the emergency shelters or homes) that are priced under \$10,000, include a hot water system, that includes a 30 gallon tank for houses under 2,000 square feet and any home that is in excess of 2,000 square feet, will have a 55 gallon tank to provide hot water at all times.

All luxury homes will have “*on demand*” hot water system, and in most instances, there will be two units per house, one units upstairs and another one downstairs.

On Demand (Tankless or Instantaneous) Water Heaters

Demand (tankless or instantaneous) water heaters provide hot water only as it is needed. They don't produce the standby energy losses associated with storage water heaters, which can save you money.

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Here you'll find basic information about how they work, whether a demand water heater might be right for your home, and what criteria to use when selecting the right model.

How The System Works

- Demand water heaters heat water directly without the use of a storage tank. Therefore, they avoid the standby heat losses associated with [storage water heaters](#). When a hot water tap is turned on, cold water travels through a pipe into the unit. Either a gas burner or an electric element heats

the water. As a result, demand water heaters deliver a constant supply of hot water. You don't need to wait for a storage tank to fill up with enough hot water. However, a demand water heater's output limits the flow rate.

- Typically, demand water heaters provide hot water at a rate of 2–5 gallons (7.6–15.2 liters) per minute. Gas-fired demand water heaters produce higher flow rates than electric ones. Sometimes, however, even the largest, gas-fired model cannot supply enough hot water for simultaneous, multiple uses in large households. For example, taking a shower and running the dishwasher at the same time can stretch a demand water heater to its limit. To overcome this problem, you can install two or more demand water heaters, connected in parallel for simultaneous demands of hot water. You can also install separate demand water heaters for appliances—such as a clothes washer or dishwasher—that use a lot of hot water in your home.

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VII. Doors - Solid Wood or metal Exterior entry doors are standard and included in the pricing structure, as well as pre-finished interior doors which are hollow core pre-hung doors are all included in the price of every house plan model in our inventory.

VIII. Baseboard trim – is not included in the pricing of the house.

VII. EXTERIOR CLADDING

Paint. Nu-Tech developed a proprietary process involves applying consistent, multiple coats of paint that was created especially for the demands climate places on a home's exterior. The end result is a beautiful consistent finish that lasts up to 20 years in any environment. This baked-on coating offers maximum durability and resistance to prolonged exposure to freezing climate and moisture contact, eliminating weather delays and labor costs associated with field-applied paint. The specially formulated paint stands up to UV levels in a way few field-applied



paints can, resulting in significant fade resistance which is far more superior to field applied paint. Our baked on paint finishes are warranted for 20 years.

Our finish warranty guarantees your color will not crack, chip or peel for 15 years.

Sprayed on stucco finish - Stucco, the common term for Portland cement plaster, is a popular exterior finish for buildings. It provides an economical hard surface that is rot, rust, and fire resistant, which can be colored and finished in a wide range of textures to adorn any architectural style.

Stucco is a fairly common building finish which is sprayed on the exterior wall and is capable of taking on a wide range of appearances. Architects appreciate how it combines aesthetic versatility with a cost effective construction method. Long known for its versatile appearance, ready availability, and durability, Portland cement plaster remains a popular finish for many buildings, from commercial to residential, and is a standard finish specified on many of our house plan models and the finish is included in our

Fiber Cement panels with veneer finishes in brick, stone or wood – Our fiber cement panels can come in many finishes, including brick, subtle hues of stone and timber or wood plank siding as standard finishes which are included in the pricing of the home as specified by the architect as per different house plan options. The finishing can be specified by the developer/builder to suit their preferences, and to take social, climatic and architectural preferences taking into account regional differences.

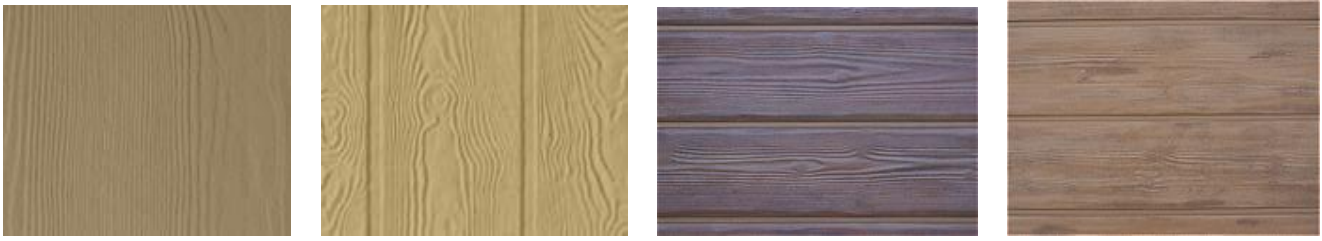
- **Brick** – Brick accents or brick of the entire exterior walls in veneered fiber cement panels. Examples of the type of brick veneer finish are illustrated with different stiles and finishes such as vintage brick, traditional brick, etc.;



- **Stone** – Subtle hues of stone and earth fiber cement panels with different color options and textures.



- **Timber plank siding** – Fiber cement panels with simulated and textured finish look of wood.



- **Stucco or smooth finish** – Plastic Portland cement sprayed on as an exterior finish, or baked on paint in a variety of colors.

