

Repair Components Diagrams and Terminology

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Asbestos

Asbestos is a set of six naturally occurring silicate minerals exploited commercially for their desirable physical properties. They all have in common their asbestiform habit, long, (1:20) thin fibrous crystals. The inhalation of asbestos fibers can cause serious illnesses, including malignant lung cancer, mesothelioma (a formerly rare cancer strongly associated with exposure to amphibole asbestos), and asbestosis (a type of pneumoconiosis). Long term exposure to asbestos is more likely to cause health problems, as asbestos exists in the ambient air at low levels, which itself does not cause health problems.^[1] The European Union has banned all use of asbestos^[2] and extraction, manufacture and processing of asbestos products.^[3]

Asbestos became increasingly popular among manufacturers and builders in the late 19th century because of its sound absorption, average tensile strength, and its resistance to heat, electrical and chemical damage. When asbestos is used for its resistance to fire or heat, the fibers are often mixed with cement or woven into fabric or mats. Asbestos was used in some products for its heat resistance, and in the past was used on electric oven and hotplate wiring for its electrical insulation at elevated temperature, and in buildings for its flame-retardant and insulating properties, tensile strength, flexibility, and resistance to chemicals.

Serpentine group

Serpentine minerals have a sheet or layered structure. Chrysotile is the only asbestos mineral in the serpentine group. In the United States, chrysotile has been the most commonly used type of asbestos. According to the U.S. EPA Asbestos Building Inspectors Manual, chrysotile accounts for approximately 95% of asbestos found in buildings in the United States. Chrysotile is often present in a wide variety of products and materials, including:

- drywall and joint compound
- plaster
- mud and texture coats
- vinyl floor tiles, sheeting, adhesives
- roofing tars, felts, siding, and shingles
- "transite" panels, siding, countertops, and pipes
- popcorn ceilings, also known as acoustic ceilings
- fireproofing
- caulk
- gaskets
- packing, a system for sealing a rotating shaft
- brake pads and shoes
- clutch plates
- stage curtains
- fire blankets
- interior fire doors
- fireproof clothing for firefighters
- thermal pipe insulation
- filters for removing fine particulates from chemicals, liquids, and wine
- dental cast linings
- HVAC flexible duct connectors
- drilling fluid additives

Backsplash

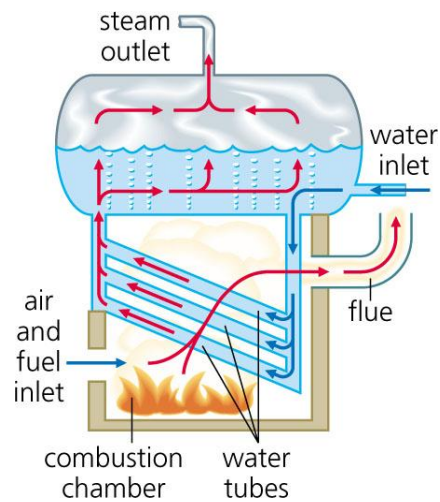
Tile Backsplash



Granite Backsplash



Boiler



A boiler is water containing vessel which transfers heat from a fuel source (oil, gas, coal) into steam which is piped to a point where it can be used to run production equipment, to sterilize, provide heat, to steam-clean, etc.

The energy given up by the steam is sufficient to convert it back into the form of water. When 100% of the steam produced is returned to be reused, the system is called a **closed system**. Examples of closed systems are closed steam heating, hot water heating, and "one-pipe" systems.

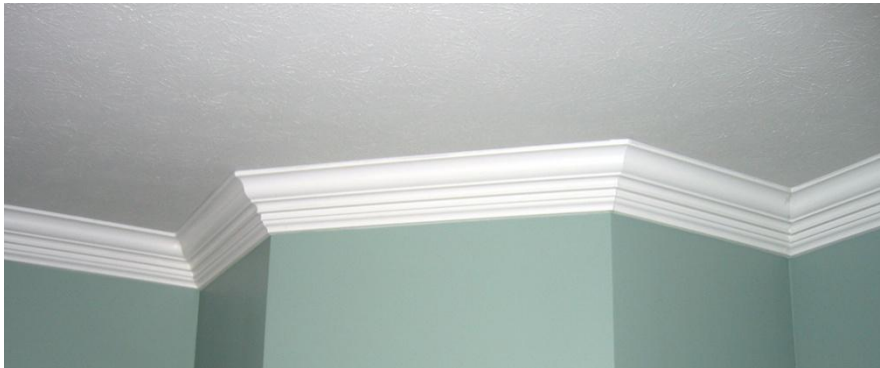
Since some processes can contaminate the steam, so it is not always desirable to feed the condensate back into the boiler. A system that does not return the condensate is called an **open system**.

Chair Rail and Crown Molding

Chair Rail



Crown Molding



Counter Tops

Formica



Granite



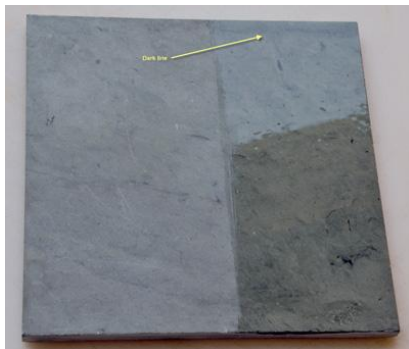
Laminate



Marble



Slate



Ceramic Tile



Types of Doors

6-Lite Door



9-Lite Door



9-Lite w/Cross buck Door



Flush Door



Panel



Dutch



French Door



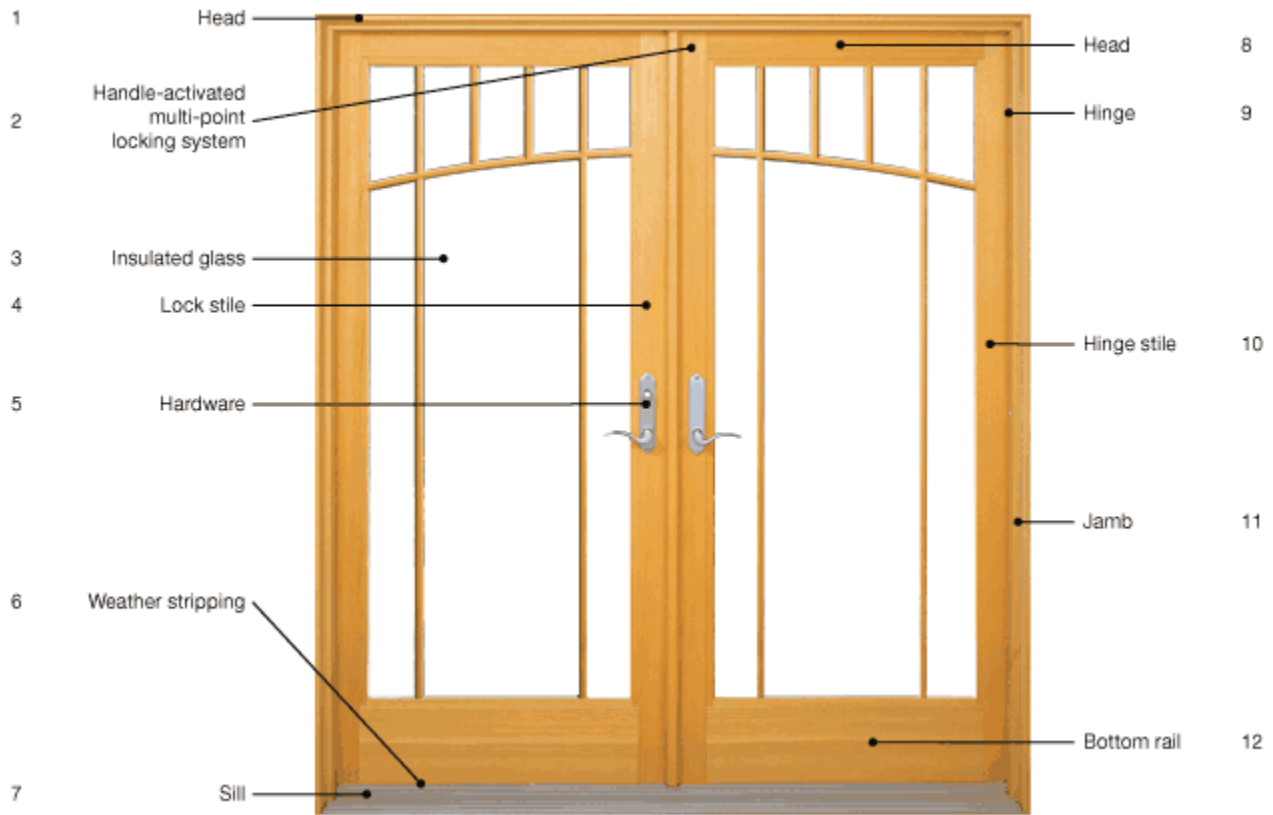
Full Light Door



Storm Door

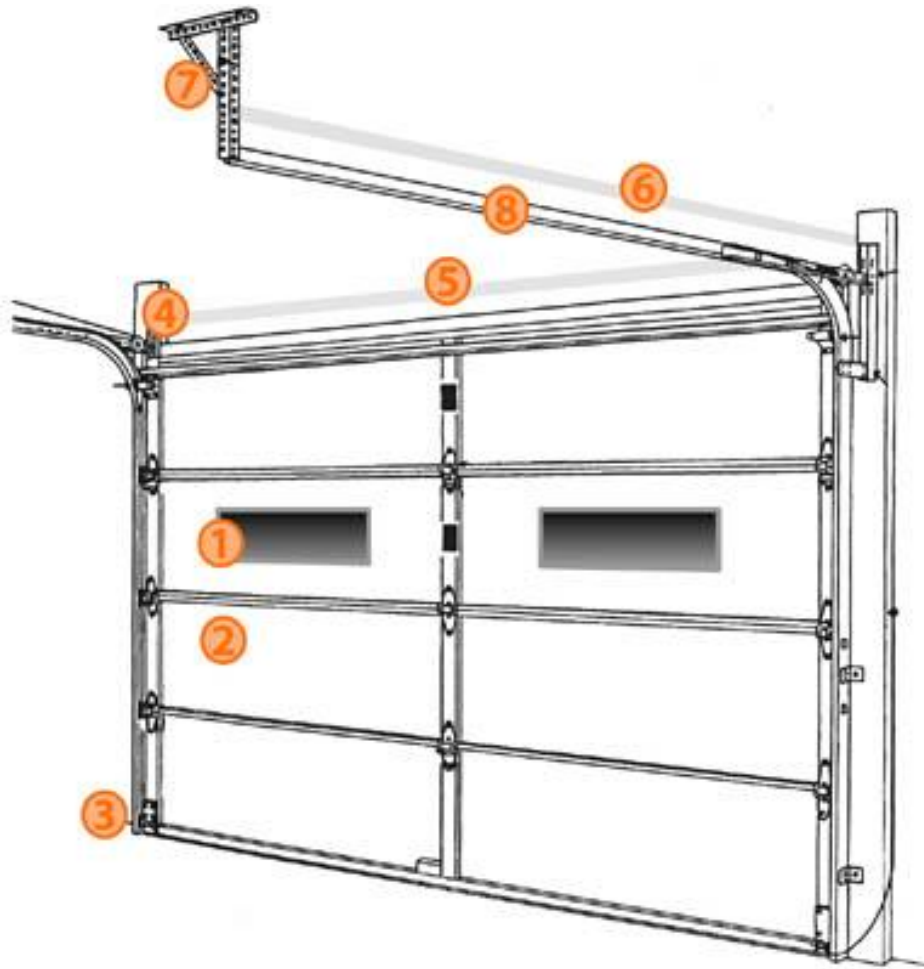


French Door Components



1. **Head** – The main horizontal member which forms the top of the patio door frame.
2. **Handle-Activated Locking System** – Many patio doors use a handle-activated lock system. A multi-point lock system provides extra security, fastens your door securely in place and prevents warping brought on by the elements.
3. **Insulated Glass** – A combination of two or more panes of glass with a hermetically sealed air space between them. Optional argon gas may be used between panes to further improve thermal performance and energy savings.
4. **Lock Stile** – The patio door vertical structural member which closes against the jamb of the surrounding frame; on the opposite side from the hinges.
5. **Hardware** – Depending on the brand of French patio door you purchase, you may have multiple options for hardware including stainless-steel hardware and aluminum-reinforced lock/latches for additional strength and security. Talk to a dealer or contractor about hardware that meets or exceeds forced-entry codes in your area.
6. **Weather-stripping** – Weather-stripping is essential to ensure efficient, weather tight seals for your door.
7. **Sill** – The main horizontal member forming the bottom of the patio door frame.
8. **Top Rail** – The top horizontal structural member of the patio door frame.
9. **Hinge** – A device that allows the turning or pivoting of a part on a stationary frame. (Milgard French patio doors feature a heavy-duty adjustable hinge which allows vertical and horizontal panel adjustments.)
10. **Hinge Stile** – The patio door vertical structural member where the door pivots; found on the same side of the hinges.
11. **Jamb** – The patio door frame members forming the top, sides and bottom of a patio door frame.
12. **Bottom Rail** – The bottom structural member of the patio door frame.

Garage Overhead Door



1. **Window Lite** - Glazed section with various types of glass or clear acrylic to allow for light and visibility.
2. **Sections** - Steel panels reinforced with stiles interconnected with hinges and rollers.
3. **Bottom Bracket** - A structured support that provides for attachment of lifting cables.
4. **Cable Drum** - Grooved drums on the torsion spring shaft that lifting cables wind around when the door opens..
5. **Torsion Springs** - Provides the means to raise and lower the door via cable winding on drums.
6. **Extension** - Extends along both horizontal tracks.
7. **Rear Hanger Track**
8. **Track** - Provides a guide for section to raise or lower door.

Sliding Glass Door Components



1. **Head** – The main horizontal member which forms the top of the sliding door frame.
2. **Sill** – The main horizontal member forming the bottom of the sliding door frame.
3. **Insulated Glass** – A combination of two or more panes of glass with a hermetically sealed air space between them. Optional argon gas may be used between panes to further improve thermal performance and energy savings.
4. **Hardware** – Depending on the brand and type of sliding glass door you purchase, you may have multiple options for hardware. Talk to your dealer or contractor about stainless-steel hardware that meets or exceeds the forced-entry codes in your area.
5. **Jamb** – The patio door frame members forming the top, sides and bottom of a sliding door frame.

Equipment Rental

Axial Air Mover



Concrete Saw



Ladder Jack



Negative Air Machine



Backhoe



Crane



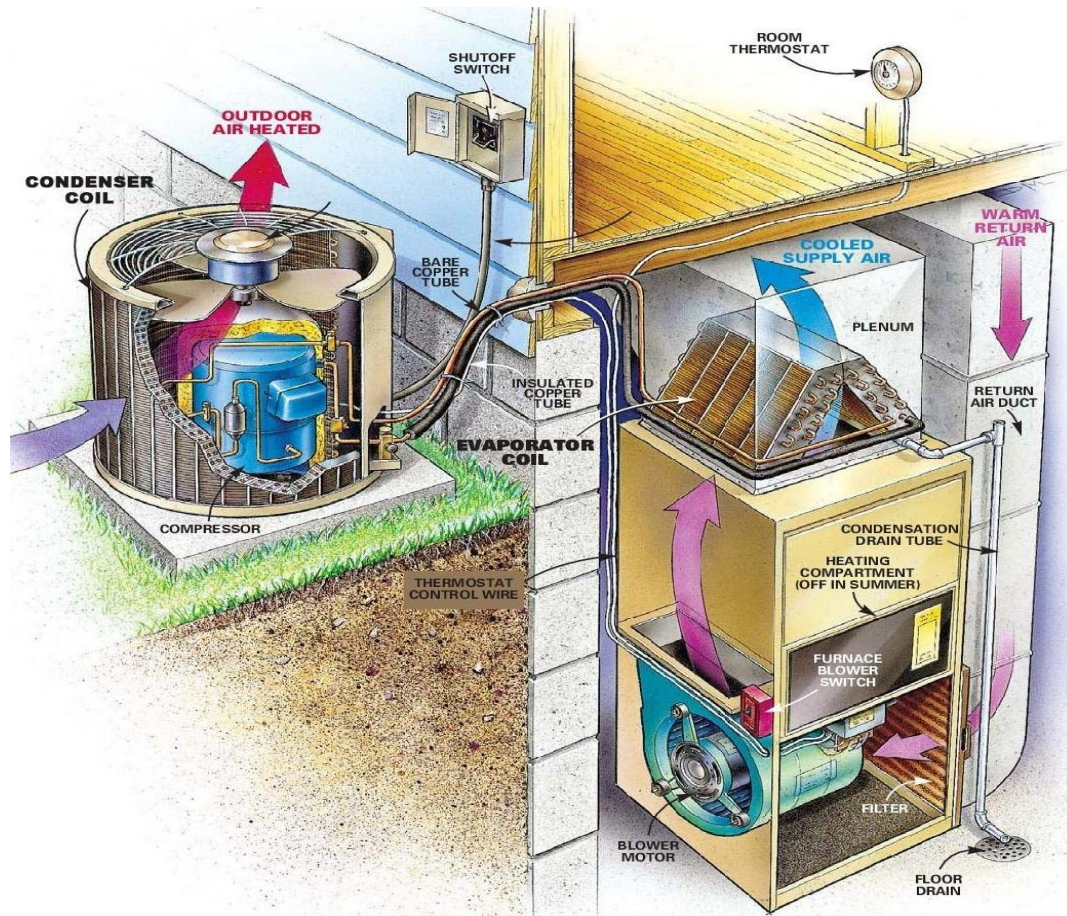
Skid Steer Loader



Scissor Lift



HVAC Components



1. **Compressor** - The compressor is the central functioning unit of any cooling system. In general, a compressor is a mechanism that, as its name suggests, compresses gas by diminishing its volume.
2. **Condenser Coil** - Located outside the building but is connected to the evaporator coil inside the house by a pair of metal tubes that pass through small openings in one of the walls of the house. These metal tubes are refrigerant lines.
3. **Condenser Unit** - Moves energy in the form of heat by compressing a gas known as a "refrigerant," then pumping it through a system of coils and using the air around the coils to heat and cool spaces.
4. **Coolant/Refrigerant Lines** - Copper lines used to transfer the refrigerant between the outdoor unit and the indoor unit.
5. **Evaporator Coil** - Located inside the building, inside the ductwork, downstream from the furnace. In most homes this would mean just above the furnace, inside the plenum (the first few feet of the main supply air duct).
6. **Furnace** - A heating unit that heats air by transferring heat in a metal combustion chamber to the air and circulating it through the house in a network of ducts.
7. **Plenum** - Is a separate space provided for air circulation for heating, ventilation, and air-conditioning and typically provided in the space between the structural ceiling and a drop-down ceiling.

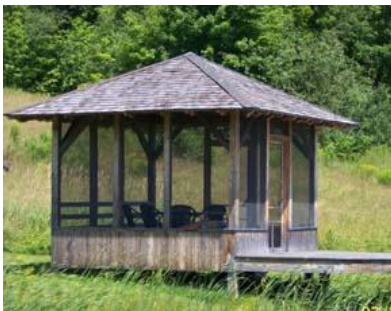
Outbuildings



Pole Barn - A pole barn in North America is a barn that is essentially a roof extended over a series of poles. They are generally rectangular and do not require exterior walls. The roof is supported by the poles which make up the outside barrier of the barn.



Gazebo - A gazebo is a pavilion structure, sometimes octagonal, in parks, gardens, and spacious public areas. Gazebos are freestanding or attached to a garden wall, roofed, and open on all sides.



Screen House



Shed - typically a simple, single-story structure in a back garden or on an allotment that is used for storage, hobbies, or as a workshop.

Pool Algae

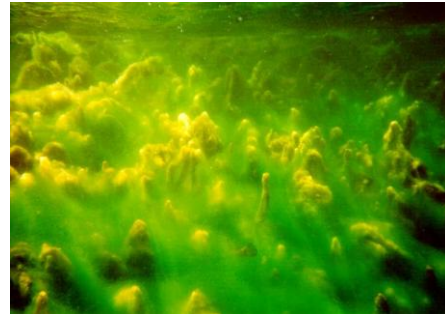
Types of Algae

- Green Algae - *The most common type of pool algae. Varies in color from blue-green to yellow-green to dark-green*
- Black Algae: *Actually blue-green algae. A resistant, hard to treat type of algae, this is an extreme case.*
- "Pink" Algae: *A treatable, slimy, bacterial water problem.*
- Yellow-Mustard Algae: *Often resembles dirt or sand on the bottom or sides of a pool.*

Black Algae



Green Algae



Pink Algae



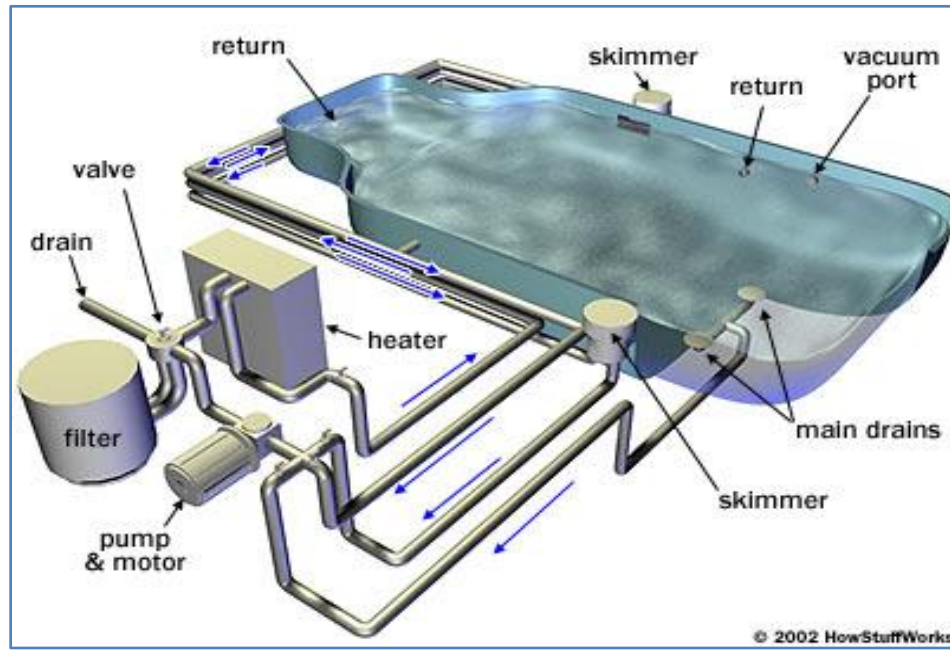
Yellow – Mustard Algae



Dangers of Untreated Algae

- Green pools can be potential backyard breeding sites for mosquitoes carrying West Nile Virus.
- It only takes 3-4 days for a mosquito to transform from larvae to a "biting" adult.
- A single bad pool can breed from 10,000 to 100,000 mosquitoes each day if not attended to.
- Cities can issue violations and heavy fines if pools go untreated and maintained as these pools can affect entire neighborhoods.

Pool Components



Swimming pools come in all shapes and sizes, but nearly all of them, from the backyard personal pool to the water park wave pool, work in the same basic way. They use a combination of filtration and chemical treatment to continually clean a large volume of water.

A typical swimming pool needs seven major components:

- A basin
- A motorized pump
- A water filter
- A chemical feeder
- Drains
- Returns
- PVC plastic plumbing connecting all of these elements

The basic idea is to pump water in a continual cycle, from the pool through the filtering and chemical treatment systems and back to the pool again. In this way, the pumping system keeps the water in the pool relatively free of dirt, debris and bacteria. Some pools also include heaters in the mix, in order to keep the water at a certain temperature

Pool Types



Gunite pools are the most flexible pool types in terms of design. Gunite pools are often seen in commercial applications; many private homeowners, however, also choose Gunite pools for their flexibility since they can be built in any shape. These are permanent, reinforced pools finished with concrete and plaster. The high quality of these pools can put them in the higher price range.



Pre-engineered vinyl-liner pools can be less labor-intensive than concrete pools and, in some regions, a less expensive method of construction.

Thanks to pre-fabricated materials and a simpler construction process, vinyl pools can be completed more quickly than Gunite pools. Manufacturers have created a wide variety of liner patterns and colors including tile motifs. Pool owners can choose from many options to enhance their pool scapes.



In-ground Fiberglass Pools One-piece fiberglass pools arrive readymade, so installation is fast! Fiberglass pools come pre-formed and prefinished, ready to set into the ground. Because of the smooth surface, which is a characteristic of fiberglass pools, algae have difficulty clinging to it. This smooth surface means easier maintenance and fewer chemicals.



Above Ground pools offer some very attractive benefits. Eliminating the expense and labor-intensive work of excavation often make above ground pools easier and faster to install. Plus, should you move, you can transport your pool to your new home. Permits are usually required when building an above ground pool.

Pool Dimensions and Water Capacity

Above Ground Pools - based on 52" wall height pools, flat bottom (ACTUAL average approximate water depth of 44"; this is the true fill, not the capacity)

Pool Size	US Gallons	Liters	Surface Area (sq. ft.)
12 ft. Rnd	3,200	12,113	113
15 ft. Rnd	5,000	18,927	177
18 ft. Rnd	7,200	27,255	255
21 ft. Rnd	9,800	37,096	380
24 ft. Rnd	12,800	48,453	453
27 ft. Rnd	16,200	61,323	572
30 ft. Rnd	20,000	75,708	707
12 ft x 24 ft Oval	6,400	24,226	240
15 ft x 24 ft Oval	8,000	30,283	330
15 ft x 30 ft Oval	10,000	37,854	410
18 ft x 33 ft Oval	13,000	49,210	550

In-ground Pools - based on a typical, rectangular (2 ft. radius corners), vinyl liner construction (ANSI / NSPI standard Type 1 Pool, 16x32 and larger; smaller pools are Type 0 with deep depth of 5'6"), with average wall height of 42", shallow end water fill of 36" depth and a deep end water fill depth of 7'6" (90"). Gallonage also takes typical piping & filtration system (100 lineal feet of pipe plus filter capacity) into consideration.

Pool Size	US Gallons	Liters	Surface Area (sq. ft.)
12 ft x 24 ft	8,900	33,690	288
14 ft x 28 ft	12,000	45,424	392
15 ft x 30 ft	13,800	52,239	450
16 ft x 32 ft	21,200	80,250	512
16 ft x 36 ft	23,900	90,471	576
18 ft x 36 ft	26,900	101,827	648
20 ft x 40 ft	33,000	124,918	800
20 ft x 44 ft	36,700	138,924	880

Gallonage Calculations (US gallons):

Rectangular Pools - length x width x average depth x 7.5

Round, Oval & Free-form Pools - average length x average width x average depth x 5.9

Convert to Liters: Gallons multiplied by 3.7854 = total liters

Types of Plumbing



Cast iron - A very common drain pipe in older homes but is no longer used in residential plumbing.



Copper - Used for decades as the most common water supply pipe. Copper pipe and tubing comes in a variety of sizes and types.

Type L - Thick walled hard/soft copper

Type M - Thin walled hard/soft copper

Type K - Thick walled hard/soft copper



PVC - Used as a cold water supply pipe in many countries around the world because of the price but lacks long term durability.



CPVC - Used as a hot/cold water supply pipe in many countries around the world because of the price but lacks long term durability.



PEX - Is cross-linked polyethylene tubing and has become the standard in new home construction. PEX comes in a variety of colors and is used for plumbing and heating purposes.



Galvanized pipe - May still be found in many homes but is seldom used anymore because of water discoloration, cost and difficult repairs.

Copper Tubing

Type L

- Domestic water service and distribution
- Fire protection
- Solar
- Fuel/fuel oil
- Natural gas
- Liquefied petroleum (LP) gas
- HVAC
- Snow melting
- Compressed air
- Vacuum

Type M

- Domestic water service and distribution
- Fire protection
- Solar
- Fuel/fuel oil
- HVAC
- Snow melting
- Vacuum

PEX Tubing

PEX is part of a water supply piping system that has several advantages over metal pipe (copper, iron, lead) or rigid plastic pipe (PVC, CPVC, ABS) systems. It is flexible, resistant to scale and chlorine, doesn't corrode or develop pinholes, is faster to install than metal or rigid plastic, and has fewer connections and fittings.

Typically, red PEX tubing is used for hot water while blue PEX tubing is used for cold water.

Used predominantly in hydronic radiant heating systems, domestic water piping and insulation for high tension (high voltage) electrical cables.

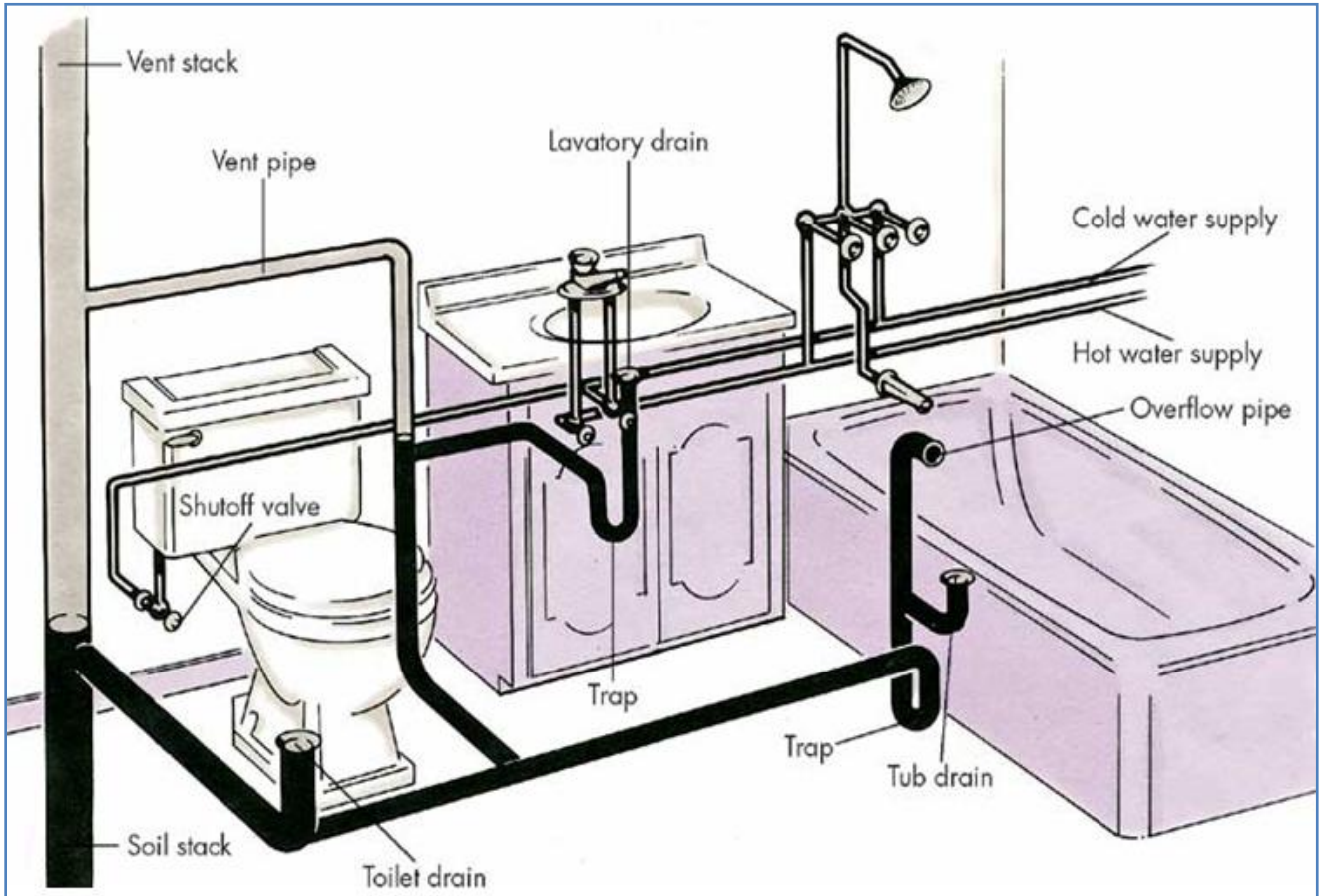
PVC

In the water distribution market it accounts for 66% of the market in the US, and in sanitary sewer pipe applications, it accounts for 75%. Its light weight, high strength, and low reactivity make it particularly well-suited to this purpose. In addition, PVC pipes can be fused together using various solvent cements, or heat-fused (butt-fusion process, similar to joining HDPE pipe), creating permanent joints that are virtually impervious to leakage.

CPVC

Uses include hot and cold water pipe, and industrial liquid handling. Besides pipe and fittings, it is used in pumps, valves, strainers, filters, tower packing, and duct, as well as sheet for fabrication into storage tanks, fume scrubbers, large diameter duct, and tank lining.

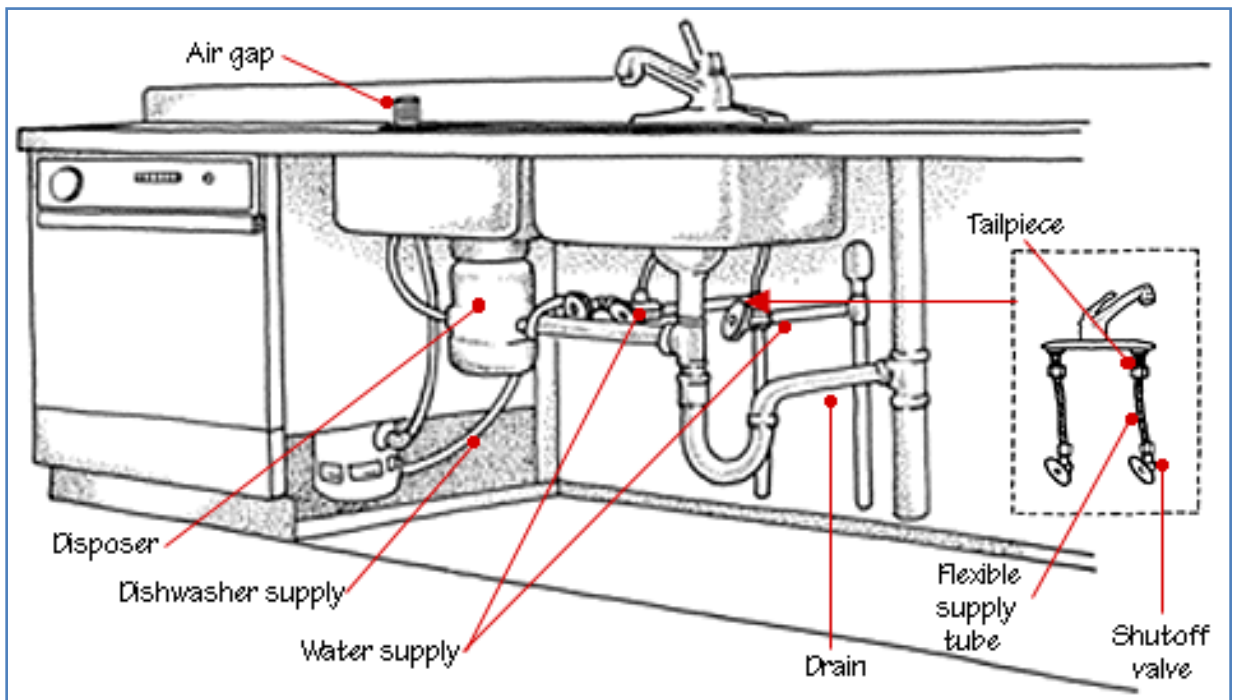
Bathroom Plumbing



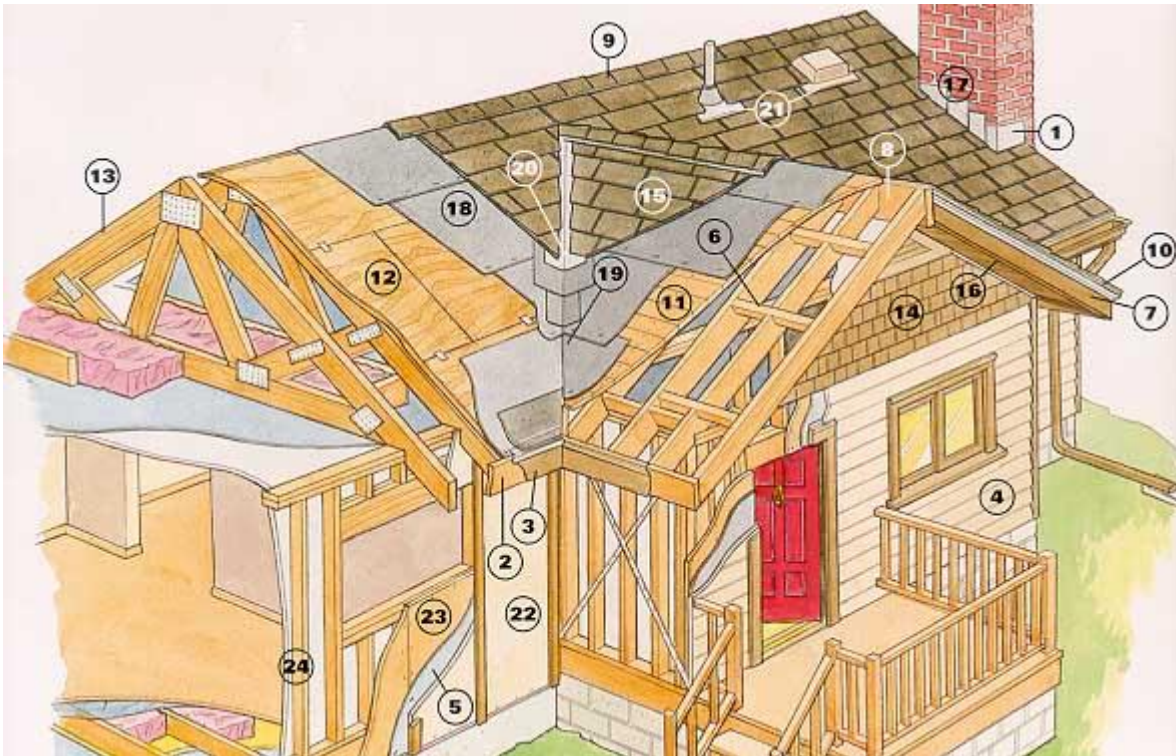
P-Trap



Kitchen Plumbing



Roof Construction



- 1) **CHIMNEY BASE FLASHING:** A corrosion resistant sheet metal installed at the base of a chimney to prevent leaks.
- 2) **EAVES:** The lower border of a roof that overhangs the wall.
- 3) **FASCIA:** The vertical board at the eaves, oftentimes covered with vinyl or aluminum.
- 7) **RAKE:** The outer edge of a roof from the eave to the ridge.
- 8) **RIDGE BEAM:** The top support beam between opposite slopes or sides of a roof.
- 9) **ROOF RIDGE CAP:** Shingles used to cover the horizontal external angle formed by the intersection of two sloping roof planes.
- 10) **ROOF DRIP EDGE:** A narrow strip of non-corrosive, non-staining, finishing material installed along the eaves and rakes to allow water run-off to drip clear of underlying construction. On eaves where gutters are present, this material is commonly called gutter apron.
- 11) **ROOF SHEATHING (boards):** The structural base of a roof. Also called the roof deck, or decking.
- 12) **ROOF SHEATHING (plywood):** The structural base of a roof. Also called the roof deck, or decking.
- 13) **ROOF TRUSS (rafters):** The framework that supports a roof.
- 14) **SHINGLE SIDING:** A siding option typically manufactured from red cedar, which weathers to a silvery gray or medium brown, depending on local climate; and white cedar, which weathers to a silvery gray.
- 15) **ROOF SHINGLES:** The outermost covering of a roof. Composition shingles are manufactured from materials "composed" of fiberglass, modified asphalt and mineral granules. Wood shingles and shakes (shakes are split rather than sawn) are made from western red cedar. Other roofing options include clay and concrete tiles, slate, metal, mineral roll roofing, and tar and gravel.
- 16) **SOFFIT:** The finished underside of the eaves. Soffit panels are available in wood, vinyl and aluminum.
- 17) **ROOF STEP FLASHING:** A corrosion-resistant sheet metal used to waterproof the angle between a chimney, skylight, dormer, etc. and a sloping roof.
- 18) **UNDERLAYMENT:** An asphalt type felt laid under most roofing materials as a secondary water barrier. Felt is classified by weight per "square," (100 sq. ft.) usually 15 or 30-pound.
- 19) **VALLEY:** The intersection of two sloping roofs joining at an angle to provide water runoff.

Roof Vents

Ridge Vent



Gable Vent



Turbine Vent (Roof Vent, Turbine)



Box Vent (Roof Vent, Box)



Soffit Vent



Chimney Cap



Types of Roofing

Asphalt/Composition Shingles



Spanish/Mission Tile



Copper



Metal



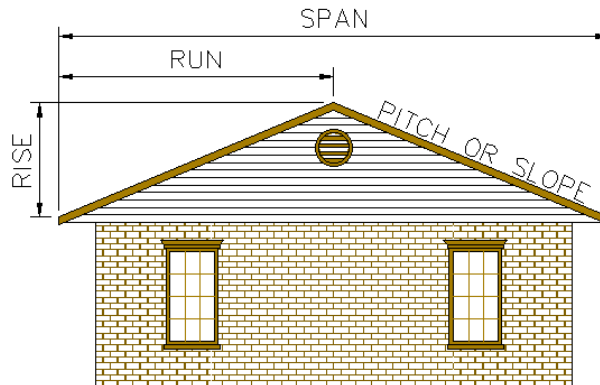
Slate



Wood



Roof Pitch/Slope



Slope is a mathematical concept that is critical to much work in Algebra and other courses. The equivalent concept in Building Construction is Pitch.

In the construction world the concept of pitch is most often applied to the angle or slope of a roof and is defined as “rise over run”. In other words the pitch of a roof is actually a ratio, expressed as a fraction, with the numerator being the rise and the denominator being the run.

So a roof that “rises” 5 inches vertically in a “run” of 12 inches horizontally, is referred to as a 5/12 pitch roof.

This seems fairly straight forward and one might assume that a storage shed roof that rises 2 feet over a run of 4 feet would be described as having a 2/4 pitch. However, many occupations employ “conventions” or standard ways of proceeding or communicating. One of the conventions regarding pitch in the construction trades is that the pitch is always converted to have a run of 12 inches. In mathematical terms this means that any pitch with a denominator other than 12 must be converted to an equivalent fraction (ratio) with a denominator of 12. Therefore in the example above, the storage shed roof with a pitch of 2/4 would be converted to a fraction or ratio of 6/12.

The Pitch of a roof may be measured by using a level and a tape measure, either from the surface of the roof or the rafters within the attic. Both methods use a level to establish the run line and the tape measure to measure the rise. Both of these procedures are illustrated in the pictures below.

Information on actual measurement techniques: www.improvenet.com/HomeOwner/ProjectTools/Calc/roof.html

How then, are pitch and slope alike?

- Both terms describe the steepness of a sloped line or surface.
- Both terms are basically describing the steepness of the hypotenuse of a right triangle created with the x-axis representing run and the y-axis representing the rise.
- Construction conventions always place the rise over the run as a fraction describing pitch; mathematics conventions always place y over x as a fraction in describing slope.

How is pitch and slope different?

- Pitch is always described as a positive number; slopes can be negative or positive.
- Pitch is always converted to have a denominator or run of 12; the x factor in the slope ratio can be any real number (whole numbers, decimals, negative or positive).

2/12 pitch



4/12 pitch



5/12 pitch



6/12 pitch



7/12 pitch



8/12 pitch



9/12 pitch



10/12 pitch

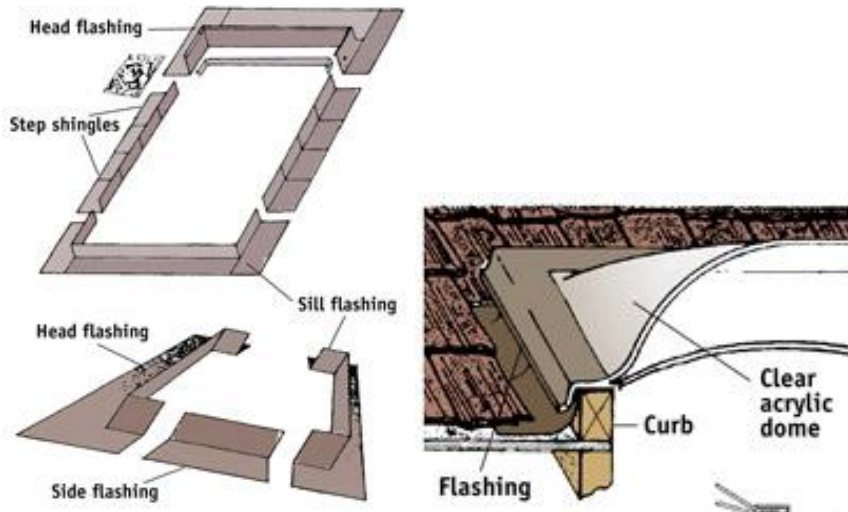


12/12 pitch



Pitch	Angle	Multiply by Run to get Length	LF of Hips or Valleys per LF of Common Run
12:12	45.00°	1.413	1.732
11:12	42.51°	1.357	1.685
10:12	39.81°	1.302	1.641
9:12	36.37°	1.250	1.600
8:12	33.69°	1.202	1.564
7:12	30.26°	1.158	1.530
6:12	26.57°	1.118	1.500
5:12	22.62°	1.083	1.474
4:12	18.43°	1.054	1.436
3:12	14.04°	1.031	1.436
2:12	9.46°	1.014	1.424
1:12	4.76°	1.004	1.417
Flat Roof			

Skylights



Ventilating

Ventilating skylights provide the desired extra light for a room and also offer the benefit of ventilation. They create an updraft when opened which is an efficient way to freshen or change the air in a room. This type of skylight is ideal for kitchens and bathrooms. Ventilating skylights can be operated manually, by remote control or wall switch, or they can be automatically activated via a temperature sensor.



Fixed

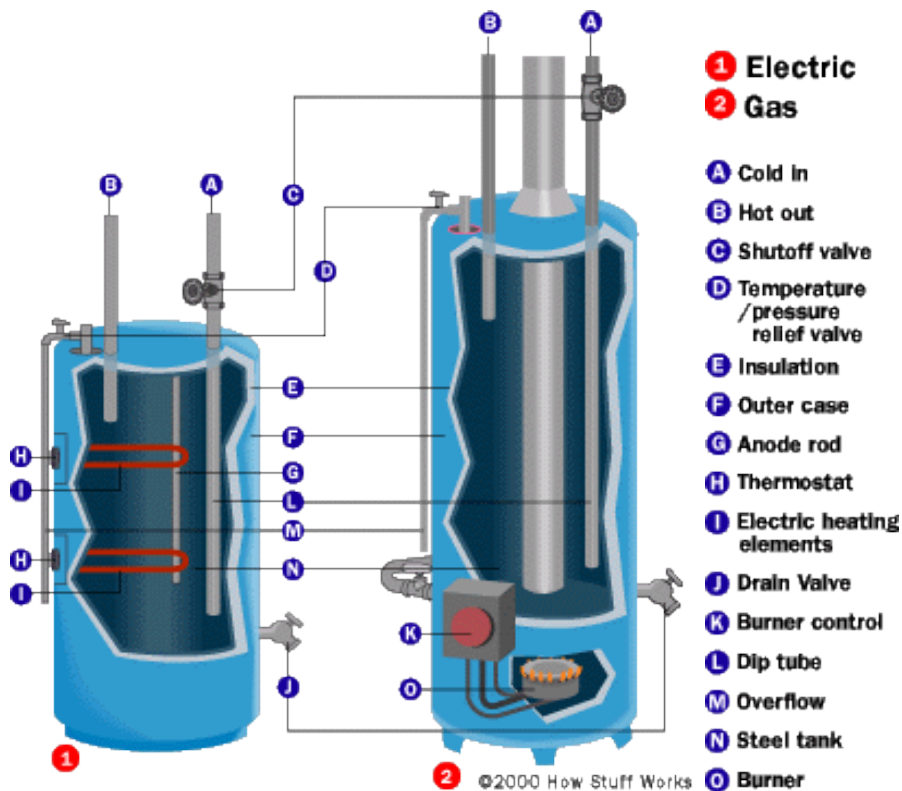
Fixed skylights are used solely for the purpose of providing natural light to a room. There are several different styles, shapes and sizes of fixed skylights. This type of skylight is ideal for attics, extra rooms, workshops or anywhere extra illumination is desired.



Tubular

Tubular skylights are the newest addition to the types of skylights being offered to consumers. They are usually small in size, 10 to 14 inches or so across. Some have baffles to direct light through the tube. They are ideal for situations where a normal, full-sized skylight cannot be installed, as in hallways or closets. Despite their size, tubular skylights can provide large amounts of light.

Water Heater

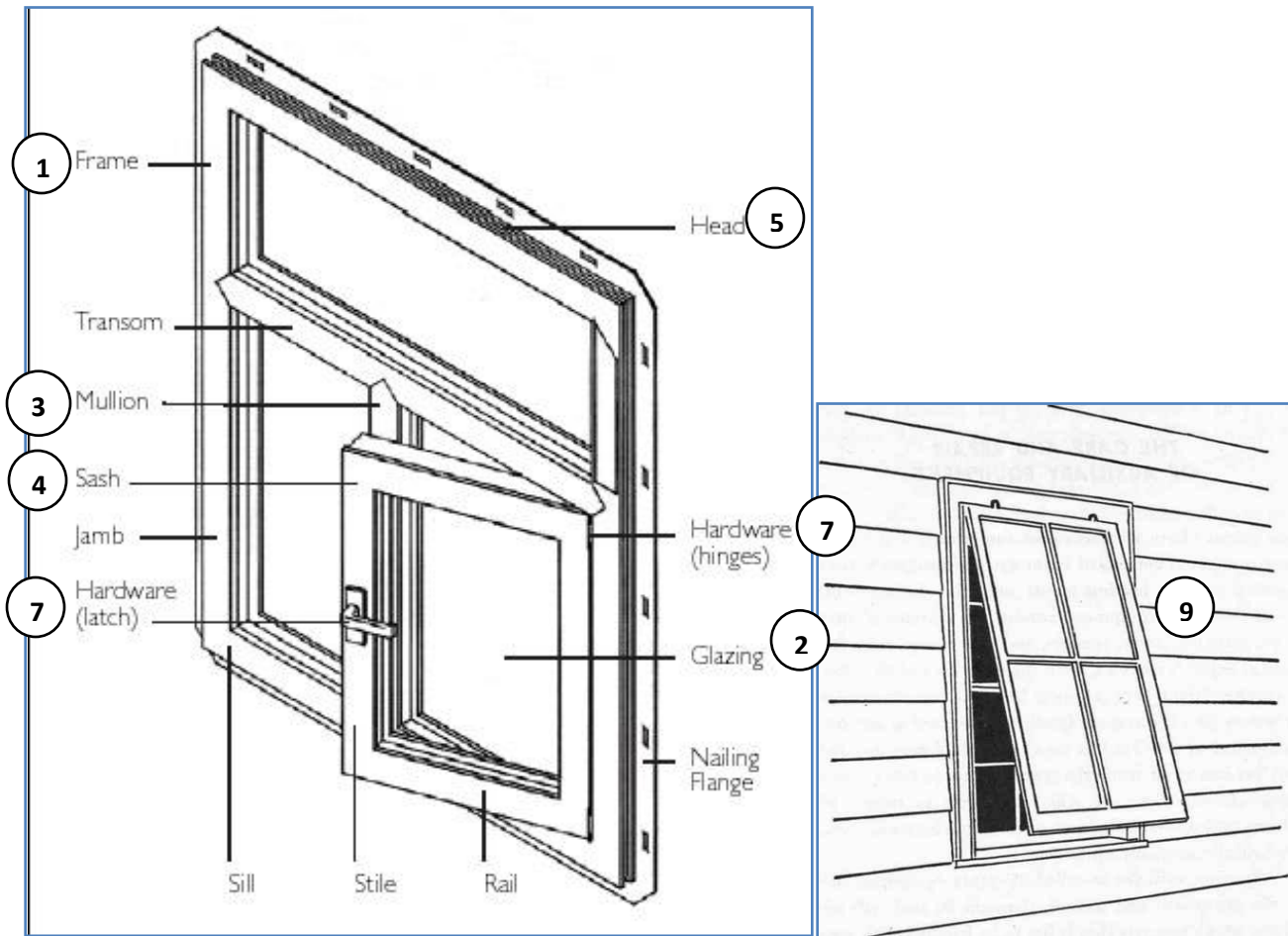


A **gas** water heater is nearly identical to an **electric** water heater, except that it does not contain the two heating elements, but instead has a gas burner at the bottom, with the chimney running up through the middle of the tank.

A water heater consists of the following parts, as shown in the figure above:

- A **heavy inner steel tank** that holds the hot water. Typically, this tank holds 40 to 60 gallons. It has to be able to hold the pressure of a residential water system, which typically runs at 50 to 100 pounds per square inch (psi). The tank is tested to handle 300 psi. The steel tank normally has a bonded glass liner to keep rust out of the water.
- **Insulation surrounding** the tank
- A **dip tube** to let cold water into the tank
- A **pipe** to let hot water out of the tank
- A **thermostat** to control the temperature of the water inside the tank (Many electric water heaters have a separate thermostat on each element.)
- **Heating elements** to heat the water (These are the thick electric elements similar to those you see inside an electric oven.)
- A **drain valve** that allows you to drain the tank to replace the elements or move the tank
- A **pressure relief valve** (This is an important safety feature that keeps the tank from exploding.)
- A **sacrificial anode rod** to help keep the steel tank from corroding

Window Components



1. **Frame** - The horizontal and vertical portions that surround the sash and on which it is hung comprise the frame. Frames are usually made of the same materials as the sash.
2. **Glazing** (or glass): Can be a solid sheet of glass, or several panes divided by a “mullion”. **Double-glazed** windows have two layers of glass separated with a spacer (see #6).
3. **Mullion** - A mullion is a secondary frame that holds the window-panes in the sash.
4. **Sash** - Windows come either fixed or operable (open-able). Fixed windows do not open. Operable windows have a sash, which is a unit assembly of stiles and rails for holding the glass that moves when the window opens.
5. **Head** - The upper horizontal cross member or decorative element of a window frame.
6. **Spacer bars** - These appear around the perimeter of the sealed glazing unit to provide uniform separation between the panes of glass in multiple-paned windows.
7. **Hardware** - The hardware used in an operating window may include hinges, latches, cranks or levers.
8. **Casing** - This consists of the moldings that surround the window and cover the frame.
9. **Storm Sash** – A secondary window installed over the existing window to protect against severe weather or winter.
10. **Weather-stripping** - Weather-stripping is a component of an operable window, and provides a seal between the window frame and the operable sash.

Types of Windows



Awning - Hinged at the top and opens out from the bottom. With an effective seal, this design minimizes air infiltration.



Bay - Bay Windows are three-sided (or more) windows that protrude from the exterior wall of a home at 30° or 45°.



Bow - A curved bay window



Casement - Hinged on one side and swings open like a door. This design provides the best seal and has the lowest air leakage for a window that opens.



Double-hung sash window - It consists of an upper and lower sash that slide vertically in separate grooves in the side jambs or in full-width metal weather-stripping.



Egress Window (Basement) - An egress window is one which is large enough to allow a person to escape in an emergency, and to allow a fully outfitted firefighter with an [oxygen](#) tank to enter.



Fixed - A window that cannot be opened, whose function is limited to allowing light to enter.



Garden - Designed much like a bay or bow window, a garden also extends from the wall to the exterior of the home. It is built in a square or rectangular shape at right angles. The two side lights often operate for added ventilation.



Hopper Window: Are hinged at the bottom and swing inward.



Horizontal sliders - Consist of two sashes, one or both of which slide horizontally in the frame.



Jalousie (US) or Louvered (UK) – Made of a series of horizontal glass slats that are joined so that all the glass slats open or close together when the crank is turned.



Picture – A very large fixed window in a wall, typically without glazing bars, or glazed with only perfunctory glazing bars near the edge of the window.



Roof Window - A sloped window used for daylighting, built into a roof structure.



Single-Hung Sash Window - One sash is movable (usually the bottom one) and the other fixed.



Storm Window - Are windows which are mounted outside or inside of the main glass windows of a house



Tilt-and-turn (also called dual-action) windows - Swing from the side or pivot from the middle. Others pivot from both the bottom (like a hopper) and the side (like a casement).

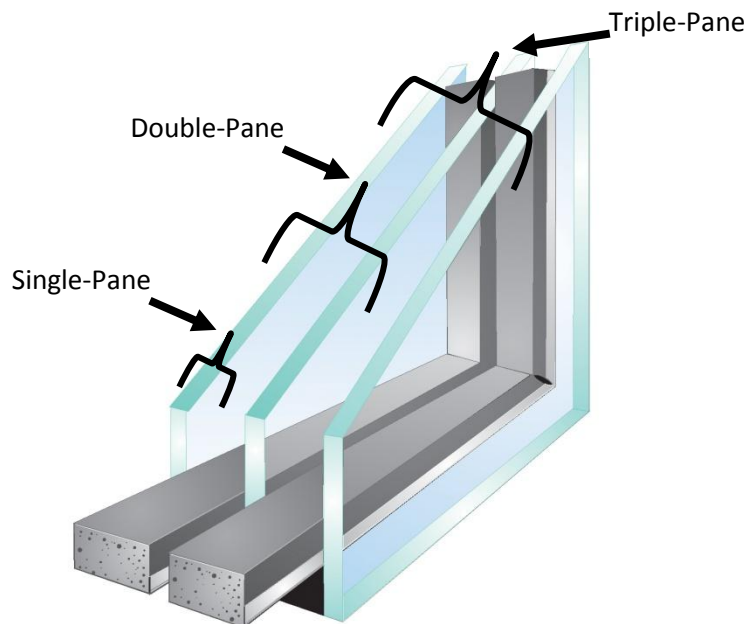


Transom: a window above a door that is usually hinged to a horizontal crosspiece over the door.



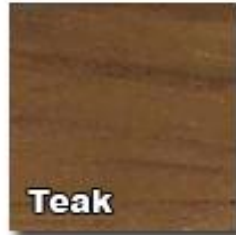
Vertical sliders - Consist of two sashes, one or both of which slide vertically in the frame.

Window Panes



Types of Wood

Hardwoods



Softwoods



Terminology

Acid - Product used to LOWER pH and Total Alkalinity. A common acid used in swimming pools is Muriatic Acid. Due to its extremely corrosive nature, we recommend using a DRY acid such as BioGuard Lo 'n Slo instead. Dry acids are safer to use & store in residential settings. Something known to be acidic in nature has a pH value of less than 7.0.

Alkali – A term used to describe water having a pH value greater than 7.0.

Astragal Strip - The bottom piece of an overhead garage door is a thick rubber strip that provides a weather tight seal against the concrete at the threshold of your garage.

Automatic Pool Cleaner - (APC or “POOL SWEEP”) - A pool maintenance system that will agitate or vacuum debris from the pool interior automatically. Premier Pools come equipped with a Jandy Ray-Vac Pool Sweep that works from the “pressure side,” meaning that water flow returning from the circulation pump back to the pool through the sweep line creates pressure that moves the sweep throughout the pool.

Axial Air Mover - High powered and portable air mover / fan for quick evaporative drying of a space.

Awning - A secondary covering attached to the exterior wall of a building. It is typically composed of canvas woven of acrylic, cotton or polyester yarn, or vinyl laminated to polyester fabric that is stretched tightly over a light structure of aluminum, iron or steel, possibly wood or transparent material. The configuration of this structure is something of a truss, space frame or planar frame. Awnings are also often constructed of aluminum understructure with aluminum sheeting. These aluminum awnings are often used when a fabric awning is not a practical application where snow load as well as wind loads may be a factor.

Backsplash - Material installed above or behind a kitchen countertop, which prevents splashing or spilling of water, or other substances down the wall. Tile, Corian, granite, and Formica are common materials used.

Bacteria - Microscopic organisms found everywhere, some of which may be harmful to people (pathogens).

Balanced Water - The state of the pool water where the components are in their proper ranges for optimal comfort, clarity, and sanitizer effectiveness. Components include pH, Total Alkalinity, Calcium Hardness, Total Dissolved Solids.

BALL VALVE / 3-WAY VALVE / 2-WAY VALVE - These control the amount or direction of water going through a plumbing line. Ball valves turn left to increase flow and turn right to decrease. 2-way and 3-way valves have arrows on them that indicate the direction of the water flow

Bar Joist - A small steel truss with wire or rod web lacing used for roof and floor supports.

Base Cabinet - Any cabinet type designed to install directly on the floor. Some form of a top will be applied in the field, such as laminate, wood or granite.

Biguanide - The common generic term used when referring to a class of pool & spa sanitizers whose active ingredient is PHMB (poly hexamethyl biguanide). These sanitizers are often times referred to as being non-chlorine or non-bromine or chlorine-free or bromine-free. BioGuard Soft Swim is a biguanide.

Bio-film - a build-up of slime, greases & oils on pool surfaces, ladders, filters, piping that form a breeding ground for bacterial & algal problems. Bio-films are often the result of scum-lines allowed to get out of control.

Black Mastic – Used as an adhesive in the 1970’s.



Breakpoint Chlorination - The point at which a specific quantity of chlorine product is added to a pool destroy ALL chloramines present, determined after running a proper Chlorine Demand test (normally the total amount of chloramines times 10 of the amount of Free Available Chlorine, per 10,000 gallons) .

Bromine - A halogen element used in place of chlorine as a sanitizer in swimming pools and spas.

Buffer - Prevent large fluctuations or shifts in the pH level.

Calcium Hardness - the amount of dissolved calcium present in pool & spa water. Low levels of calcium hardness can and do promote corrosion and deterioration of pool surfaces, including vinyl liners, and pool and spa equipment. High levels promote the formation of scale, clogging pipes & scaling pool surfaces. (Ideal ranges: Vinyl Pools 175 - 225 ppm; Concrete / plaster finish Pools 200 - 300 ppm).

Cant Strip - A strip placed along the angle between a wall and a roof so that the roofing will not bend sharply. A strip placed under the edge of the lowest row of tiles on a roof to give them the same slope as the other tiles.

Cap Sheet - A coated felt, usually mineral-surfaced; used as the top ply of a built-up roofing membrane.

Cartridge - a filtering media using a porous, replaceable element. Dirt, debris & particles are removed from the water when they pass through the cartridge. Loose debris can normally be hosed off; however greases & oils must be chemically removed by soaking the cartridge (i.e. Strip Kwik, Soft Swim Filter Cleaner)

Caulk - Can refer either to the caulking substance or to the process of applying it. Caulking as a term has spread to the building trade, meaning the activity of closing up joints and gaps in buildings.

Ceiling Joist - One of a series of parallel framing members used to support ceiling loads and supported in turn by larger beams, girders or bearing walls; also called roof joists.

Cement - Consists of stony aggregates like gravel, limestone or granite and sand, and when mixed with water and other chemicals, it solidifies into concrete through a process called hydration. It is generally used in construction and civil engineering, its main function being a binder. Types of cement include portland cement, non-portland hydraulic cement, masonry cement, puzzolanic cement, among countless others.

Chair Rail - A dado rail, also known as a chair rail, is a type of molding fixed horizontally to the wall around the perimeter of a room.

Chelant - a chemical used to "tie-up" heavy metals such as iron, copper, manganese or calcium to prevent staining & scaling.

Cherry - Cherry trees belong to the rosaceous family of plants and are native to regions around the Northern Hemisphere. American Black Cherry lumber is known as one of the best types of cherry lumber and it is distinguished by the aroma it gives off whether it's the sapwood, a light pink to white color, or the heartwood, a reddish brown color which can both take a high polish. It is very versatile and it is used to manufacture luxurious furniture, doors, musical instruments, crafts, winch, charts, sculpture etc.

Chestnut - Produces a hardwood with a clear brown color with spiral grains. It is used for multitude of purposes including carpentry and cabinetry and objects like furniture, windows and coffins

Chimney Cap - A protective covering or housing for the top of the chimney intended to prevent the entry of rain, snow, animals, and birds and to help prevent downdrafts.



Chloramine - A chemical substance formed when a chlorine molecule combines with organic waste such as sweat, urine, ammonia (and other nitrogenous compounds) causing a strong, pungent odor and irritation to bathers' skin, eyes and/or mucous membranes. Chloramines have almost no sanitizing value when compared to Free Available Chlorine. [Click here](#) for further information on chloramines.

Chlorine - One of the 5 members of the halogen family of elements. Chlorine is the most widely used, bacteria and algae killing product for swimming pools and spas. Found in 2 forms: Organic - stable toward UV rays and therefore longer lasting and Inorganic - which are susceptible to UV degradation and less convenient for pool use. Please note: Inorganic compounds make effective Shock treatments.

Chlorine Demand - The amount of chlorine required to be added to the water before a free chlorine residual can be maintained. Almost anything entering the water (including rainfall or fresh-water fill ups) can contribute to chlorine demand.

Chlorine Residual - The quantity of chlorinating product present in the water, available to kill bacteria & oxidize swimmer and/or environmental waste entering the pool. This residual is what is left after the Chlorine Demand has been met.

Combined Chlorine - Chlorine that has combined with ammonia, nitrogen or other organic compounds.

Concrete Saw - A concrete saw (often known as a consaw or road saw) is a power tool used for cutting concrete, masonry, brick, asphalt, tile, and other solid materials. Concrete saws are powered by gasoline, hydraulic or pneumatic pressure, or electric motors.

Concrete Vibrator - A concrete vibrator is used to ensure that a concrete pour is even and free of air bubbles so that the concrete will remain strong and have a smooth finish. While not necessary for small jobs, a concrete vibrator is essential on large load bearing projects.

Corian - Corian is a trademarked brand that is manufactured by DuPont, Inc. Its fundamental use is a surfacing material in kitchens and baths. It is a solid surface that comes in an assortment of colors and three different finishes including matte, semi-gloss and high gloss. A solid surface is a welded plastic formed into various shapes. Corian comes manufactured in three different widths: 6 mm, 12, 7 mm and 19 mm. Care should be taken when cleaning a corian surface.

Cornice - A molding at the corner between the ceiling and the top of a wall.

Corrosion - pitting, etching or erosion of pool equipment & surfaces caused by LOW pH and/or other chemical imbalances.

Crown Molding - A large decorative finishing piece sometimes used at the top of a wall between the wall and the ceiling.

Cyanuric Acid (CYA or triazinetrione) - chemical added to pool water to "stabilize" chlorine. Helps prevent degradation of chlorine due to UV light. Too high a level (over 100 ppm) of CYA can lead to high Total Dissolved Solids or interference of chlorine.

Decking (a.k.a. Sheathing) - The structural base of a roof.

Demolition - For small buildings, such as houses, that are only two or three stories high, demolition is a rather simple process. The building is pulled down either manually or mechanically using large hydraulic equipment: elevated work platforms, cranes, excavators or bulldozers. Before any demolition activities, there are many steps that need to take place — including but not limited to performing asbestos abatement, obtaining necessary permits, submitting necessary notifications, disconnecting utilities, and rodent baiting.



Diatomaceous Earth (DE) - a powdery filtering media composed of the skeletal remains of plankton.

DPD - a testing reagent (typically in tablet form) used to measure chlorine or bromine. #1 tests for Free Available Chlorine, #3 tests for Total Chlorine, #4 tests for Combined Chlorine.

Drip Edge - A narrow strip of non-corrosive, non-staining, finishing material installed along the eaves and rakes to allow water run-off to drip clear of underlying construction. On eaves where gutters are present, this material is commonly called gutter apron.

Effluent - Water that flows OUT of a filter or pump.

Enzyme - Special, naturally occurring (although there do exist man-made and natural enzymes) molecules that "eat" or "digest" organic waste that is not easily filterable or to be oxidized.

Fascia - A wide board which is fixed to the bottom end of the rafters.

Felt - The layer of asphalt saturated-paper that goes underneath roofing shingles in order to ensure that no water leaks into your home.

Felt, Synthetic (Synthetic Underlayment) - Synthetic underlayments are typically made from polypropylene, polyester, or fiberglass fabric which weighs less than felt building paper, can be manufactured with an anti-slip surface, and can withstand exposure to the elements for six months.

Filter - A device that removes particulate matter from a swimming pool utilizing a "porous media". The e commonly used filters are Sand, Cartridge & DE.

Filter Cycle - The time between filtering cleanings or backwashing.

Filter Element - see Cartridge

Filter Sand - Sharp, graded silica or quartz of uniform size, used as a filtering medium. #20 (45-55 mm) is the industry standard grade of filter sand.

Flashing - Forms the intersections and terminations of roofing systems and surfaces, to thwart water penetration. The most common locations for roof flashing are at valleys, chimneys, roof penetrations, eaves, rakes, skylights, ridges, and at roof-to-wall intersections. Roof flashing materials can be classified into two primary groups: membrane and sheet metal.

- **Membrane** – Ice/water barriers and roll roofing.
- **Sheet Metal** - Aluminum, copper, lead-coated copper, lead, stainless steel, galvanized steel, zinc, and Galvalume.

Flow Rate - the measure of the volume of water passing a given point during a specific time period, typically expressed in gallons per minute.

Formica - Formica is also known as plastic laminate. It is a surfacing material and has been covering surfaces in bedrooms, kitchens, countertops and cabinets. It consists of several materials bonded together under high amounts of pressure. Materials often include a plywood or fiberboard core with a high resolution photographic plastic covering the top layer. Formica comes in an assortment of colors, designs and shapes and is ideal for use in environments where durability and appearance are key factors. It gives a luxurious feel to pieces like counters, cabinets, bars among other things.



Free Available Chlorine (FAC) - (hypochlorous acid) the chlorine residual in pool water that is NOT combined & therefore able to kill bacteria and control algae entering the water.

Furring Strips - Wooden strips nailed to masonry walls to provide the necessary air space between masonry and wood or plaster.

Gunite - A type of "concrete" finish sprayed on pool surfaces.

Gutter Apron - Gutter apron goes over the roof deck, under the shingles and over the edge of the gutters. Normally used when shingles do not protrude far enough past the edge of the gutter, or on a low slope where water could wick back. Water has nowhere to go except into the gutter.

Granite - Granite is a type of natural stone which forms under deep layers of the earth's continents. Its chief mineral components are Quartz and Feldspar. These minerals are very hard which makes granite a durable surface that does not fade easily. Granite also has a sparkling effect and this can be attributed to it consisting of crystals which make it visually appealing. The material is largely used on kitchen countertops and on floor tiles, because it is hard-wearing and the designs and colors of granite countertops are limited to one's imagination with the variety of choices available to consumers.

Hat Channel - Composed of two horizontal outward flanges (the brim) and two vertical dimensions, (the sides of the hat) giving it the appearance similar to the side view of a top hat. From a three dimensional perspective, the top of a Hat Channel reveals a flat, horizontal surface - the hat's top.

Hose Bib - Faucet on the exterior of the house providing water to a garden hose.

Ice/Water Shield - It is applied to the roof deck prior to the application of the finished roof covering, which is most often shingles but can also be tile or metal. The membrane goes under shingles and seals around nails that hold the shingles in place, so water that doesn't drain properly cannot penetrate the roof. It also creates a weather-tight barrier against wind-driven rains that cause shingles to lift and leak.

Impeller - the most important part of the pump. The impeller's rotating veins create the suction into the pump & flow through the rest of the filtering system.

Influent - the water entering a pump, filter, heater or pool.

Inorganic Chlorine (Unstabilized Chlorine) - a form of chlorine NOT containing a carbon atom that is very susceptible to UV degradation (i.e. Calcium hypochlorite, lithium hypochlorite, sodium hypochlorite).

Ladder Jack - Ladder jacks are most commonly used for scaffolding between two ladders. This is accomplished by setting up two ladders at the same angle on the same surface, then placing scaffolding on top of two ladder jacks attached at similar heights.

Laminate Floor - Laminate floors come in styles that look like wood or ceramic tile. It usually locks or taps together. Even though laminate floors may look like wood flooring, it is actually made of plywood or a fiberboard core that has a plastic laminate covering the top layer.

Main Drain - This draws water from the deepest portion of the pool, ensuring more complete circulation. The main drain has large grates protecting the actual pipe openings to keep large objects from getting into the pump and strainer. The main drain valve should be closed when your suction cleaner is in the pool.



Mahogany - The mahogany tree is part of the Meliaceae family of trees. It is a dark-colored hard wood known for its durability and beauty. It is a highly sought after wood type because of its rarity and it is largely used as a construction material for floors and furniture. Mahogany comes from numerous countries including Brazil, Peru, Honduras, Costa Rico, Venezuela, Africa and Central America.

Make-up Water - Fresh water used to fill or "top-up" a pool or spa. Oftentimes referred to as "source water".

Maple - Maple Trees are part of the Meliaceae family of trees. Its high quality grade lumber is strong, hard, and heavy with a high wear- resistance and good steam-bending properties. This wood has a closed, subdued grain and a uniform texture. Maple surfaces are extremely durable and available in a variety of colors and grades. It has an unmatched durability and finishing touch.

Marble - Most marbles were formed when the calcium created from shells & bones combine with carbon dioxide from water. It is a form of Limestone and contains crystals of calcite or dolomite. It is then altered from its natural limestone state by being re-crystallized and hardened under heat and pressure. Marbles are typified by colored veins running through them making it visually appealing and very unique. Marble is often associated with lavishness because of its use in royal places like palaces and historical buildings around the world.

Mechanically-Fastened - Screws and plates (big washers) were used to secure it to the roof deck underneath.

Membrane Roofing - It is used on flat or nearly flat roofs to prevent leaks and move water off the roof. Membrane roofs are most commonly made from synthetic rubber, thermoplastic (PVC or similar material), or modified bitumen ("torch down").

Synthetic Rubber (Thermoset) – This type of membrane roof is made of large, flat pieces of synthetic rubber or similar materials. These pieces are welded together at the seams to form one continuous membrane. The finished roof's thickness is usually between 30 and 60 mils (thousandths of an inch) (.75mm to 1.5mm). Other types of related materials are CSPE, CR, and ECR.

Thermoplastic Membrane – This is also similar to synthetic rubber, but the seams do not form a continuous membrane. The 'lap' seams are bonded (melted or dissolved) with heat or solvents, and can be as strong as the rest of the membrane. Other related materials are CPA, CPE, EIP, NBP, PIB, and TPO.

Metal Roof - A metal roof, often referred to as a tin roof, is a roofing system made from metal pieces or tiles.

Modified Bitumen Asphalt – This type of roofing is an evolution of asphalt roofing. It is made from asphalt and a variety of modifiers and solvents. There are several ways of connecting pieces of this material. In a heat application process the seams are heated to melt the asphalt together and create a seal. There is also a cold-applied adhesive application process, and some self-adhesive forms of this system. This material is also referred to as APP or SBS.

- **SBS** - Asphalt that has "rubberizers" mixed in to give it more of an elastomeric quality.
- **APP** – These are the torch on type roofs and like SBS roofs, they also have plasticizers mixed in with the asphalt to give the material an elastomeric property.

Muntin - Muntin or Muntin bar is a strip of wood or metal separating and holding panes of glass in a window. Muntins are also called "glazing bars", "muntin bars", or "sash bars". Muntins can be found in doors, windows and furniture, typically in western styles of architecture. Muntins create a grid system used to divide small panes of glass, called "lights" or "lites", into a single window sash or casement.



Negative Air Machine - Air scrubbers are commercial size high capacity machines and each machine can move, filter and clean up to 2000 cubic feet of air per minute (CFM). Alpine Air Corp. machines have triple stage filtration with HEPA filters. The HEPA filter will capture small particles such as mold, bacteria, asbestos, lead and more.

Nitrogen - An element that can combine with chlorine & produce chloramines.

Oak - Oak is a common species of wood developed mostly in North America. Because of its abundance in supply, Oak is one of the most affordable line of lumber. Oak trees produce a strong, beautiful looking wood and have been used for furniture, flooring, boats, and artifacts for centuries. Because of oak wood's natural properties, proper care can make the wood last for decades without losing its beauty

Organic Chlorine - A form of chlorine containing carbon. Organic chlorines are not as susceptible to UV degradation (i.e. Sodium Dichloro or Tri-chloro).

Organic Matter - Most living organisms or their waste. Including leaves, bugs, urine, perspiration, cosmetics, bird droppings, etc. **containing carbon** in their material composition.

Oxidize (Oxidation) - A chemical process used to remove undesirable organic & inorganic compounds from pool water.

Ozone - a gas containing 3 oxygen atoms. More typically used in spas. Very unstable and has a short "kill-life". Normally used as a supplement to chlorine or bromine in controlling bacteria.

pH - a measurement of the acidity or basicity of a solution. pH is measured on a scale from 0 to 14. Under 7.0, the solution is considered Acidic. Over 7.0 is considered Basic. The ideal range for swimming pools & spas is 7.4 to 7.6; this level provides the best swimmer comfort as well as optimal, efficient use of chlorine & bromine.

pH Decreaser (minus) - a generic term for chemicals that LOWER pH (acid)

pH Increaser (plus) - a generic term for chemicals that INCREASES pH (soda ash)

Phenol Red - a liquid reagent used to measure pH. Most accurate in a range of 6.8 to 8.2.

Pine - Many Pine trees were near extinct during the end of the industrial revolution as a result of it being the main material used to build expansive amounts of textile factories, warehouses, farmhouses, barns, homes and other industrial factories. They are still being harvested today in many pine forests in the United States; however, they are now reaped at an early stage, which gives it just enough time to be used as lumber. Pine wood requires no difficult sanding and is dense in nature. It comes in a variety of widths and grades for use as a flooring material. It can be clear with a tight, straight grain and may have small or large knots depending on the type of pine.

Plaster - A type of interior finish on a pool.

Polymer - Polymers can be man-made plastics like polypropylene and polyvinyl chloride which are used in everyday life for homes, schools and hospitals and there are also natural polymers like rubber and cellulose used widely in numerous instances like tires and rayon. Polymers are formed through monomers, single molecules, like hydrocarbon and amino acids that bond together through the process of polymerization. The physical properties of a polymer are strongly dependent on the size or length of the polymer chain.

Pool Algae - microscopic, single cell plants found virtually everywhere. Various strains range in color from yellow to dark blue-green.

1. **Green Algae** – The most common form of algae that we deal with in swimming pools is "**green**" algae. Green algae (varies in color from blue-green to yellow-green to dark-green) can be free floating in the water (turning the water a hazy-green) or can be wall-clinging (patches of green). Wall-clinging varieties range in severity from small patches on pool walls and bottoms to virtually covering the entire pool surface. Green algae has the ability to clog filters and may even cause surface damage if left untreated. Green algae can be treated fairly simply and quickly with a proper, aggressive shocking & algicide.
2. **Black Algae** - "**Black Algae**" (actually blue-green algae) forms in cracks and crevices on pool surfaces, especially plaster finishes. We normally find black algae growing in, but not limited to, shady areas of the pool. Black algae are more typically found in concrete or plaster finished pools; it is very uncommon to find it in vinyl liner pools. It is known for a heavy slime layer and "skeletal growths" that make it impervious to normal chlorine levels.
3. **Mustard Algae** - "Mustard Algae" is probably the MOST misdiagnosed form of algae. Mustard algae is a chlorine-resistant form of green algae (yellow-green to brown in color) typically found in sunbelt areas. It often resembles dirt or sand on the bottom or sides of a pool. When trying to distinguish between mustard algae or dirt, follow this common sense rule of thumb: if it feels gritty its dirt; if it has slimy feel its mustard algae. Mustard Algae has certain characteristics: It can be brushed away very easily, but returns quickly to the same location. Keep in mind that the "algae" may be returning to the same place due to a dead spot in the pool.
4. **Pink Algae** - "Pink Slime" A naturally occurring bacterium (of the newly formed genus *Methylobacterium*) (this is not a form of Algae, it is animal not vegetable). Pink-pigmented, forms a heavy, protective slime coating providing the organism with an unusually high level of protection, methanol consuming, oftentimes found with White Water Mold that is very resilient against halogen-based (chlorine, bromine) as well as non-halogen sanitizers or germicides.

Pool Filter - Removes the dust, sand, grass and leaves, etc. by passing the water through a filtering material such as fabric, sand or diatomaceous earth.

Pool Shocking - Shocking a swimming pool refers to the application of large quantities of chlorine, non-chlorine shock or hydrogen peroxide. Typically 5-10 times the normal dose is used, based upon actual conditions and needs. The purpose of this large dose is to break down the combined chlorine, organic waste and contamination and re-establish a positive level of Free Chlorine. Shocking of pool should be done at the first signs of algae or after heavy rainfall. Some vendors suggest shocking the pool instead of redoing an entire new pool inspection, the best thing to do in this case is to provide the client with 2 bids.

ppm (Parts Per Million) - a unit of measure for chemical application.

Precipitate - Solid particles forced out of solution by a chemical reaction. Normally settle out or give a "cloudy" look to the water.

Pre-Hung - A full unit with the door hinged and an assembled jamb, frame, sill and molding.

Pressure Gauge - Located on top of the filter and used as a guideline to measure the pressure in the filter. In many cases the filter needs cleaning or backwashing when the pressure on the gauge rises 8-10 PSI from the clean pressure reading.

Primary disinfectant - those products having EPA approval for factually killing bacteria or sanitizing.

Pump and Motor - With the aid of the motor, the pump pulls water from the pool through the skimmer and main drain pipes and then forces it through the filter and back into the swimming pool. Although many pool publications call for 1



complete turnover of water in a 24 hour period, in Northern California you should run your filter approximately 3/4 hr for every 10 degrees of daytime temperature. EX: 80 degree temperature x .75 = 6hrs of filtration.

Purlin – A horizontal structural member in a roof. Purlins support the loads from the roof deck or sheathing and are supported by the principal rafters and/or the building walls, steel beams etc. The use of purlins, as opposed to closely spaced rafters, is common in pre-engineered metal building systems and some timber frame construction.

Quat (quaternary ammonium compound) - a family of chemical compounds applied to water to kill or prevent algae.

Radiant Barrier - Radiant barriers are materials that are installed in buildings to reduce summer heat gain and winter heat loss, and hence to reduce building heating and cooling energy usage.

Rake - The outer edge of a roof from the eave to the ridge.

Reagent - chemical testing solution used to test chlorine, bromine, pH, Total Alkalinity, Calcium Hardness, etc.

Reflective Roof - Reflecting the sun's heat off of the roof, the product reduces the heat coming into your home – and reduces the amount of time your air conditioner runs.

Resin - Resin is a natural or synthetic product that is gluey by nature but hardens with treatment. Natural resins come from plants and are used as components in varnish, lacquer, inks, perfumes, jewelry, and many other objects whereas synthetic resins are the polymerization of substances like polyvinyl, polystyrene, and polyethylene and thermosetting materials such as polyesters, epoxies, and silicones that are used to make paint and plastics.

Return Openings - Water Returns (located in the pool walls) distribute clean filtered water throughout the pool. The adjustable fittings are ideally directed upward in a clockwise direction to keep the surface water moving towards the skimmer. They should break the surface of the water approximately 6-8' feet from the orifice.

Ridge Cap - A continuous metal structure designed to cover the ridge of a roof.

Roof Ballast - In a nutshell, a ballasted single-ply roof is a rubber, TPO or PVC roof that has been loose-laid over the substrate and is held in place using ballast such as river rock or pavers. A ballasted roof is well-protected from hail by the ballast holding it in place. So if the proper ballast is used and it is properly installed, a ballasted roof should be well protected from all but the most severe of hail storms.

Roof Jack - A steel bracket fastened to the roof that is used to support toe boards.

Scale - Mineral deposits that form on pool surfaces & equipment normally due to excess calcium in the water. Scale more typically forms in heated water rather than cool water.

Scissor Lift - An aerial device or elevating work platform is a mechanical device used to provide temporary access for people or equipment to inaccessible areas, usually at height. These two distinct types of mechanized access platforms may also be known as a "zoom boom" or "cherry picker" (both regional terms for aerial device); or "scissor lift" (the universal North American term for elevating work platform).

Screed - A board or metal strip dragged across a freshly poured concrete slab to give it its proper level.



Scum-line - the buildup of greases, oils, dirt, organic and inorganic waste that accumulates at the water line of a pool or spa, usually sticky or gummy in nature, sometimes difficult to remove with normal cleaners, dark in color. Scum-lines will lead to Biofilms if not treated.

Shingles - The outermost covering of a roof. Composition shingles are manufactured from materials "composed" of fiberglass, modified asphalt and mineral granules. Wood shingles and shakes (shakes are split rather than sawn) are made from western red cedar. Other roofing options include clay and concrete tiles, slate, metal, mineral roll roofing, and tar and gravel.

Skid Steer Loader - A skid loader or skid steer loader is a small rigid frame, engine-powered machine with lift arms used to attach a wide variety of labor-saving tools or attachments. Though sometimes they are equipped with tracks, skid-steer loaders are typically four-wheel drive vehicles with the left-side drive wheels independent of the right-side drive wheels.

Skylight

Skylight Curbs

Skylight Dome

Skimmer - This draws water from the surface and removes floating debris by creating a skimmer action resulting from the suction provided by the filter pump. Your Premier pool is equipped with a separate main drain and skimmer valve that lets you control the amount of flow through the skimmer at the equipment by adjusting the 3-way valve. This is standard on all Premier Pools.

Slate - It is a natural stone product mostly formed in riverbeds and is sourced from all over the world. The stone is metamorphic and is made up of quartz, mica, calcite, chlorite and other types of rock. These features contribute to its durability and its resistance to high traffic. It is extremely beautiful when used on surfaces like floors, countertops and bathrooms, however, it can sometimes take a lot of diligence to keep it in great shape making it hard to maintain.

Soda Ash - a product used to RAISE the pH of the water.

Sodium Bromide - a chemical used to treat algae. (Such as Yellow Out, Yellow Treat, Mustard Free, Defense or Drive Out) should be done cautiously, and definitely NOT in biguanide (SoftSwim or Baquacil) treated swimming pools. Adding sodium bromide (as little as 0.5 ppm) to pools treated with chlorine can cause high chlorine demands and will cause the chlorine to become unstable, increasing chlorine consumption. Since sodium bromide cannot be removed from the water, you effectively transform the pool to a "bromine" treated pool. Unfortunately, many consumers may not be aware of the increased chlorine demand and may not check chlorine levels as often as necessary. This could result in a drop in the chlorine level leading to subsequent Algae blooms.

Soffit - Most often refers to the material forming a ceiling from the top of an exterior house wall to the outer edge of the roof, i.e., bridging the gap between a home's siding and the roofline, otherwise known as the eaves. When so constructed, the soffit material is typically screwed or nailed to rafters known as lookout rafters or lookouts for short.



Spanish Tile (aka Mission Tile) - A red-clay roofing tile, approximately semi-cylindrical in shape; laid in courses, with adjacent tiles having their convex side alternately up and down.

Steatite - Also known as soapstone, steatite is a metamorphic rock composed mainly of the talc mineral which is smooth and soft to the touch. This rock type can be millions of years old depending on what geographic location it is found. It has been used for many years in sinks for classrooms and labs as well as on tables and countertops. Steatite exudes a rich deep color that darkens with age.

Sump Pump - A pump used to remove water that has accumulated in a water collecting sump pit, commonly found in the basement of homes. The water may enter via the perimeter drains of a basement waterproofing system, funneling into the pit or because of rain or natural ground water, if the basement is below the water table level.

Superchlorination - the addition of large quantities of chlorine (usually unstabilized chlorine) at a rate of 3 to 5 times the normal shocking dosage in order to destroy chloramines, kill bacteria, and to kill algae.

Sycamore - A straight grain wood of yellowish or yellow white color with a fine and smooth texture. Its main uses are for furniture, furniture parts (drawer sides), millwork, paneling and moldings, flooring, kitchenware, butchers blocks, toys and fruit crates. Sycamore trees have the largest leaf of any tree native to North America.

Teak - Teak is an extremely durable wood that requires very little care or treatment. Its favorable properties make it suitable for a wide variety of purposes and it has a very distinctive appearance. This exquisite imported wood will gradually grow into a silver gray color if left outdoors for more than three months. If indoors, and away from natural sunlight for six months to a year, the color of the wood will deepen to a darker shade of brown.

Total Alkalinity (TA) - Measure of the pool waters ability to prevent pH "bounce" or fluctuation. TA measures the amount of carbonates, bicarbonates, hydroxides, and borates in the water.

Total Dissolved Solids (TDS) - the measure of all of the dissolved matter in the water. TDS over 1500 ppm may interfere with the pool sanitizer's ability to control bacteria & algae.

Trowel - A mason's tool, used in spreading and dressing mortar, and breaking bricks to shape them.

Truss - The framework that supports a roof.

Turbidity - Cloudy condition of the pool water.

V-Crimp Roof - It's called a 5-V crimp because it's crimped five times—twice at either side and once in the middle. It's a light gauge steel product that's covered with a Galvalume® coating for corrosion resistance and then painted with a Kynar or Hylar pink coating. That is what gives it its distinctive color—reminiscent of the red roofs found on old barns around the country.

Valley - The intersection of two sloping roofs joining at an angle to provide water runoff.

Valley Flashing – Made from aluminum or galvanized steel, this additional water barrier is installed after the roof and valley have been covered with underlayment.

Window Apron - Piece of molding installed under the window sill.



Window Casing - The trim surrounding a window is referred to as window casing.

Window Sill (aka Stool) - A horizontal ledge below a window.