

Beaver Log Homes

Why Choose A Beaver Log Home?

The purchase of a home is generally the most significant purchase any family makes. Considering a log home suggests that you are looking for more than the average person. You are looking for something special. Something that will reflect your uniqueness and your high values regarding quality, pride and tradition.

At Beaver Log Homes, we share those feelings and we work hard to build them into our log homes. We value the natural beauty of wood and the heritage that comes from building with whole logs. We take pride in our custom home designs and the quality and durability of Beaver Log Homes using the Beaver Building System.

Many important decisions must be made before you can begin building a new log home. It is critical to insure that the builder uses the best materials and construction practices. The following overview will answer many of your questions and help you understand the quality of Beaver Log Homes and the exclusive Beaver Building System.

What Is The Beaver Building System?

The Beaver Building System is a unique log home building system. It is the heart of a Beaver Log Home. The Beaver Building System provides a rigid interlocking wall system for an extra strong, energy efficient, weather-tight home. This system also reduces periodical maintenance by eliminating the chinking necessary with some log homes. With the Beaver Building System, you have an exterior wall that forms a single interlocked unit for years of trouble-free pride and enjoyment.

The Beaver Log...

The first and most obvious component of the Beaver Building System are the Beaver Log. Beaver Logs come in 8, 10 and 12 inch diameters and any length up to 12 feet. The 8 and 10 inch pine log is our standard log for homes. Other sizes and other native species are available depending on your needs and preferences. The only difference between the log size is the diameter. The other features remain the same.

We control the quality of Beaver Logs because we machine them at our log mill. From the log wall drawings for your home, we identify each Beaver Log for a specific location in your home. It is then precision machined to insure an accurate fit. Your door and window openings will be cut out at mill. Additionally, we machine a groove in the end of these logs to accept door and window framing. This custom machining process eliminates cutting or trimming logs at the job site. It also improves the weather-tightness and final appearance of your home.

Kiln Drying...

The machining process begins by debarking and rough machining each log approximately one inch larger than the finished diameter. Once rough machined, the logs are then kiln dried, usually for two weeks. Kiln drying reduces checking and warping, and insures long term stability necessary for years of trouble-free log home living. Most types of logs will last for years as long as they are properly taken care of and treated as directed. There are some pine log homes in existence that are 200 years old. After kiln drying, the next step is the specific machining operations necessary to become Beaver Logs.

Machining The Diameter To Size...

We center each kiln dried log in our mill and machine it to the selected final diameter, creating a smooth finish and uniform size. Shown in Figure 1 is a cross-section of a Beaver Log. We machine all diameters of Beaver Logs to the cross-section shown in Figure 1. Many additional machining operations happen at this point in the process. Let's look at them individually.

Double Tongue And Groove...

Each log is double tongue and grooved for superior interlocking strength and rigidity to provide a weather tight seal of the wall structure. This also makes the laying up of the wall easier if construction is to be a do-it-yourself project.

Angled Top And Bottom Surfaces...

We machine the top and bottom mating surfaced at matching three degree angles. The top surface is on a three degree downward slope and the bottom surface is on a three degree upward slope. These angled surfaces provide improved wall stability, but more importantly, they prevent the buildup of moisture by insuring the natural runoff of water.

Corner Log and Mid-Wall Log Machining...

Machining for all logs so far has been the same. Where the log is to be used will determine the final machining. Their use falls into one of the two categories: a corner log or mid-wall log.

Corner Logs:

There are many different corner construction methods used in log homes. At Beaver Log Homes, we use saddle notched corners, which are superior in strength to other logs and conventional home construction.

Figure 2 shows how saddle notched corner logs fit together. Each layer of logs interlocks the logs from the adjacent wall. This interlocking, with the double tongue and groove,

provides an exceptionally rigid corner. Since we custom machine each log, we can machine the overhang of the saddle notched corners to any length. This provides design flexibility for exterior elevations. Saddle notched corners meet the highest strength and appearance standards.

Mid-Wall Logs:

With the strength and seal of the double tongue and groove system, the remaining task is sealing the joints and ends of the logs. We do this by machining a full length groove in the end of the log. Figure 3 shows the end view and the top view of a log with the end groove machined. All logs that butt together have this machined groove to allow the installation of a closed-cell insulation block at each joint. These special insulation blocks remain pliable and overlap the seam created by butting the two logs together. This system provides an excellent seal to prevent air infiltration. We designed this groove to accept the insulation block for joining logs together and to accept standard 2X dimensional lumber for door and window framing.

Spring Loaded Through-Bolts: A Beaver Log Home Exclusive

The spring loaded through-bolts are an important part of the Beaver Building System. The final machining operation is the drilling of holes for installation of the through-bolts. We pre-drill each through-bolt hole at our mill. Precise and predetermined locations simplify on site construction. The spacing of the through-bolt averages less than 48 inches apart around the entire perimeter of the home. Corner logs have through-bolts on each side of the saddle notch and then at the predetermined spacing. Door and window openings have through-bolts on each side of the opening. The precise placement of the through-bolt insures alignment as the logs are laid up.

Now that you have a better understanding about what is special about Beaver Logs, please read on to see how you can build your own Beaver Log Home using the Beaver Building System.

The Beaver Log Home

The objective of the Beaver Building System is to build a home that incorporates the features necessary for a strong, durable, weather-tight home, while making it as maintenance free as possible. We are confident that we have accomplished these objectives.

The foundation options and construction requirements for a Beaver Log Home are identical with conventionally built homes. Beaver Log Homes can be built on crawl spaces, full basements or a combination of both. The sub-floor and floor joists requirements are identical with conventional construction. When the foundation and sub-floor are complete, the laying up of the logs begins.

The placement or squaring of the first layer of logs is critical, since this forms the base for the remaining logs. It is not a difficult task, since we cut the logs to the correct length to match the foundation and sub-floor. In addition, each log is identical. We mark each log to match the exact location for all the logs used in building the home. With the first layer of logs positioned, it is a simple matter to complete the walls by stacking the remaining logs.

Each row of logs is laid up around the entire house, forming a solid interlocking exterior. On conventional homes the walls are separate units connected at the corners. With the Beaver Building System, there is considerable more strength built in from the start. Each corner log overlaps the adjacent wall and each layer interlocks with the layer above and below it.

Each layer of logs is specially prepared as it is laid up to insure weather-tightness. First, we apply two strips of a special closed cell foam sealant tape to fit between the tongue and groove of each layer. This tape is a specially formulated Polyurethane foam, manufactured specifically for this application. With two strips of sealant and the angled mating surfaced, you are assured of a dependable seal.

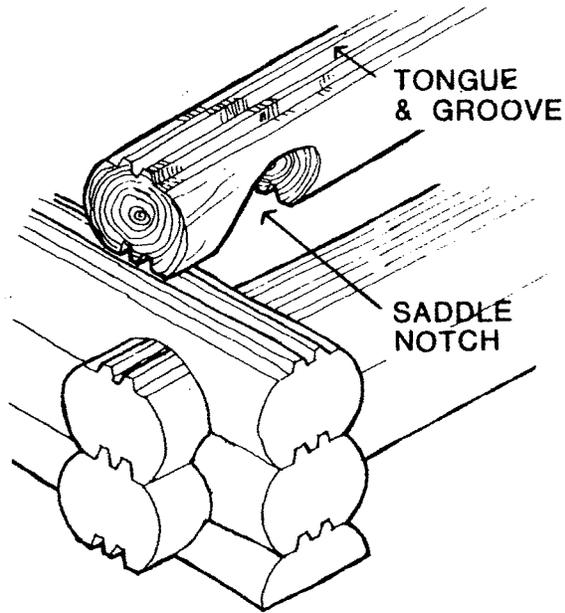
Second, we seal each butt joint and saddle notch corner by installing either an insulation block or saddle gasket. We repeat this procedure as we install each layer of logs. Cutting or trimming the logs as they are laid up is not necessary. All logs including the door and window openings have been cut to the correct size.

With the walls erected, the through-bolt assemblies are installed in the pre-drilled holes to complete the walls. The through-bolt assemblies consist of a one-half inch diameter rod with a large washer and nut at each end. On the lower end of the bolt, we install a heavy compression spring to provide constant tension and eliminate the need for frequent tightening of the bolts. The narrow bolt spacing and the constant spring tension prove and exceptionally strong, weather-tight wall and eliminate periodic maintenance necessary with some systems.

At this point in the construction, your Log Home is really beginning to take shape and it is happening rapidly. For an average home, the logs can be laid up in about three days. All that remains is to install the roof, doors, windows, and complete the interior. This is easier said than done, but now you are well on your way to having your home completed. Except for allowing a little space for the log settlement, the remaining work is identical with conventional construction.

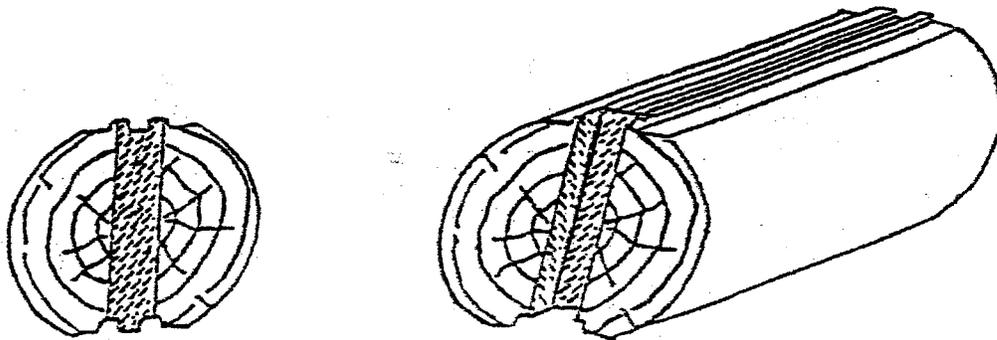
This is the story of the Beaver Log and the Beaver Building System. With the Beaver Building System, we have built in the quality, durability and ease of construction. With a Beaver Log Home, you enjoy the quality and pride of your home design and the tradition and heritage that comes with living in a log home.

FIGURE TWO



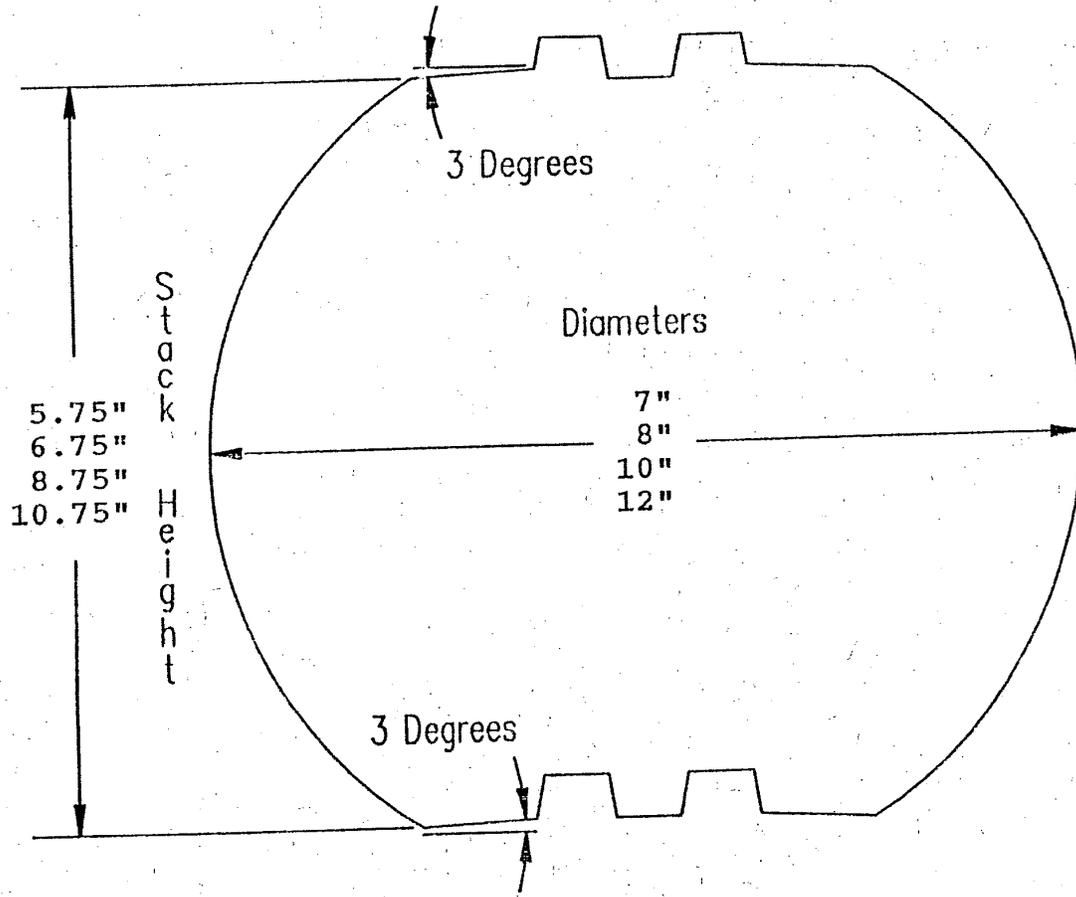
Saddle Notched Corners

FIGURE 3



End Groove for Insulation Block and Door/Window Framing

Figure One



The Beaver Log

Solid Full Round Log
Double Tongue and Grooved
All Surfaces Round or Angled

Kiln Dried Prior to Final Machining