

Gaskets

The Natural Log Homes gasket was designed by us, and is made for us. After extensive design and testing of previous samples over a 2-year period, we now have a groove and notch gasket that we think is the best available anywhere. We needed a gasket that would:

- 1) Prevent air and water penetration throughout the life of the building.
- 2) Work well in both notches and grooves.
- 3) Be tough enough to be unaffected by trucking or by containerized shipping over long distances.

Material-- Synthetic rubber "Santoprene TPV" (<http://www.santoprene.com/site/products/3297.html>) is soft, strong, UV resistant, low memory, supple, conforms easily to the unique shapes of logs. Stays flexible from -80 to 280 degree F. with no cracking.

Our gasket uses two different rubber compounds --a softer one for the fins (a lower "Shore," the white rubber) so they can conform to log shape; and a tougher, stiffer rubber (higher "Shore," the black rubber) that holds staples and doesn't tear.

This is called "co-extrusion," and is more complex and expensive than a single-compound rubber extrusion. But it gets us the results that we demand from our air and water seal. Our first several tests were single extrusions, and then we went to the advanced co-extrusion to boost the performance. The fins are not "attached" to the base, they are hot-extruded at the same time through the same die, and are formed together and can't pull apart.

Design - Shape -- The NLH gasket is a new shape for a log home gasket --it has three fins (short, medium and long) formed to a stapling base. The fins conform to log shape, creating an effective seal. And unlike all other gaskets and foam tapes, the NLH gasket stops capillary action that can draw rainwater into the groove or notch. The spaces between the fins stops capillary action and wicking of water. All other gaskets and foam tapes press their surface onto the log, and no matter how tightly they are pressed, water can wick through.

Installation -- The NLH gasket is installed with staples, preferably by pneumatic stapler. There is no adhesive on our gasket, so stapling is required. We found that adhesive gaskets did not seal to the log very well, and often needed to be stapled on, too. Stapling those tapes and foams meant ruining the sealing ability at every staple. We use an Upholstery Stapler with 1/2" long, 3/8" crown (width), 22 gauge, staples. The Porter Cable US-58 costs about US\$90. But any similar stapler would work,

We install our gasket before the logs leave our yard--this saves us time to re-erect on the foundation. So we need a gasket that can be pre-installed and then shipped on the logs without risking any damage to the gasket, or having the gasket fall off, be rubbed off, or torn off while being trucked.

The gasket is stapled to the log through the denser, stiffer, black rubber base, and only in the gaps between the white rubber fins. This means that our air and water seal is completely uncompressed by the way we attach it to the log. Other foam tapes, rods, and rubber seals, have their air and water seal compromised if they are stapled to the log, because the material is compressed at each staple.

Knowing where to staple the NLH gasket in the groove is easy--we designed it so that the outer edge of the black rubber base goes as close as you can make it to the scribe line. The first fin is a tiny fraction of an inch back from the leading edge! No guessing, no hang-ups, and no learning curve for proper installation.



Installing the gasket into the long groove with a pneumatic stapler. One man can install about 150 lineal feet of gasket per hour-- that's 20 hours total for a typical 3-bedroom log house, with 2 layers of gasket in grooves and all notches, as shown.



The NLH gasket is soft enough to conform to curved shapes of groove edges. The 3 fins point down to the surface of the log below, and provide 6 barriers to air infiltration when installed as shown in this photo. Also note the tiny fraction of black rubber base that goes right on the scribe line -- the first, shortest, white fin is just back from the gasket edge.

This makes perfect installation easy, and hang-ups very unlikely. Other gaskets require the person installing to judge the correct location to place it. And that was causing poor installation (leaks) and even hangups.



Here, in a window opening, you can see our gasket's 3 white fins, short, medium and long, and how they point down to, and seal against, the log below. The black rubber base is stiffer than the first fins. The gasket is stapled to the upper log only through the black base, and only in the gaps between the fins.

The fins are never compressed by staples, which means our gasket is always working to prevent air and water penetration.

The NLH gasket works in shallow-cove style grooves, or in double-cut grooves, as shown here.

It also works in all our corner notches of any style, beam notches, square notches, and joists.

Gasket Material & Installation

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Natural Log Homes Product Sheet

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