

A STRUCTURAL ENGINEER'S SEAL:

WHAT DOES IT DO FOR THE LOG HOME/TIMBER FRAME OWNER OR WHAT SHOULD IT DO?



On any project for a home owner, the goal of the log home/timber frame manufacturer is to get their client a building permit so they may proceed with construction. Often times in the industry it is required by the local building jurisdiction to have a fully engineered, sealed and signed set of construction documents for issuance of a building permit. These documents include both construction documents and structural engineering calculations. What does this mean to the home owner?

A structural engineer's responsibility and duty is to safeguard the life, health, property and welfare of the public at all times. In doing this, a structural engineer is required to review all of the design documents for compliance to the local adopted building codes. This includes member sizing (roof and floor loads), continuous load paths, foundations and lateral load features (resistance to high wind or earthquake loads) of the structure. All gravity, in-plane and out-of-plane loads on the building structure should be analyzed for proper design and sizing.

What should be included with an engineer's seal? When an engineer seals and signs their name to a document, they are stating that they have prepared and reviewed all of the documents for proper resistance to the local building code requirements and done under their responsible charge and supervision. '*Rubber stamping*' is a term used by Licensing Engineering Boards that is defined by placing your seal and signature on a document that the individual did not prepare under their review and supervision. It is punishable by a fine, a suspension and/or removal of their engineer's license. If an engineer simply places his seal and signature on a document without preparing it under their review and



responsible charge, and they are doing it simply to get a home owner or log home/timber frame manufacturer's client their building permit, it is not only a violation of code and ethics, but it is cheating the home owner. In paying for the professional services of a structural engineer, a home owner should be receiving both the engineer's seal and signature, but other items such as errors and omissions insurance, professional liability insurance, their time for coordination and review of their documents, accurate member sizing throughout their entire plan and proper notes and detailing. It is important to make sure all of the connections, details and general structural notes are properly placed and shown within the construction documents. Items like rebar sizes and spacing within the foundations, concrete strengths, design loads, lag screw sizes and spacings at each wall log lines, holdowns, column to beam connections, floor girder sizes, hardware/fastener callouts and roof joist sizes.



EXPIRES:



EXPIRATION DATE:

The structural engineer should be checking oversized materials as well as undersized materials. Proper placement and inclusions of notes and details throughout the entire construction document set also helps hold the home owner's general contractor 'accountable' for their construction means and methods and for what they should be including within their services in bidding the project for the home owner. If a set of construction documents only includes elevations, floor plans and very limited detailing, the home owner must then rely on hiring a trusted, well-experienced general contractor to build their home per local codes and per what the limited plans show. Without the proper information the 'per plans' part can create a lot of gray areas on what is to be included for construction labor and materials and what is not. The last thing any home owner wants through a project or at the end of one is a long list of change order fees, which many times can drive a home owners cost of construction beyond their originally planned budget. Having a well designed and coordinated set of construction documents



can ensure that the information is presented within the drawings and the price given for construction at the beginning of the project is the same price at the end of the project.

It is recommended for a home owner and log home/timber frame manufacturer when they are pricing out different engineer's services that they be sure to compare apples to apples. In doing so, does the lower fee proposal include a full design and review of the building structure? Does it include engineering calculations? Does the engineer have insurances to cover their errors and omissions liabilities for the home owner in the event there is an issue? Are they including any time to answer any agency/owner or building department questions needed before a building permit will be issued? Are they simply 'rubber stamping' the documents? Make sure that for the investment the home owners are making with their new home they are investing enough time on the structural engineer's scope of work they are hiring. Be sure to compare scope of works for each engineer's fee proposal that are received. Review and discuss with each engineer that they are keeping the home owner's best interests in mind at all time with their services.

In closing, regardless if the local jurisdiction requires sealed and signed documents are not, make sure the final construction documents include the previous items discussed. It is in the best interest of the home owner and their project. It is strongly recommended to have each and every log home/timber frame project engineered, regardless if the local jurisdiction requires it or not. If the jurisdiction does require the final documents to be sealed and signed, make sure that the home owner is being provided with the important items and services noted that should come with a seal and signature. It will help protect their lifelong investment and not just simply provide them with a building permit.

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(Please feel free to contact our office for any questions or comments that you might have related to this article, we can be reached at the following information noted below.)

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